POS 6747
ADVANCED TOPICS IN QUANTITATIVE POLITICAL ANALYSIS: TIME SERIES ANALYSIS OF POLITICAL EVENTS

FALL 2015
MONDAY, 3:00-5:50

Professor: Dr. Drew Lanier	**Office Hours**: TR 09:30-11:00, W 2:00-3:00, after seminar or by appointment
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"The messier the data are, the better the statistician needs to be, and in political science, our data are very messy"
— Prof. Matt Lebo, SUNY, Stony Brook

"*When you cannot measure, your knowledge is meager and unsatisfactory"* — Lord William Kelvin (inscription found atop the Social Science Research Building at the University of Chicago) (Pritchett 1948, xi).

COURSE OBJECTIVES:

What variables predict if two states will go to war in a particular year? Are there long-term, underlying deterministic trends to Supreme Court decision-making, or is it a totally random, stochastic process? How strong is the long-run relationship between issue preferences and voter behavior? Do domestic political institutions systematically impact currency markets concurrently or across a lag? The use of time series methods allows political scientists to answer these types of questions. This course examines these methods and their practical application in researching settings as they apply to political events (Martin Syllabus 2006) with particular emphasis on existing datasets, including those specifically involving international relations, American politics and comparative politics events.

The quantitative analysis of political data and relationships is an intriguing, yet challenging task, for a number of reasons. This course builds upon the basic skills and knowledge base that students developed in the introductory quantitative courses (POS 6746 (Quantitative Methods in Political Research) and POS 7745 (Advanced Quantitative Methods in Political Research)). **Students should have well grasped the concepts and issues covered in that course.** This course considers more advanced issues in the quantitative understanding and presentation of political data, as such data are uniquely characterized by specific attributes that make statistical understanding of them more challenging than other types of data.

Accordingly, to hone these skills, we will explore in depth several quantitative methods issues, by using computerized statistical programs, such as Stata and RATS, so as to marry the theoretical discussions we have with the practical import of them in political analyses. These software packages are available in the Political Science computer lab (Phillips Hall 310) for use by graduate students. Some of them are also available on the UCF Apps page (https://my.apps.ucf.edu/Citrix/UCFAPPSWeb/). During the course, there will be weekly assignments designed to enhance students' understanding of the techniques political analysts employ to meet the intriguing challenges of quantitative methods. The exercises, along with other elements, will comprise a portion of the student's final course grade, as more fully described below.

This course introduces students to time series methods and to the applications of these methods in political science. The focus of the class will be on applications and the use of political data measured over time. We will briefly study the calculus of finite differences before moving on to study stationary ARMA models. We will learn how to construct univariate and multivariate models and how to use them in political analyses and forecasting. We will study regression techniques using time series data as well as Box-Jenkins methods. We

will also study some more recent advances in time series analysis including cointegration, error correction models, ARCH, GARCH, and ARFIMA methods. We will also spend some time learning about emerging methods for studying time-varying relationships such as repeated cross-sectional analysis and dynamic conditional correlations. We will end the class with 2 weeks on duration modeling.

Overall, there are several goals of this course:

- Students who successfully complete the course will be **better consumers of political and statistical information**, which will help them better grasp the concepts of other graduate courses in the discipline in addition to helping them understand the scholarly world into which they have entered, specifically as they relate to time series questions;
- Students who successfully complete the course will have a **stronger understanding of the proper use of statistical computing programs**, such as Stata and RATS, and **how to interpret validly the results** that are obtained to generalize such findings to other theoretical settings and contexts.
- Students who successfully complete the course will have a **more in-depth understanding of the pooled cross-sectional (PCTS) and time serial properties of data** and **how to diagnose and treat such pathologies**.
- Students who successfully complete the course will **better understand the challenges and treatment of time serial data** and a theorist might leverage the inherent cross-time perspective contained in such data. Students who successfully complete the course will **more fully appreciate the wonder of time series aspects of political data analysis**

Apart from a sense of what we know and what we do not know about quantitative methods as they apply to many of the subfields in the discipline, I hope that during this semester that you will acquire a deep awareness of how political scientists think about, formulate and execute empirical research, especially as that applies to time series analysis. Along these lines, a large part of the class will be spent doing more than simply regurgitating the findings of published works. While it is important to understand what the readings communicate, it is also important for us to think conceptually how we might as producers of knowledge contribute to the body of new research on the different topics and themes dominate in the highly sophisticated area of time series analysis of political events that we will explore. Let us begin.

TEXTS:

Required

Box-Steffensmeier, Janet M., John R. Freeman, Matthew P. HItt and Jon C.W. Pevehouse. 2014. *Time Series Analysis for the Social Sciences*. New York: Cambridge University Press. ISBN 978-0-521-69155-0 [hereafter "BFHP"].

Brooks, Chris. 2009. *RATS Handbook to Accompany Introductory Econometrics for Finance*. New York: Cambridge University Press. ISBN 978-0-521-72168-4 [hereafter "Brooks"].

Pickup, Mark. 2015. *Introduction to Time Series Analysis*. No. 174 in the Quantitative Applications in the Social Sciences Series. Washington, DC: Sage. ISBN 0-978-1-4522-8201-5 [hereafter "Pickup"].

Optional

Becketti, Sean. 2013. *Introduction to Time Series Using Stata*. College Station, TX: Stata Press. ISBN 978-1-59718-132-7 [hereaftger "Becketti"].

Enders, Walter. 2015. *Applied Econometric Time Series*. Hoboken, NJ: John Wiley and Sons. ISBN 978-1-118-80856-6 [hereafter "Enders"].

RECOMMENDED TEXTS:

Adkins, Lee C., and R. Carter Hill. 2008. *Using Stata for Principles of Econometrics*. New York: John Wiley and Sons. ISBN 978-0-470-18546-9.

Box, George E.P., Gwllyum M. Jenkins, and Gregory C. Reinsel. 1994. *Time Series Analysis: Forecasting and Control*. 3d ed. New York: Prentice Hall. ISBN 0-130-60774-6.

Box-Steffensmeier, Janet M., and Bradford S. Jones. 2004. *Event History Modeling: A Guide for Social Scientists*. New York: Cambridge University Press. ISBN 978-0-52-154673-7.

Enders, Walter. 1996. *RATS Handbook for Econometric Time Series*. New York: Wiley. ISBN 978-0-471-14894-6. There is an updated .pdf version of this that I will post on Canvas. Although it is outdated, it is highly useful, especially for those who are new users of RATS [hereafter "Enders Handbook"].

Gujarati, Damodar N. 2009. *Basic Econometric*. 5th ed. New York: McGraw-Hill. ISBN 978-0-07-337577-9.

Hamilton, J.D. 1994. *Time Series Analysis*. Princeton, NJ: Princeton University Press. ISBN 0-691-04289-6.

Hendry, David F. 1995. *Dynamic Econometrics*. Oxford, UK: Oxford University Press. ISBN: 0-19-828316-4.

Hill, R. Carter, William E. Griffiths, and Guay C. Lim. 2011. *Principles of Econometrics*. 4th ed. New York: John Wiley and Sons. ISBN 978-0-470-62673-3

Ostrom, Charles W., Jr. 1990. "Time Series Analysis: Regression Techniques." Sage University Paper Series on Quantitative Applications in the Social Sciences, 07-09. Thousand Oaks, CA: Sage. ISBN 0-8039-3135-2.

Pindyck, Robert. S., and Daniel L. Rubinfeld. 1998. *Econometric Models and Economic Forecasts*. 4th ed. New York: Mcgraw-Hill. ISBN: 0-07-913292-8.

Sayrs, Lois W. 1989. *Pooled Times Series Analysis*. Series in Quantitative Application in the Social Sciences. No. 70. Beverly Hills: Sage (pp. 7-32). Inexpensive and good to have as a reference.

These books are in the library and you might find them useful:

Mills, Terence C. *Time Series Techniques for Economists*. Cambridge, UK: Cambridge University Press. 1990. ISBN 0-521-34339-9.
A fairly simple explanation of some of the methods that we will cover in the first few weeks.

Engle, R.F. and C.W.J. Granger, Eds. *Long-Run Relationships: Readings in Cointegration*. Oxford, UK: Oxford University Press. 1991. ISBN: 0-19-828338-5.
A classic book by the guys who won the Nobel Prize in large part for developing this methodology.

Chatfield, C. *The Analysis of Time Series: Theory and Practice*. London: Chapman and Hall. 1975. ISBN 0-412-14180-9.
Old, but a good basic treatment of the materials.

Goldberg, Samuel. *Introduction to Difference Equations*. New York: John Wiley and Sons. 1958. ISBN: 0-471-31051-4.
In case you find the second week's class especially fascinating.

McCleary, Richard, Richard A. Hay, Jr. (with Errol E. Meidinger and David McDowall). 1980. *Applied Time Series Analysis for the Social Sciences*. Beverly Hills: Sage. ISBN 0-803-91205-6

An out-of-print classic.

OPTIONAL MATERIALS:

Stat/Transfer. 2013. Version 11 (or more recent version). Seattle, WA: Circle Systems

http://www.stattransfer.com).

CODEBOOKS AND DATA BASES:

Spaeth, Harold J. 1997. *Expanded United States Supreme Court Judicial Database, 1946-1968 Terms*. Second ICPSR version. Ann Arbor: Interuniversity Consortium for Political and Social Research. Study number 6557. These data are available from public data archives.

Spaeth, Harold J. 1997. *United States Supreme Court Judicial Database, 1953-1995 Terms*. Seventh ICPSR version. Ann Arbor: Interuniversity Consortium for Political and Social Research. Study number 9422. These data are available from public data archives.

Songer, Donald R. 1997. *United States Courts of Appeal Database 1925-1996.* These data are available from public data archives.

Federal Judicial Center. 1996. *Federal Court Cases: Integrated Data Base, 1970-1994*. Fifth and Sixth ICPSR Editions. Ann Arbor: Interuniversity Consortium for Political and Social Research. Study number 8429. These data are available from public data archives.

Gary Zuk, Deborah J. Barrow, and Gerard S. Gryski. 1997. *Multi-User Database on the Attributes of United States Appeals Court Judges,* 1801-1994. First ICPSR Edition. Ann Arbor: Interuniversity Consortium for Political and Social Research. Study number 6796. These data are available from public data archives.

Note also that many of these datasets may be obtained directly by navigating to the homepage for the Judicial Research Initiative (JURI), headquartered at the University of South Carolina (Dr. Kirk A. Randazzo, Director) (http://artsandsciences.sc.edu/poli/juri/).

Another invaluable resource is the Inter-university Consortium for Political and Social Research (http://www.icpsr.org) that archives literally hundreds of datasets (including several versions of the National Election Survey (NES) and the General Social Survey (GSS)) from the most important and ground-breaking studies in the political science and other fields of inquiry.

LISTSERVS AND OTHER ORGANIZATONS OF NOTE

You may wish to join the APSA's Political Methodology section (http://www.apsa.com/section_316.cfm). The section's homepage may be found by navigating to http://polmeth.wustl.edu/. The section publishes *Political Methodologist* and *Political Analysis*.

Further, you may wish to keep up-to-date on developments and new releases of SPSS (http://www.spss.com).

There is a listserve that you may join for users of RATS. Helpful suggestions and ideas are shared among the registered users of the time series software package (http://www.estima.com).

UCLA has devoted a website to discussion of the use of Stata. It has several modules and FAQs to help users better understand and use Stata. Navigate to http://www.ats.ucla.edu/stat/stata/. Similarly, there is a listserv for Stata users (http://www.stata.com).

TIME SERIES SOFTWARE AND ASSOCIATED PROGRAMS

We will make extensive use of the computer program RATS (Regression Analysis and Time Series). RATS has its own programming language that we will learn much of it over the course of the semester. I advise students to share programs with each other (and with me) to help learn the syntax needed to invoke routines. RATS 8.30 is available in the PH 310 computer lab. The manuals are available in PDF format and will come in handy. We will spend quite a bit of class time going over RATS programs and output. RATS can be a frustrating program to work with, but it is vastly superior to all other alternatives for most of what we'll do. We will use Stata for some of the material including duration models and forecasting. It, too, is frustrating at times, but you will learn to endure that frustration for the ultimate results that Stata gives you.

WEB RESOURCES

Canvas Site – Course Management Software

The Course has a WebCourses site associated with it. It is an innovative technology that allows the students to interact with each other, post messages to a common bulletin board, take quizzes, and many other tasks that facilitate comprehension of the course material and collaborative learning among the course's students in a student-centered context. This site, however, is a password-protected domain. A more thorough discussion of this course tool as well as how to navigate through it will be offered in class. Navigate to it via your my.ucf.edu login, find the course in the Online Course Tools Tab and the Webcourses@UCF Pagelet and then enter your PID and password.

COURSE REQUIREMENTS

As graduate students, it is obvious that you are **expected to come to class well-prepared**. As this is a graduate seminar, you will learn that there is no place to hide. You are expected to have read the assignments carefully, and should be prepared to discuss them intelligently rather than passively absorbing something approaching knowledge while lurking in the back of a class of 70 or so undergraduates whose attention is highly transitory. I, thus, cannot overemphasize the importance of completing the readings and associated assignments prior to our class meeting. Class time is not time to read the material but to consider its importance, its consequences and its limitations. This is a very hands-on course.

Hence, there will be no shirking. If you do, it will be apparent to me and everyone else and it will affect your grade. Moreover, it will also affect your training. If you do not invest the time to complete the readings sincerely, then thinking and the analysis of the works that we will examine will elude you and you miss a wonderful and unique opportunity to invest in your future career.

When I say "read the material," what I mean is that you will, at a minimum, read them carefully, annotate in the articles, make notes in the margins and otherwise be prepared as if you were required to meet with the authors of the books and articles and question what they have done and why they completed the research in the manner that they did (*see* "Format for Analysis of Readings"). As this is not a lecture class, if you fail to read and prepare as I have outlined here, we will likely spend three hours each week staring at each other with silence as our companion.

In fact, you will be assigned to make oral presentations to the class on selected assignments on a recurring basis. Regular class attendance is *expected*. The instructor will not spend any time going over missed material with those students who were absent from the seminar meeting, unless he or she has a valid medical or other excuse. The following methods of assessing student performance will be used:

Homework Assignments (3)	30% (10% each)
Research Paper	30%
Class participation	20%
Weekly Questions	20%

Late papers will not be accepted. "Late" means any time after the due date and time listed below, for each assignment. Plan accordingly.

WEEKLY QUESTIONS

Furthermore, you must submit **at least two substantive questions** (more are better) to the Weekly Questions Discussion Topic (available on the Canvas site) **each week** about the reading that will form the basis of the beginning of the class discussion for that respective week. This portion of your grade includes twenty (20) percent for the completion of these questions, allocated based on the proportion of such questions that you submit throughout the term. Completing them is a good way to check your comprehension of the week's material, and it is an easy way to earn points for the final course grade. The questions must be submitted by **12:00 noon of the Friday immediately preceding class on Monday afternoon**.

GRADING SCALE (as a Percentage of Total Points)

GRADE	PERCENTAGE
A	90-100
B+	89-87
B	86-80
C+	79-77
C	76-70
D+	69-67
D	66-60
F	59 or less

HOMEWORK ASSIGNMENTS

Three (3) homework assignments will be announced during the term. Details about them will be given later in the term. They will be keyed to concepts and skills discussed in the prior weeks. They will build on topics earlier in the course. They are designed to assist you in developing the technical and analytical skills necessary to complete the research paper validly and, more importantly, to understand the complexities of time series analysis. The due dates, which will be made clear, will be interspersed through the term. Likely, the homework assignments will follow this structure:

- **Homework 1**: Use the methods of weeks 1-5 below. **Due: September 28:** some intervention and transfer-function analysis. You should find your own data for this assignment or come up with an original idea using some of the data from class.

- **Homework 2**: Use the methods of weeks 6-9 below. **Due: October 26**: you should use some, but not necessarily all, of the methods of the weeks concerned. You may use the same data as from the first paper.

- **Homework 3**: Use the methods of weeks 10-14 below. **Due: November 23**: you will choose one of the methods or perhaps try comparing models and hypotheses using multiple methods to determine if the methodology employed affects the results reported. Again, you will need to locate your own data.

RESEARCH PAPER

I have already mentioned the importance of moving from being a consumer to a producer of political knowledge. Indeed, students in the graduate program will eventually write a thesis or dissertation—whether that is done in the field of political science or some related discipline. Thus, a research paper is a critical part

of this (or any) graduate class. The topic can be anything within any subfield in political science that you want, but it is advisable that you confine the paper to one of the broad topics that are covered here in this seminar.

The research paper will be similar to many of the journal articles that you read this semester. It should be something that could be potentially presented at a professional conference or even submitted to an academic journal. Many students use their research paper as a beginning to develop what eventually becomes their MA thesis or PhD dissertation. You should begin to read regularly time series analysis by professional political scientists as you will absorb much simply by doing so.

The research paper will adhere to the following guidelines:

1. The paper should be approximately 20 pages. This should be "heavy lifting." They should be word processed on white paper, double-spaced throughout (including notes and references), with one inch margins on all sides. They must be printed in a reasonably-sized proportionally-spaced font. For references, bibliography, and footnote/endnote style, political science majors will be **required** to use the style sheet of the *American Political Science Review*, the department's official style sheet or the style sheet of your home discipline if it is not political science. A copy of the most recent version of the Style Sheet will be placed on Canvas, under the Course Reserves Topic.

2. The research paper must adhere to the following general outline:

   a. Justify the topic. Indicate why this is an important topic. Why should the reader be interested in this topic or issue? Concentrate on its *theoretical* significance.

   b. State the problem to be studied. Use specific hypotheses where appropriate.

   c. Review the relevant literature. Describe what kinds of research have been done on your topic and indicate the problems or shortcomings of the existing literature.

   d. Specify what approach, model, or theory you are testing or the ways in which a particular approach of model directs you to the problem you are investigating and how it shapes the questions you are asking or the hypotheses you are testing. It need not be a highly sophisticated quantitative approach, but it must be quantitative in nature.

   e. Set out hypotheses derived from your theory. State the empirically-derived research questions that guide your research: that is, what phenomenon are you testing? How will you determine if the hypothesis has been satisfied or not?

   f. Give specific *operational definitions* of the concepts you are using.

   g. Indicate what kind(s) of *data* you will employ in your analyses. Discuss the problems you faced in obtaining the data and putting them to appropriate use.

   h. Indicate the *research skills* you will use complete the project: languages, statistical and computer skills, library research, etc.

   i. Results and Discussion: describe and present the results of your study. Were your hypotheses satisfied or not? If not, why not? Describe the results in a clear and understandable manner to an educated reader.

   j. Conclusion: Discuss what the study has found and the implications of those findings. What has the reader learned? What additional questions do your results provoke? Are their limitations to your findings?

Research paper topics must be approved by the instructor. For this purpose, an *approved* one to two page final description and outline of the paper must be turned in no later than the beginning of class on **Monday, October 26**. The outline should have **at least** five relevant, scholarly sources (books, academic articles, etc.) included in it; more is better at this point. Students who fail to turn in an appropriate term paper description and outline on time will be penalized one-half a letter grade on the final term paper, regardless of the quality of that paper.

Brief conferences concerning proposed topics will be a part of the seminar's activities. Students are encouraged to discuss term paper topics with the instructor at any time, and to seek formal approval for their description/outlines as soon as they are ready, preferably well in advance of their due date.

It will be helpful to think of the research paper as the first stage in the preparation of a thesis. The instructor will try to suggest good research ideas as we go through the readings of the course and to give you an understanding of the theories, data, and methods underlying the research works that we do read. You are encouraged to suggest research ideas also, both in and out of class, as well as to discuss your ideas on such research possibilities with your classmates and the instructor.

The final version of the research paper is due **Friday, December 11 by noon**. You will present its results publically in a *poster session format* on the final meeting of the course. More details to follow.

I strongly advise students to begin data collection very early in the semester. With a good data set in hand, you can do some research on a substantive problem and, by the time you analyze the data for a term paper, you will have many key parts to a possible journal submission or even a master’s thesis or doctoral dissertation.

Graduate Seminar in Advanced Quantitative Methods:
Time Series Analysis of Political Events

Tentative Course Outline and
Schedule of Assignments

You are responsible for obtaining the readings listed on the syllabus, whether books or articles. Many, if not most, of the articles listed are available online through JSTOR (http://www.jstor.org) or EBSCOHOST through the library. If you are off-campus and seeking access to these resources, you will need to log-in via a proxy server. The library staff can assist with that process. Other articles may require the tried-and-true, old-fashioned method (*i.e.*, one must physically travel to and enter the library and locate the hardcopy of the article in the stacks and then photocopy it as in the days of yore).

CLASS SCHEDULE AND READINGS

(Note: some revision of this tentative schedule will be done during the semester as we progress through the material)

Once again: reading assignments should be completed *before* the class for which they are assigned.

WEEK 1—AUGUST 24

TOPIC: INTRODUCTION TO THE COURSE AND TIME SERIES ANALYSIS IN RATS

Review of Regression Model, Its Variants and Potential Threats to Statistical Inference
Basic Introduction to RATS and Time Series Analysis
Diagnostic Test on Quantitative Skills

Reading:

- Granger, Clive W.J. 2003. "Time Series Analysis, Cointegration, and Applications." Nobel Lecture (Dec. 8) (http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2003/granger-lecture.html).

- Key, Ellen M., and Matthew J. Lebo. 2012. "Time Series Software: Stata 12 Versus RATS 8." *The Political Methodologist* (Newsletter of the Political Methodology Section, APSA). Urbana-Champaign: University of Illinois.

- Nyhan, Brendan. 2015. "Presidential Polls: How to Avoid Getting Fooled." *The New York Times*, July 30 (http://www.nytimes.com/interactive/2015/07/29/upshot/2016-presidential-election-polls-how-to-follow.html?_r=0&abt=0002&abg=0).

- Pickup, Introduction (pp. xiii-xvii)

- Smith, Jeremy. 2013. "Regression Analysis of Time Series: A Brief Introduction to the Computer Program. (http://www2.warwick.ac.uk/fac/soc/economics/staff/jsmith/manual/rats.pdf).

Recommended:

Enders Handbook, Chapter 1 (Introduction to RATS).

WEEK 2—AUGUST 31

TOPIC: LINEAR DIFFERENCE EQUATIONS AND STATIONARITY

Linear Difference Equations

Reading:

- BFHP, Chapter 1 and Appendix (A.1, A.2, and A.3.1)
- Pickup, Chapter 1
- Brooks, Chapters 1 and 2

Recommended:

- Sprague, John. 1981. "One Party Dominance in Legislatures" *Legislative Studies Quarterly* 6(2):259-85.
- Hamilton, Chapter 1, 2, 5.
- Goldberg, Chapters 1-2.

Stationarity

Reading

- BFHP, Chapter 5

Recommended Reading

- Becketti, Chapter 5
- Cromwell, Jeff B., Walter C. Labys, and Michel Terraza. 1994. *Univariate Tests for Time Series Models*. Beverly Hills, CA: Sage (pp. 1-36) [available in the UCF library; digital access, too].
- Davidson, Russell and James G. MacKinnon. 1993. "Serial Correlation" (Chapter 10). *Estimation and Inference in Econometrics*. Oxford: Oxford University Press.
- Durbin, J. and G.S. Watson. 1950. "Testing for Serial Correlation in Least Squares Regression I." *Biometrika* 37(3-4): 409-428.
- Durbin, J. and G.S. Watson. 1951. "Testing for Serial Correlation in Least Squares Regression II." *Biometrika* 38(1-2): 159-178.
- Granger and Newbold (1986), Chapter 1.
- Hamilton (1994), Chapters 1-2.
- Jarque, Carlos M. and Anil K. Bera. 1980. "Efficient Tests for Normality, Homoscedasticity, and Serial Independence of Regression Residuals." *Economic Letters* 6(3): 255-259.

WEEK 3—SEPT. 7 – LABOR DAY – NO CLASS

WEEK 4—SEPT. 14

TOPIC: STATIONARITY AND INTRODUCTION TO ARMA AND ARIMA MODELS

Reading:

- BFHP, Chapter 2
- Brooks, Chapter 5
- Enders Handbook, Chapter 2
- Pickup, Chapter 2

Recommended:

- Becketti, Chapter 2 and Chapter 6 (pp. 201-214).
- Haynie, Stacia. 1992. "Leadership and Consensus on the U.S. Supreme Court." *The Journal of Politics* 54(4):1158-69.
- McCleary and Hay, Chapters 2 and 6.
- Pindyck and Rubenfeld, Chapters 16 and 17.
- Chatfield, Chapters 2, 3, and 4.
- Mills, Chapters 5, 6, and 8.
- Hamilton, Chapter 3.

WEEK 5—SEPT. 21

TOPIC: UNIVARIATE ARMA AND ARIMA MODELS II

Reading:

- BFHP, Chapter 5 (re-read)
- Brooks, Chapter 4
- Enders Handbook, Chapter 4.
- Pickup, Chapters 3 and 5
- Li, Richard P.Y. 1976. "A Dynamic Comparative Analysis of Presidential and House Elections." *American Journal of Political Science* 20(4): 670-691.

Recommended:

- Becketti, Chapter 6
- Chatfield, Chapter 5.
- Hamilton Chapter 4.
- Li, Richard P.Y., and William R. Thompson, "The Stochastic Process of Alliance Formation Behavior." *American Political Science Review* 72(4), 1978:1288-1303.
- Mills, Chapter 11.
- Pindyck and Rubenfeld, Chapter 18.

WEEK 6—SEPT. 28

TOPIC: ARIMA MODELS II AND BEGIN TRANSFER FUNCTION MODELS I

***** HOMEWORK ASSGN. 1 DUE THIS WEEK AT CLASS TIME *****

Reading:

- Enders, Chapter 5 Sections 1-4 (will be available on the Canvas Reserves).
- Hibbs, Douglas A., Jr. 1977. "Political Parties and Macroeconomic Performance" *American Political Science Review* 71: 1467-79.

Recommended

- Becketti, Chapter 7.
- Box, G.E.P. and G.C. Tiao. 1975. "Intervention Analysis with Applications to Economic and Environmental Problems" *Journal of the American Statistical Association* 70:70-79.
- Oppenheimer, Bruce I. James A. Stimson, and Richard W. Waterman. 1986. "Interpreting U.S. Congressional Election: The Exposure Thesis." *Legislative Studies Quarterly* 11: 227-47.
- Mills, Chapters 12 and 13.
- Suzuki, Motoshi, and Henry W. Chappell, Jr. 1996. "The Rationality of Economic Voting Revisited." *The Journal of Politics* 58(1):224-36.

WEEK 7—OCT. 5

TOPIC: RESEARCH PAPER PROPOSAL PRESENTATIONS AND TRANSFER FUNCTION MODELS II

During the first half of this week's meeting, you will give a brief presentation in the seminar of your research paper topic. The format should follow the guidelines listed for the research paper, listed above. Please make enough copies of your proposal for each person in the seminar, including me, so that we can review your proposal and make constructive suggestions. Consider what you would say in explaining your topic to an uninformed person on time series analysis.

During the second half of this week's meeting, we will explore more deeply the elegance of transfer functions.

Reading:

- Yantek, Thom. 1988. "Polity and Economy Under Extreme Economic Conditions: A Comparative Study of the Reagan and Thatcher Experiences." *American Journal of Political Science* 32:196-216.

Recommended:

- Alt, James E. 1986. "Political Parties, World Demand, and Unemployment: Domestic and International Sources of Economic Activity." *American Political Science Review* 79(4):1016-1040.
- Rasler, Karen, and William R. Thompson. 1985. "War and Economic Growth of the Major Powers." *American Journal of Political Science* 29:513-538.

WEEK 8—OCT. 12

TOPIC: TIME SERIES REGRESSION MODELS AND ELECTION FORECASTING

Reading:

Time Series Regression Models:

- BFHP, Chapter 3.
- Beck, Nathaniel. 1991. "Comparing Dynamic Specifications: The Case of Presidential Approval." *Political Analysis* (Vol. 3, J. Stimson, ed.) (pp. 51-88).
- Grier, Kevin B. 1989. "On the Existence of a Political Monetary Cycle." *American Journal of Political Science* 33(2):376-89.
- Pickup, Chapter 4.

Forecasting:

- BFHP, Section 7.3
- Pindyck, Robert and Daniel L. Rubenfeld. 1998. "Estimating and Forecasting with Time Series Models." In *Economic Models and Econometric Forecasting*. 4th ed. New York: McGraw Hill (Chapter 18, pp. 549-579) (will be available on the Canvas Reserves)
- Greene, Jay P. 1993. "Forewarned Before Forecast: Presidential Election Forecasting Models and the 1992 Election." *PS: Political Science and Politics* 26:17-21.
- Campbell, James E. 1993. "Weather Forecasters Should Be So Accurate: A Response to 'Forewarned Before Forecast.'" *PS: Political Science and Politics* 26:165-66.

Recommended:

- Becketti, Chapter 4
- Gujarati, Chapter 17.
- Hamilton, Chapter, 8-9.
- Hendry, Chapter 6-7.
- Pindyk and Rubenfeld, Sections 6.2 and 9.1.
- Krause, George A. 2000. "Testing for the Strong Form of Rational Expectations with Heterogeneously Informed Agents." *Political Analysis* 8(3):285-305.

WEEK 9—OCT. 19

TOPIC: UNIT ROOTS, COINTEGRATION, AND ERROR CORRECTION MODELS

Reading:

- BFHP, Chapter 6
- Brooks, Chapter 7
- Clarke, Harold D., and Marianne C. Stewart. 1994. "Prospections, Retrospections, and Rationality: The 'Bankers' Model of Presidential Approval Reconsidered." *American Journal of Political Science* 38(4): 1104-23.
- Enders Handbook, Chapters 4 and 6.

- Hurwitz, Mark S., and Drew Noble Lanier. 2004. "I Respectfully Dissent: Consensus, Agendas, and Policy-Making on the U.S. Supreme Court, 1888-1999." *Review of Policy Research* 21(3): 429-45.
- Murray, Michael P. 1994. "A Drunk and Her Dog: An Illustration of Cointegration and Error Correction." *The American Statistician* 48:37-9.
- Pickup, Chapter 6

Recommended:

- Becketti, Chapter 7
- *Political Analysis*, Volume 4 (several articles).
- Hamilton, Chapters 15-20.
- Durr, Robert H. 1993. "What Moves Policy Sentiments." *American Political Science Review* 87(1):158-172.
- Krause, George A. 1997. "Voters, Information Heterogeneity, and the Dynamics of Aggregate Economic Expectations." *American Journal of Political Science* 41(4):1170-1200.
- Engle, Robert F., and Clive W.J. Granger. 1991. *Long Run Econometric Relationships: Readings in Cointegration*. New York: Oxford University Press.
- Engle, Robert F., and Clive W.J. Granger. 1987. "Cointegration and Error Correction: Representation, Estimation and Testing." *Econometrica* 55:251-276.

WEEK 10—OCT. 26

FINAL (APPROVED) TERM PAPER DESCRIPTION/OUTLINE DUE AT CLASS TIME

***** HOMEWORK 2 DUE THIS WEEK AT CLASS TIME *****

TOPIC: NEAR INTEGRATION, FRACTIONAL INTEGRATION, AND FRACTIONAL COINTEGRATION

Reading:

- BFHP, Section 7.1
- Box-Steffensmeier, Janet M., and Renee M. Smith. 1996. "The Dynamics of Aggregate Partisanship." *American Political Science Review* 90(3):567-80.
- Clarke, Harold D., and Matthew J. Lebo. 2003. "Fractional (Co)integration and Governing Party Support in Britain." *British Journal of Political Science* 33(22): 283-301.
- Lanier, Drew Noble. 2011. "Acclimation Effects and the Chief Justice: The Influence of Tenure on the Decisional Behavior of the Court's Leader, 1888-2007." *American Politics Research* 39(July): 682-723.
- Lanier, Drew Noble. 2003. "The Long-Run Relationship Between the United States Supreme Court's Decision-Making Environment and Its Liberalism, 1888-1997." *Of Time and Judicial Behavior: United States Supreme Court Agenda-Setting and Decision-Making, 1888-1997* (Chapter 6). Susquehanna, PA: Susquehanna University Press.

Skim:

- DeBoef, Suzanna, and Jim Granato. 1997. "Near-Integrated Data and the Analysis of Political Relationships." *American Journal of Political Science* 41(2): 619-40.
- Pesaran, M. Hashem, Yongcheol Shin, and Richard J. Smith. "Bounds Testing Approaches to the Analysis of Level Relationships." *Journal of Applied Econometrics* 16:289-326.

Recommended:

- DeBoef, Suzanna. 2000. “Modeling Equilibrium Relationships: Error Correction Models with Strongly Autoregressive Data.” *Political Analysis* 9(1): 78-94.
- Lebo, Matthew J., and Will H. Moore. 2003. “Dynamic Foreign Policy Behavior.” *Journal of Conflict Resolution* 47: 13-32.
- Lebo, Matthew J., Robert Walker and Harold Clarke. 2000. “You Must Remember This: Dealing with Long Memory in Political Analyses.” *Electoral Studies* 19: 31-48.

Week 11—NOV, 2

TOPIC: GRANGER CAUSALITY, VECTOR AUTOREGRESSION (VAR), AND SEEMINGLY UNRELATED REGRESSIONS (SURE)

Reading:

- BFHP, Chapter 4.3-4.5
- Brooks, Section 6.3
- Freeman, John R. 1983. “Granger Causality and the Time Series Analysis of Political Relationships.” *American Journal of Political Science* 27: 327-58.
- Freeman, John R., J. Williams, and T. Lin. 1989. “Vector Autoregression and the Study of Politics.” *American Journal of Political Science:* 842:77.
- Jaeger, David A., and M. Daniele Paserman. 2008. “The Cycle of Violence? An Empirical Analysis of Fatalities in the Palestinian-Israeli Conflict.” *American Economic Review*: 1591-1604.

Recommended:

- Becketti, Chapter 9
- Thurman, Walter N., and Mark E. Fisher. 1988. “Chickens, Eggs, and Causality, or Which Came First?” *American Journal of Agricultural Economics* May: 237-38.
- Lebo, Matthew J., and Daniel Cassino. 2007. “The Aggregated Consequences of Motivated Reasoning.” *Political Psychology* 28(6): 719-46.
- Freeman, J. and J. Alt. 1994. “The Politics of Public and Private Investment in Britain.” *The Comparative Politics of the Welfare State* (pp. 136-168).
- Clarke, Harold D., Marianne C. Stewart, Mike Ault, and Euel Elliott. 2005. "Men, Women and the Political Dynamics of Presidential Approval." *British Journal of Political Science* 35: 31-51.

WEEK 12—NOV. 9

TOPIC: ARCH AND GARCH MODELS

Reading:

- Enders Chapter 3 (will be on Canvas Reserves).
- Enders Handbook, Chapter 3.
- Brooks, Chapter 8
- BFHP, Section 7.2

- Kriner, Douglas, and Liam Schwartz. "Partisan Dynamics and the Volatility of Presidential Approval." *British Journal of Political Science* 39:609-31.
- Gronke, Paul, and John Brehm. 2002. "History, Heterogeneity, and Presidential Approval: A Modified ARCH Approach." *Electoral Studies* 21: 425-52.

Recommended:

- Bauwens, Luc, Sébastien Laurent, and Jeroen V. K. Rombouts. 2006. "Multivariate GARCH Models: A Survey." *Journal of Applied Econometrics* 21: 79-109.
- Becketti, Chapter 8.
- Maestas, Cherie, and Robert R. Preuhs. 2000. "Modeling Volatility in Political Time Series." *Electoral Studies* 19: 95-110.
- Engle, Robert F. 1982. "Autoregressive Conditional Heteroskedasticity with Estimates of Variance of United Kingdom Inflation." *Econometrica* 50(4):987-1008.
- Gujarati, Chapter 12.
- Caldeira, Greg, and Christopher J.W. Zorn. 1998. "Of Time and Consensual Norms in the Supreme Court." *American Journal of Political Science* 42:874-902.
- Leblang, David, and Bumba Mukherjee. 2004. "Presidential Elections and the Stock Market: Comparing Markov-Switching and Fractionally Integrated GARCH Models of Volatility." *Political Analysis* 12:296–322.

Week 13—NOV. 16

TOPIC: DYNAMIC CONDITIONAL CORRELATION AND ROLLING CROSS-SECTIONAL MODELS

Reading:

- Lebo, Matthew J., and Janet M. Box-Steffensmeier. 2008. "Dynamic Conditional Correlations in Political Science." *American Journal of Political Science* 52(3): 688-704.
- Engle, Robert F. 2002. "Dynamic Conditional Correlation: A Simple Class of Multivariate GARCH." *Journal of Business and Economics Statistics* 17:425-46.
- Lebo, Matthew J., and Christopher Weber. 2015. "An Effective Approach to the Repeated Cross-Sectional Design." *American Journal of Political Science* 59(1): 242-58.

Recommended:

- Johnston, Richard and Michael Hagen. 2003. "Priming and Learning: Evidence from the 2000 Annenberg Study." Presented at APSA 2003 Annual Meeting and available at PROceedings.
- Carey, Sean and Matthew Lebo. 2006. "Election Cycles and the Economic Voter." *Political Research Quarterly* 59(4): 543-56.
- Bauwens, Luc, Sébastien Laurent, and Jeroen V. K. Rombouts. 2006. "Multivariate GARCH Models: A Survey." *Journal of Applied Econometrics* 21: 79-109.
- Gidengil, Elisabeth and Agnieszka Dobrzynska. 2003. "Using a Rolling Cross Section Design to Model Media Effects: The Case of Leader Evaluations in the 1997 Canadian Election." Presented at APSA 2003 Annual Meeting and available at PROceedings.

- Johnston, Richard, and Henry E. Brady. 2002. "The Rolling Cross-Section Design." *Electoral Studies* 21:283-295.

Week 14—NOV. 23

***** HOMEWORK 3 DUE THIS WEEK AT CLASS TIME *****

TOPIC: POOLED CROSS-SECTIONAL TIME SERIES

Reading:

- Beck, Nathaniel, and Jonathan N. Katz. 1995. "What to Do (and not to do) with Time-Series Cross-Section Data." *American Political Science Review* 89: 634-47.
- Jackson, John E. 1991. "Estimation of Models with Variable Coefficients." *Political Analysis* 3:27-49.
- Lanier, Drew Noble and Sandra L. Wood. 2001. "Moving On Up: Institutional Position, Politics and the Chief Justice." *The American Review of Politics* 22 (Spring): 93-127.
- Sayrs, Lois W. 1989. *Pooled Times Series Analysis*. Series in Quantitative Application in the Social Sciences. No. 70. Beverly Hills: Sage (pp. 7-32). [available in the UCF library; digital access, too].
- Stimson, James A. 1985. "Regression in Time and Space: A Statistical Essay." *American Journal of Political Science* 29:914-47.

Recommended:

- Brooks, Chapter 10
- Burkhardt, Ross E., and Michael S. Lewis-Beck. 1994. "Comparative Democracy: The Economic Development Thesis." *American Political Science Review* 88:903-10.
- Blais, Andre, Donald Blake, and Stephanie Dion. 1996. "Do Parties Make a Difference?: A Reappraisal." *American Journal of Political Science* 40(2):514-20.
- Finkel, Steven E., and Edward N. Muller. 1998. "Rational Choice and the Dynamics of Political Action: Evaluating Alternative Models with Panel Data." *American Political Science Review* 92: 37-50.
- Hicks Alexander M., and Duane H. Swank. 1992. "Politics, Institutions and Welfare Spending in Industrialized Democracies." *American Political Science Review* 86(3):658-74.
- Wood, B. Dan. 2000. "Weak Theories and Parameter Instability: Using Flexible Least Squares to Take Time Varying Relationships Seriously." *American Journal of Political Science* 44: 603-18.
- Beck, Nathaniel, Jonathan N. Katz, and Richard Tucker. 1998. "Taking Time Seriously: Time-Series Cross-Section Analysis with a Binary Dependent Variable." *American Journal of Political Science* 42: 1260-1288.

WEEK 15—NOV. 30

TOPIC: EVENT HISTORY MODELING

Reading:

Box-Steffensmeier and Jones, Chapters 1-4 (will be available on Canvas Reserve).

WEEK 16—DEC. 7

NO CLASS – USE THE TIME TO WORK ON YOUR RESEARCH PAPERS

FRIDAY, DECEMBER 11, 2015

FINAL DRAFT OF RESEARCH PAPERS DUE IN LANIER'S OFFICE (PH 302O) BY NOON

WEEK 17—DEC. 14

POSTER SESSION, PUBLIC REPORTING OF RESULTS AND DISCUSSION

Policy on Cheating and Plagiarism

As this is a graduate course, this is truly gratuitous, but nonetheless: *The Golden Rule: A Handbook for Students (University of Central Florida)* defines academic dishonesty as including cheating and plagiarism. Cheating is defined as "unauthorized assistance; communication to another through written, visual or oral means. The presentation of material which has not been studied/learned, but obtained through someone else's efforts and used as part of an examination, course assignment or project constitutes a violation. The unauthorized possession or use of examination or course related material may also constitute cheating" (p. 6). Plagiarism is defined as the deliberate use of another's work "without any indication of source, thereby attempting to convey the impression that such work is the student's own. Any student failing to properly credit ideas or materials taken from another is plagiarizing. Any student who knowingly helps another violate academic behavior standards is also in violation of the standards (p.6-7)".

Normally, the penalty for a violation of this policy is an "F" in the course.

Statement of ADA Compliance

I cooperate with the Office of Disability Accommodation to make reasonable accommodations for qualified students with disabilities. Please present your written accommodation request on or before the sixth class day (beginning of the second week of classes).

[Portions of this policy were adapted from the University of North Texas Department of Political Science Policy on Cheating and Plagiarism]

Many thanks to Prof. Matthew Lebo (SUNY Stony Brook) for the generous sharing of his time series analysis course syllabus and materials.