

Economics 457: Public Economics Research Seminar

Syllabus
Spring 2011

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Office hours:
Tues. 1:30-3:30PM
and by appointment
Class: 11-12:15 MW
(and some Fridays)

Course Description

This is a research seminar in *public economics*, which is the study of the role of government in the economy, focusing mainly on the microeconomic aspects of that question. The goal of this course is to help you learn how to read, critically evaluate, and begin to produce economic research on important and interesting public policy questions, with a particular emphasis on empirical evidence. We will read and discuss articles presenting empirical evidence on questions relating to environmental policy, education, poverty, income inequality, taxation, crime, corruption, and public health, with applications from the U.S. as well as other industrialized and developing countries. By the end of the course, you will produce an economic research paper involving an original econometric analysis of data. For some of you, the final paper may turn into an honors thesis proposal; for all of you, this serves as a capstone achievement of your economics major, an opportunity to do real economic research and to learn first hand what being an economist is really all about.

Public economics is a vast field and we can't hope to provide a comprehensive overview of it in a class like this while still enabling you to do a substantial empirical research project. The readings I've chosen for the class address a range of interesting public policy questions, but were also selected with the goal in mind of illustrating a variety of credible research strategies, many of which could be feasible for a student research project.

Course materials

All readings for the class will be made available in printed reading packets, and will also be posted in electronic format on the Glow web site for the course <<http://glow.williams.edu>>. The first reading packet is available now in the reading packet room in Hollander Hall; I will let you know as soon as additional readings become available.

Structure of the Course

The structure of the course is a bit unusual, and is designed to achieve the following goals:

- To develop your skills at thinking critically about empirical evidence in economics.
- To enable you to read and intelligently discuss real economics research articles.
- To facilitate small-group discussion meetings where everyone attending is involved in the discussion.
- To help you develop the skills necessary to formulate and execute an interesting and useful econometric analysis of a policy-relevant question.
- To provide you with enough free time to work on your research project so that you can realistically have at least some preliminary empirical findings to report by the end of the semester.

To achieve these goals, the course will have the following elements.

- Four Classes on Empirical Research Tools. In the first four class meetings, including part of today, we will review and/or introduce some key econometric concepts that are heavily used in applied empirical research on public policy topics, and which we will see repeatedly in the course. They are also meant to ensure that you have a firm foundation for thinking critically about empirical evidence.
- Two Labs. There will be two “labs” early in the semester, held at 11am on Friday Feb. 11 (in Jessup 205 computer lab working with Stata) and Friday Feb. 25 (in Sawyer Library upstairs lab on searching for economic literature and data).
- Eight Discussion Group Modules. We will have sixteen classes where we discuss empirical research papers; they will be divided into eight distinct two-class “modules.” Each two-class module will consist of readings on a particular policy topic or methodology. In order to free up enough time for you to work on your research projects, you will be asked to choose 5 of the 8 modules to attend, and to commit to that schedule in advance. During the 3 modules where you do not attend class, you will work on your research project, meet with me individually to discuss your project, and then at the end of that week will submit tangible evidence of progress on your project. You can think of this class as a combination of a traditional discussion-based seminar and an independent study where you work with me (and probably one other classmate; see below) to develop a substantial research project on a topic of your own choosing and become familiar with the economic literature in that area. In past iterations of the course, this flexible structure has been quite helpful for enabling students to tailor the course to their interests and for facilitating the possibility of research projects on a broad array of topics.
- The final two weeks of the semester are reserved for individual meetings and student presentations of research projects.

Course requirements

- Class participation [20% of grade]. It is absolutely essential that you carefully read the assigned articles *before* the class in which we will discuss them, and come to class prepared to contribute constructively to the discussion. To help you prepare for class discussion, I will distribute a set of discussion questions on the readings for each class in advance by e-mail. You should plan to contribute several times each class meeting, and you can expect that I will sometimes ask specific students to provide their answers to these questions in class, rather than relying entirely on volunteers. My purpose is to encourage broad participation in the discussion and to maintain an incentive to do the reading on time. Both attendance and constructive contributions to discussion will play critical roles in your participation grade.
- Homework [5% of grade]. In the early part of the course, there will be a short homework assignment. It will include a small number of problem-set type questions to help you think through some econometric ideas, and a simple exercise to get you comfortable working with data and with programming in Stata.
- Best four out of five three-page response papers. [25% of grade] You will be asked to submit one 4-page, double-spaced response paper for each of the five modules that you attend, and I will count the best four in your grade. I will provide further instructions on these papers, including guidelines for

what makes a good paper, in an upcoming class. For now, here is a brief preview. Your goal on these papers should be to demonstrate a good understanding of at least one of the readings for the day, and to say something *interesting* about it. Examples of what an economist finds interesting include, among other things: providing a good accessible explanation of some particularly challenging aspect of the paper that helps make the evidence more convincing; offering a critique; constructing an argument for a particular policy implication; looking into what other research has to say on the topic, discussing the reasons for disagreement, and constructing an argument for which evidence is most convincing and why; or suggesting a good follow-up research idea. The discussion questions I distribute to the class can serve as good topics for the 4-page papers (you'll generally want to limit yourself to a small subset of the questions). Since you only have 4 pages, you'll need to limit yourself to a small number of key points, so that you can develop each one well. Response papers are due by the beginning of the class in which we discuss the article. Half the class will write the paper on Mondays, and half on Wednesdays. Early in the term I will ask you your preferences regarding which 5 modules you would like to attend and which day you'd prefer to write your papers, and then you will be required to stick to that schedule. The purpose of this requirement is to ensure that in every class meeting where we have articles to discuss, a critical mass of students has thought carefully enough about the readings to write about them. If a legitimate excuse comes up that makes it impossible to write one of your 4 page papers, then that can be the one that gets dropped from your grade calculation.

- Original empirical research paper. [50% of grade] You will write an empirical research paper on a public economics topic of your choosing. The final product should be approximately 25 pages, double spaced, and must involve at least some original econometric analysis of data. **You are strongly encouraged to co-author your paper with up to one other student in the class, but you may write a paper on your own if you prefer.** In the case of co-authorship, I expect the paper to be more in depth (i.e., probably more pages). The paper will be built up in stages over the course of the term. The stages include:
 - Initial consultation on research ideas. You must discuss tentative research ideas with me before 4:00pm Friday March 4th.
 - 6-page review of an article relevant to your research project. By the second class meeting of your first or second "skipped" module you must submit an essay of approximately 6 pages (double-spaced) that carefully reviews an empirical article from the economics literature that is closely related to your research project interests, that you will choose in consultation with me. Your paper should explain as clearly and concisely as possible the article's econometric strategy for obtaining convincing evidence, its data, and its strengths and weaknesses. This could be an article that you find through your own research or an article that I help you identify. Or, if one of the assigned readings for the class is particularly relevant to your research interests, you could write about that, subject to my approval. This might make sense, for example, if you're particularly interested in doing research on some topic that we will cover in class late in the semester. You must discuss your proposed article with me at least five days before the deadline for the 6-page article review. In the case of a co-authored research project, each co-author should write a separate 6-page paper on a different article relevant to your joint research project.
 - Tangible evidence of progress at end of each "skipped" module. By the second class meeting of each of your other two "skipped" modules (aside from the one where you write your 6-page article review), you must show me tangible evidence of progress on your research project. Earlier

in the term this could take the form of some progress on preliminary research ideas, and later in the term it should take the form of evidence of progress assembling your data set. I will set up access to a shared network drive on the Athena server where you should post your data and Stata .do files (more about this later).

- Project proposal. A detailed proposal and annotated bibliography is due to me by **Friday March 18th at 4pm**. Clearly state your research question, explain why it is interesting, and describe how you plan to go about investigating the question. What data set will you use? What econometric specification do you have in mind?
- Table and brief data description. A table illustrating descriptive statistics on key variables from your data, along with a brief description of the data and variables in to be used in your analysis, is required by **Friday April 22 at 4pm**.
- Optional rough draft. An optional rough draft may be submitted by **Friday May 6 at 4:00pm**.
- In-class presentation. You will make a short in-class presentation on your research project some time during the last two weeks of classes.
- Final draft. The final draft of the research paper will be due on **Friday May 20 at 4:00pm**.

All of the required steps in the research project will count towards the final grade on your project, and failure to submit any of them will adversely affect the grade on the final project. I will provide feedback on all of the steps where it is appropriate, but the only part of the project that I will assign a letter grade to during the semester is the 7-page review of an article related to your research project (that will account for 15% of your final project grade, or 7.5% of the overall course grade). For the other steps such as the March 18th research proposal, the quality of what you submitted for the early steps will be factored in independently in the evaluation of the final project. Writing done for earlier stages of the project may be included in later stages of the project.

I will provide more detailed instructions on the research project and on each of the other assignments for the class as the semester progresses

Tips for coming up with a good research project

- Your goal is to come up with a project that will ultimately produce convincing empirical evidence on an interesting, policy-relevant question, and where you can feasibly provide at least preliminary econometric evidence by the end of the semester.
- The more interesting your research question and the more convincing your research design, the better your grade will be. You should try hard to identify a “quasi-experiment” that enables you to make reasonably credible claims about causality.
- I recognize that it is difficult to complete a thorough original econometric analysis in part of a semester when you are taking a full course load and also doing other reading and assignments for my course, and it requires a lucky combination of a good idea and good data. You should think of the final project that you hand in for this course as being a detailed research proposal, similar to a grant proposal. The proposal should present an original, convincing, and feasible strategy for

answering an interesting empirical question related to public economics (construed broadly), and should show at least some preliminary econometric analysis of the data that will be used to address it, and explain the next steps you would take were you to continue on with the project (which you might, if you are a junior considering writing a thesis).

- A particularly good strategy is to identify an existing empirical article in the economics literature for which you can obtain the same or similar data, and then perform a replication and extension of that paper. For articles that are already published, authors are often happy to share their data; in many other cases you can construct an identical data set yourself using publicly available sources. Second, you would obtain the data and follow the original authors' empirical procedures as closely as possible. Ideally, your estimates would be similar to those in the original article, and if not, you need to figure out why. Third, you would make some meaningful change to the empirical specification, or extend the analysis in some way, and be able to make a case for why we learn something interesting from this exercise. For example, you might take a study that was done on data from one country, and try it using data from a different country. Even if you end up doing something well beyond a replication and extension, it's always a good idea to start with what someone else has already done and build from there – you can learn a lot about how research is done that way, plus that way if your results differ from the previous literature, you'll know why, which is important.
- Check out the following readings which are posted in the "Conducting an Empirical Research Project" folder of the Glow web site for this course:
 - Wooldridge, Jeffrey. 2006. "Carrying Out an Empirical Project," Chapter 19 from *Introductory Econometrics: A Modern Approach*, 3rd edition, Mason OH; Thomson South-Western.
 - King, Gary. 2006. "Publication, Publication," by Gary King, *PS: Political Science and Politics*, January 2006, pp. 119-125.
- Talk with your classmates. As noted above, I encourage you to work in a team with up to one other classmate on your project, although it's not required. You should start discussing ideas with classmates you might be interested in working with early on in the semester.
- You should also check out the extensive resources I've set up on the econ department web site to help you find data sets, as well as learn how to do things in Stata. See <http://econ.williams.edu/students/online-resources>.
- On Glow, in the "Readings" folder, the folder for each day's readings will contain sub-folders for "further readings" and sometimes also "data." The "further readings" folder will have additional empirical papers on topics related to the day's readings. Browsing through these can give you a sense of the range of empirical research ideas that are out there, and may point you towards interesting and useful questions or data sets. In the "data" folder, I will post the data set for the day's reading, if the author has made it available for replication purposes. I may post related data sets there as well. Even if the data for the day's paper is not there, you can usually assemble it yourself from publicly available sources.
- Seniors who are concurrently writing a thesis should meet with me to discuss an appropriate relationship between your research project for this class and your thesis.

Honor code guidelines

All of the normal Williams Honor Code guidelines regarding proper use of citations and quotations will apply in this course. All writing submitted for this course must be your own, original, new writing. If

you wish to build on a paper written for another course taken for credit, you must get my prior approval. Students should use the University of Chicago Author – Date method of citation. For further information, please see the tutorial available at:

<http://www.williams.edu/resources/acad_resources/survival_guide/CitingDoc/CitingContents.php>

Teaching assistant

The teaching assistant for this course is Daniel Kenefick <Daniel.W.Kenefick@williams.edu>. Aside from grading your one homework and running a review session for that, his main role will be to help you with computer programming and Stata problems. Dan took this course last year, is quite handy with computers, is currently working on a thesis where he is making extensive use of Stata and GIS software. Dan will be available by appointment to consult with you on your projects, and you should go to him first when you've got Stata problems that you can't solve on your own.

SCHEDULE OF CLASSES AND READINGS

INTRODUCTION: EMPIRICAL TOOLS (EVERYONE ATTENDS)

Fri Feb 4 -- Thinking critically about empirical evidence; "Quasi-experiments"

- Gruber, Jonathan. 2010. "Empirical Tools of Public Finance," Ch. 3 from *Public Finance and Public Policy*, 3rd edition, New York: Worth Publishers, pp. 63-90.
- Eissa, Nada, and Jeffrey B. Liebman. 1996. "Labor Supply Response to the Earned Income Tax Credit." *Quarterly Journal of Economics*. Vol. 111, no. 2. Excerpt, pp. 605-618.

Mon Feb 7 -- Fixed effects

- Stock, James and Mark Watson. 2007. "Regression with Panel Data." Ch. 10 from *Introduction to Econometrics*, 2nd ed. Boston: Pearson Education, pp. 349-382.

Wed Feb 9 Instrumental variables

- Stock, James and Mark Watson. 2007. "Instrumental Variables Regression." Ch. 12 from *Introduction to Econometrics*, 2nd ed. Boston: Pearson Education, pp. 421-467.

Fri Feb 11 -- Stata Lab: class meets in Jessup 205 computer classroom

- We'll meet 11:00am-12:15pm for a "lab" where you'll get some advice on and practice in using Stata to work with data and estimate econometric models, and to prepare you for the homework assignment.

Mon Feb 14 – Regression discontinuity

- Angrist, Joshua D., and Jorn-Steffen Pischke. 2009. "Getting a Little Jumpy: Regression Discontinuity Design." Ch. 6 from *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton and Oxford, pp. 251-267.

MODULE 1 -- ENVIRONMENT

Wed Feb 16 – Estimating the benefits of policies to fight air pollution

- Chay, Kenneth Y., and Michael Greenstone. 2003. "Air Quality, Infant Mortality, and the Clean Air Act of 1970." NBER Working Paper 10053 (October).

[Fri Feb 18 – Winter Carnival]

Mon Feb 21 – Evidence on the potential economic effects of climate change

- Dell, Melissa, Benjamin Jones, and Benjamin Olken. 2009. "Temperature Shocks and Economic Growth: Evidence from the Last Half Century." Working Paper (December).

MODULE 2 – HEDONICS: INFERRING THE VALUE OF PUBLIC GOODS FROM MARKET PRICES

Wed Feb 23 – Estimating the economic benefits of toxic waste cleanup

- Greenstone, Michael, and Justin Gallagher. 2008. "Does Hazardous Waste Matter? Evidence from the Housing Market and the Superfund Program." *Quarterly Journal of Economics* 123, no. 3: 951-1003.

Fri Feb 25 -- Library lab: searching for economic literature and data

- 11:00am-12:15pm in Sawyer Library Upstairs Lab, 2nd floor (ask for directions at circulation desk).

Mon Feb 28 – The Tiebout model; estimating the perceived value of school quality

- Gruber, Jonathan. 2010. "Optimal Fiscal Federalism." From *Public Finance and Public Policy*, 3rd edition, New York: Worth Publishers, pp. 267-275.
- Sandra Black, "Do Better Schools Matter? Parental Valuation of Elementary Education." *Quarterly Journal of Economics*, May 1999, pp. 577-599.

MODULE 3 – EDUCATION AND POVERTY IN THE U.S.

Wed Mar 02 -- School choice / evidence on charter schools

- Abdulkadiroglu, Atila, Joshua Angrist, Susan Dynarski, Thomas J. Kane, and Parag Pathak. 2009. "Accountability and Flexibility in Public Schools: Evidence from Boston's Charters and Pilots." NBER Working Paper No. 15549 (November). Forthcoming, *Quarterly Journal of Economics*.
- Caroline Hoxby. 2005. "School Choice: The Three Essential Elements and Several Policy Options." Keynote speech delivered June 30th to the New Zealand Association of Economists 46th Annual Conference 2005, Christchurch, New Zealand.

Mon Mar 7 – Peer effects, and the importance of early-life education

- Imberman, Scott, Adriana D. Kugler, and Bruce Sacerdote. 2009. "Katrina's Children: Evidence on the Structure of Peer Effects from Hurricane Evacuees." NBER Working Paper No. 15291.
- Chetty, Raj, John N. Friedman, Nathaniel Hilger, Emmanuel Saez, Diane Whitmore Schanzenbach, and Danny Yagan. 2010. "\$320,000 Kindergarten Teachers." *The Kappan Magazine*. Vol. 92, No. 3, pp. 22-25.

MODULE 4 – EDUCATION AND POVERTY IN DEVELOPING COUNTRIES

Wed Mar 9 – Evidence on the economic benefits of schooling, and effects of uninsured risks on investments in human capital

- Duflo, Esther. 2001. "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment." *American Economic Review* Vol. 91, No. 4: pp. 795-813.
- Maccini, Sharon, and Dean Yang. 2009. "Under the Weather: Health, Schooling, and Economic Consequences of Early-Life Rainfall." *American Economic Review*. Vol. 99, No. 3: pp. 1006-1026.

Mon Mar 14 – The impact of HIV / AIDS on investments in human capital

- Fortson, Jane G. 2011. "Mortality Risk and Human Capital Investment: The Impact of HIV / AIDS in Sub-Saharan Africa." *Review of Economics and Statistics*. Vol. 93, No. 1 (February), pp. 1-15.

Wed Mar 16 – No class meeting; individual meetings to discuss research projects

Fri Mar 18, 4pm -- Research proposal due

MODULE 5 – TAXATION, LABOR SUPPLY, AND INCOME INEQUALITY

Mon Apr 4 -- Taxation and labor supply: why do Americans work so much more than Europeans?

- Gruber, Jonathan. 2010. "Taxation and Labor Supply -- Evidence" from *Public Finance and Public Policy*, 3rd edition, New York: Worth Publishers, pp. 628-631.
- Ohanian, Lee, Andrea Raffo, and Richard Rogerson. 2007. "Work and Taxes: Allocation of Time in OECD Countries." *Federal Reserve Bank of Kansas City Economic Review*. Third Quarter [Excerpt]
- Alesina, Alberto, Edward Glaeser, and Bruce Sacerdote. 2005. "Work and Leisure In The U.S. and Europe: Why So Different?" *NBER Macroeconomics Annual*, Vol. 20 Issue 1. [Excerpt]
- Bakija, Jon. 2011. "Tax Rates and Labor Supply in OECD Countries."

Wed Apr 6 – Why has income inequality increased so much?

- Bakija, Jon and Brad Heim. 2009. "Jobs and Income Growth of Top Earners and the Causes of Changing Income Inequality: Evidence from U.S. Tax Return Data" Working Paper.
- Roine, Jesper, Jonas Vlachos, and Daniel Waldenstrom. 2009. "The Long-Run Determinants of Inequality: What Can We Learn from Top Income Data?" *Journal of Public Economics* 93, no. 7-8: 974-988.

MODULE 6 -- CRIME

Mon Apr 11 -- Crime 1

- Dills, Angela K., Jeffrey Miron, and Garrett Summers. 2010. "What do Economists Know about Crime?" in Rafael Di Tella, Sebastian Edwards, and Ernesto Schargrotsky, *The Economics of Crime: Lessons for and from Latin America*. Chicago: University of Chicago Press, pp. 269-304.
- Steven D. Levitt. 1996. "The Effects of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Litigation." *Quarterly Journal of Economics*, v. 111, iss. 2 (May) pp. 319-51.

Wed Apr 13 -- Crime 2

- Gazzale, Robert. 2011. "Discounting for Dummies."
- Stock, James and Mark Watson. 2007. *Introduction to Econometrics*, 2nd ed. Boston: Pearson Education. [Short excerpt on logit model]
- Lee, David S., and Justin McCrary. 2005. "Crime, Punishment, and Myopia." NBER Working Paper No. 11491.

MODULE 7 – CORRUPTION

Mon Apr 18 – Corruption, Part I

- Ferraz, Claudio and Frederico Finan. 2010. "Electoral Accountability and Corruption: Evidence from the Audits of Local Governments." forthcoming, *American Economic Review*
- Fisman, Raymond. 2001. "Estimating the Value of Political Connections." *American Economic Review* 91, no. 4: 1095-1102.

Wed Apr 20 – Corruption Part II

- Fisman, Raymond and Edward Miguel. 2008. "The Smuggling Gap." Chapter 3 from *Economic Gangsters: Corruption, Violence, and the Poverty of Nations*. Princeton, NJ: Princeton University Press, [Excerpt, pp. 53-63 and 66-75]
- Mishra, Prachi, Arvind Subramanian, and Petia Topalova. 2008. "Tariffs, Enforcement, and Customs Evasion: Evidence from India." *Journal of Public Economics* 92, no. 10-11: 1907-1925.

Fri Apr 22 – Table and brief description of data due, 4:00pm

MODULE 8 – BEHAVIORAL ECONOMICS AND PUBLIC HEALTH

Mon Apr 25 – Why has obesity increased so much?

- Cutler, David M., Edward L. Glaeser, and Jesse M. Shapiro. 2003. "Why Have Americans Become More Obese?" *Journal of Economic Perspectives* 17, no. 3: 93-118.
- Anderson, Michael L., and David A. Matsa. 2011. "Are Restaurants Really Supersizing America?" *American Economic Journal: Applied Economics*, Vol. 3, No. 1, pp. 152–88.

Wed Apr 27 – Do cigarette taxes make smokers happier? How should public policy respond to behavioral biases?

- Gruber, Jonathan H., and Sendhil Mullainathan. 2005. "Do Cigarette Taxes Make Smokers Happier?." *B.E. Journal of Economic Analysis and Policy: Advances in Economic Analysis and Policy* 5, no. 1: 1-43.
- Gruber, Jonathan. 2010. "The Economics of Smoking" and "The Economics of Other Addictive Behaviors." From *Public Finance and Public Policy*, 3rd edition, New York: Worth Publishers, pp. 165-177.

REMAINDER OF CLASS DEVOTED TO RESEARCH PROJECTS

Mon May 2	No Class; Individual meetings to discuss research projects
Wed May 4	No Class; Individual meetings to discuss research projects
Fri May 6	In-class research presentations, 11am (may extend into lunch), if needed
Fri May 6	Optional rough draft of research paper due, 4:00PM
Mon May 9	In-class research presentations, 11am (may extend into lunch)
Wed May 11	In-class research presentations, 11am (may extend into lunch)
Fri May 13	In-class research presentations, 11am (may extend into lunch)
Fri May 20	Final research paper due, 4:00PM