

## About Final Project...

Tuesday March 3, 2015

### Economics of Sustainability

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Begin investigating a topic that interests you (see "Great Recent Work" below). This will eventually become the final project that caps the class. Each group will write a final project. The group may be of any size from one person up to four people. The standards for the quality and amount of research are, of course, increased for a larger group.

**Step 1:** Find a topic.

**Step 2:** Write a basic overview of some of the recent economic research that has been done on this topic. This initial overview should be just a couple of pages and should demonstrate your basic familiarity with the topic, both the theory and the initial data work that must be done. (The research should be quality academic work, not from newspapers or magazines – so search EconLit not just Google.)

**Step 3:** refine and repeat.

Please consult both the CUNY policies on academic integrity and my synopsis about forms of proper citation (below). From my past experience it seems that many students lack this essential background knowledge so please take the time to ensure that you are in compliance.

**Short Rubric** of paper grading: 60% research quality, 20% writing quality, 20% logic and organization.

*Don't worry too much about finding the perfect topic: you're not writing a contract, just moving along a particular path for now. If, after a couple of weeks, you change your mind and find another topic that seems better, you can certainly change! You can also change your study group – you might fragment and/or re-group as we go along. The essential step is to start moving; for too many students 'the best is enemy of the good.'*

## Great Recent Work

You don't *have to* work from one of these, however in my experience students sometimes run into problems because they pick an interesting topic without much economics. Consider these a default choice – you can move away and find a different topic but make sure it's got serious economic content.

Meredith Fowlie, <http://nature.berkeley.edu/~fowlie/papers.html>  
 Catherine Hausman <http://www-personal.umich.edu/~chausman/research.html>  
 EU Emissions Trading, Martin, Muuls, Wagner  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2362810](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2362810) or Bushnell, Chong, Mansur  
<http://economics.ucdavis.edu/people/bushnell/site/files-and-images/BushnellChongMansur2013.pdf> here's Wagner  
<http://www.eco.uc3m.es/~uwagner/research.html>  
 Harrison Fell <http://inside.mines.edu/~hfell/>  
 Ken Gillingham, lots of solar stuff, <http://www.yale.edu/gillingham/research.htm>  
 Margaret Walls <http://www.rff.org/walls>  
 Matthew Kahn on Urban Green Econ, <https://sites.google.com/site/mek1966/> or  
<http://greeneconomics.blogspot.com/>  
 Will China meet its Copenhagen commitments? <http://irps.ucsd.edu/junjie/research.php>  
 Joseph Aldy <http://www.hks.harvard.edu/fs/jaldy/Library/publications.html>  
 Catherine Wolfram <http://facultybio.haas.berkeley.edu/faculty-list/wolfram-catherine>  
 Katrina Jessoe <https://scholar.google.com/citations?user=jcQmfigAAAAJ&hl=en>  
 Hunt Allcott <https://files.nyu.edu/ha32/public/research.html>  
 Jay Shimshack <http://econ.tulane.edu/shimshack/>  
 Reed Walker <http://faculty.haas.berkeley.edu/rwalker/research.html>  
 Matthew Kotchen <http://environment.yale.edu/kotchen/pubs/>  
 Matthew Neidell <http://www.columbia.edu/~mn2191/research.html>  
 Maureen Cropper <https://www.econ.umd.edu/faculty/profiles/cropper#pubs>  
 Erin Mansur <http://www.dartmouth.edu/~mansur/research.html>  
 Matthew Harding <http://people.duke.edu/~mch55/styled/publications.html>  
 Joseph Shapiro <http://www.econ.yale.edu/~js2755/research.htm>  
 Michael Wara <https://www.law.stanford.edu/profile/michael-wara/publications>  
 Clay & Weckenman on Resource Curse  
<https://www.aeaweb.org/aea/2015conference/program/retrieve.php?pdfid=593>  
 Jim Hamilton <http://econweb.ucsd.edu/~jhamilton/#working>  
 Rob Stavins <http://www.hks.harvard.edu/fs/rstavins/cvweb.html>  
 Paul Joskow <http://economics.mit.edu/faculty/pjoskow/papers>,  
 Ken Medlock <http://bakerinstitute.org/research/?expert=29>  
 Michael Levi <http://blogs.cfr.org/levi/>  
 Deepwater Horizon <http://cbe.miiis.edu/cgi/viewcontent.cgi?article=1002&context=jocoe>  
 Energy conference at GS <http://www.goldmansachs.com/our-thinking/our-conferences/north-american-energy-summit/>  
 Energy use [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2537064](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2537064)  
 Martin Weitzman <http://scholar.harvard.edu/weitzman/publications>  
 Bill Nordhaus (not updated past 2012 alas) <http://www.econ.yale.edu/~nordhaus/homepage/>  
 Christian Gollier <http://idei.fr/vitae.php?i=40>  
 Social Cost of Carbon, EPA conf  
<http://yosemite.epa.gov/ee/epa/erm.nsf/vwRepNumLookup/EE-0564?OpenDocument>

<http://yosemite.epa.gov/ee/epa/eerm.nsf/vwRepNumLookup/EE-0566?OpenDocument>

<http://www.rff.org/Publications/Resources/Pages/183-Benefits-and-Costs-in-Intergenerational-Context.aspx>

Nordhaus Climate webcast from 2015 AEA meetings,  
<http://www.aeaweb.org/webcasts/2015/index.php>

Discounting, Climate webcasts from 2014 AEA meetings,  
<http://www.aeaweb.org/webcasts/2014/index.php>

American Economic Review (2014), Climate Change Policy after Kyoto  
C E McLure, Jr, Selected International Aspects of Carbon Taxation  
D Burtraw, J Linn, K Palmer and A Paul, The Costs and Consequences of Clean Air Act  
Regulation of CO<sub>2</sub> from Power Plants  
D B Marron and E J Toder, Tax Policy Issues in Designing a Carbon Tax  
B C Murray, M L Cropper, F C de la Chesnaye and J M Reilly, How Effective Are US  
Renewable Energy Subsidies in Cutting Greenhouse Gases?

Aldy, J.E., A.J. Krupnick, R.G. Newell, I.W.H. Parry, W.A. Pizer (2010). "Designing Climate  
Mitigation Policy," *Journal of Economic Literature*, 48(4).

Anderegg, W.R.L., J.W. Prall, J. Harold, S.H. Schneider (2010). "Expert Credibility in Climate  
Change," *PNAS*.

Council of Economic Advisors (2014). "The Costs of Delaying Action to Stem Climate Change."  
EPA (2014). "Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for  
Existing Power Plants and Emission Standards for Modified and Reconstructed Power  
Plants"

EPA (2013). "The Social Cost of Carbon."  
<http://www.epa.gov/climatechange/EPAactivities/economics/scc.html>

Fowlie, M, et al (2014). "An economic perspective on the EPA's Clean Power Plan," *Science*.

Gollier, C (2013). "A theory of rational short-termism with uncertain betas," working paper.

Gollier, C (2009). "Ecological Discounting," working paper.

Nordhaus, W (2011). "The Economics of Tail Events with an Application to Climate Change,"  
*Review of Environmental Economics and Policy*.

Nordhaus, W (2007). "Critical Assumptions in the Stern Review on Climate Change," *Science*,  
317.

Stavin, R N (2007) "A US Cap-and-Trade System to Address Global Climate Change," Hamilton  
Project Discussion Paper, Brookings Institution.

Stern, Jotzo, and Dobes, "The Economics of Global Climate Change: A Historical Literature  
Review"

Stern, N and C Taylor (2007). "Climate Change: Risk, Ethics, and the Stern Review," *Science*,  
317.

Stern Review

Tol, R S J "The Economic Effects of Climate Change," *Journal of Economic Perspectives*, 23(2).

Weitzman, M L (2014). "Can Negotiating a Uniform Carbon Price Help to Internalize the Global  
Warming Externality?" working paper.

Weitzman, M L (2013). "Tail-Hedge Discounting and the Social Cost of Carbon," *Journal of Economic Literature*.

Weitzman, M L (2012). "Rare Disasters, Tail-Hedged Investments, and Risk-Adjusted Discount Rates," working paper.

Weitzman, M L (2009). "Some Basic Economics of Extreme Climate Change," working paper.

White House (2013). "Technical Support Document: - Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866,"  
[http://www.whitehouse.gov/sites/default/files/omb/inforeg/social\\_cost\\_of\\_carbon\\_for\\_ria\\_2013\\_update.pdf](http://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf)

Yale Symposium on Stern Review (2007).

### Internet Resources

An internet search on a given topic will return a wide variety of hits. The most difficult task is to differentiate the junk (most of it) from the few bits of useful information. Since you are a student, just beginning to learn the field, it is only to be expected that you will have a more difficult time distinguishing the good from the bad. You must be wise, dutiful in checking out sources, and should ask questions.

There are certain sources that have filtered out much of the worst junk. You can limit your search to only articles published in refereed journals by searching online databases (from the CCNY Library), such as EconLit and JStor. Of course not everything that is published is correct – you must still be diligent in finding recent sources, making your own evaluation of the plausibility of the claims, and arriving at your own judgments.

Both of these links are easily found from the CCNY Library's page, where you can pick them from the list. You need to access them from a CCNY computer, or else you will need a login (which the library can provide you, however this takes time so don't wait for the night before the paper is due!)

**EconLit** collects citations, most with a detailed abstract, and a large fraction have full text available. "Full text" means that you don't have to find the physical journal; you never touch paper. Just save the .pdf file that it produces. Sometimes Google the title (in quotes) will find a free ungated version.

**JStor** has the full text of articles published in the foremost journals of various disciplines (including Economics, Finance, and Statistics). Generally these articles are at least 3-5 years old, but it gives access to every article in the most important journals for the past several decades.

There are other outlets, such as prominent and well-regarded thinktanks and policy institutions. In economics, the National Bureau of Economic Research (NBER, at [www.nber.org](http://www.nber.org)) is highly regarded, as is the Brookings Institution ([www.brookings.edu](http://www.brookings.edu)).

Of course all of these sources give "the establishment view" not the ideas and opinions of extremists. This is true by definition: formerly extreme views become mainstream once "the establishment" has published them. I do not want to discourage you from research on the fringes, however many classes at this College will require that you demonstrate a knowledge of the mainstream. (Marx and Keynes and Hayek began their radical writings by first demonstrating their knowledge of what had been written previously, to show where it had holes.)

### **Journals to look at for project ideas**

Annual Review of Resource Economics  
Ecological Economics  
Energy Economics  
Energy Journal  
Energy Policy  
Environmental and Resource Economics  
Journal of Environmental Management  
Resource and Energy Economics  
Natural Resource Modeling  
Natural Resources Journal  
Review of Environmental Economics and Policy  
Transportation Research Part D: Transport & Environment

### **Write Well**

As a general rule, what you read determines how you write. If you don't read much then your writing will be lousy. If you read just texts, tweets, IMs, and celebrity gossip web pages, your writing will be trashy. If you start to read lots of clear papers that aim to communicate complicated and nuanced ideas, then you've got a good start. Find an economist, whose research is interesting, and read her collected works – you could do worse! If you want to read about economics writing, try Dierdre McCloskey ([www.deirdremccloskey.com](http://www.deirdremccloskey.com); her books are also in the library).

**Length?** Size doesn't matter! I want excellence; page counts are for high schoolers. Some projects just require more pages than others; some people might just be more verbose while others are laconic. With some projects you'll spend a lot of time getting the data into shape so that will take most time; with others the data is ready to go. Don't worry I know the difference. Economists care about efficiency: saying the most interesting things in the clearest and most concise way. However I have found that many students still yearn for a page count, despite all of my pleas to ignore it. So, reluctantly, I advise about 15 pages per student (so a three-person group might produce 45 pages). But don't obsess about the page count!

## Academic Rules for Citations and Avoiding Plagiarism

Read CUNY's policy on academic integrity (on the course syllabus and CCNY web page).  
see also <http://www.dartmouth.edu/~sources/>, <http://www.princeton.edu/pr/pub/integrity/index.html>

Harvard's guide to 'Writing Economics' is an excellent overall reference. See also NYTimes recent bits on plagiarism.

The essential idea is to differentiate your own contributions, what is new about your analysis or compendium, as distinct from what is taken from other sources.

You must realize what constitutes intellectual achievement: gathering diverse sources and comparing them one to another is such an achievement. But you must be clear about what is gathered, versus what points you are making with your comparison.

Here's a blog post about plagiarism from Reuters,  
Jack Shafer, "How to think about plagiarism," Oct 14, 2011,  
<http://blogs.reuters.com/jackshafer/2011/10/14/how-to-think-about-plagiarism/>

*An editor must have a heart like leather. Not freshly tanned leather—all supple and yielding like a baby's bum—but like an abandoned baseball glove that's been roasting in the Sonoran Desert for five or six years. Only those who are hard of heart can properly deal with the plagiarists who violate the journalistic code.*

*I'm pleased to report that this morning Politico's top editors, John F. Harris and Jim VandeHei, were rock-hearted in resolving charges that their reporter, Kendra Marr, lifted material from the New York Times, the Associated Press, Scripps Howard, Greenwire, The Hill, and elsewhere for at least seven of her stories with no attribution. Marr has resigned. Harris and VandeHei's compact statement about Marr's disgrace doesn't use the word plagiarism, but should, as my friend the press critic Craig Silverman points out. I agree.*

*"There are no mitigating circumstances for plagiarism," the cold, cold heart of Washington Post Executive Editor Marcus Brauchli stated earlier this year after Post reporter Sari Horwitz got caught stealing copy from the Arizona Republic.*

*Brauchli got it exactly right. It doesn't matter if you pinched copy because you were tired, you were harried, your spouse or child was sick or dying, you were under deadline pressure, you jumbled up your notes, you took boilerplate or wire copy that nobody should really claim "authorship" over, you have a substance problem, you committed a cut-and-paste error, you were blinded by the "warp speed" of the Internet, you were a victim of the "win the morning" culture, you are young and inexperienced, you had two windows open at the same time and confused them, or any of the excuses tendered by the accused reporters described in Trudy Lieberman's 1995 Columbia Journalism Review article.*

*These aren't excuses. These are confessions. And they mitigate nothing.*

*As I've written before, plagiarism doesn't offend me because it exploits the previous hard work of some enterprising writer—even though it does. When you attribute passages to another writer, you're likewise exploiting their work. But at least they receive psychic income from the citation. The quoted writer is enriched by the fact that their work has been acknowledged, that somebody might go back and read their work, and that their reputation is likely to rise because of the credit thrown their way.*

*Spare the violated writer any pity. He'll be okay. Give your pity to readers, who are the real victims.*

*The plagiarist defrauds readers by leading them to believe that he has come by the facts of his story first-hand—that he vouches for the accuracy of the facts and interpretations under his byline. But this is not the case. Generally, the plagiarist doesn't know whether the copy he's lifted has gotten the story right because he hasn't really investigated the topic. (If he had, he could write the story himself.) In such cases he must attribute the material he borrows so that at the very least the reader can hold somebody accountable for the facts in a story.*

*Or to put it another way, a journalist who does original work essentially claims, this is true, according to me. The conscientious journalist who cites the work of others essentially makes the claim that this is true, according to somebody else. The plagiarist makes no such claims in his work. By having no sources of his own and failing to point to the source he stole from, he breaks the "chain of evidence" that allows readers to contest or verify facts. By doing so, he produces worthless copy that wastes the time of his readers. And that's the crime.*

## **RULES:**

When directly using someone else's words, these must be in quotation marks with an explanatory reference (either cite, footnote, or endnote)

example of cite:

"A strong, credible body of scientific evidence shows that climate change is occurring" (National Academy of Sciences, 2010).

if long quote (>50 words) then no quotation marks but indent (sometimes different font)

example of long quote with cite:

Perhaps the most important argument for engaging in alternative monetary policies before lowering the overnight rate all the way to zero is to ensure that the public does not interpret a zero reading for the overnight rate as evidence that the central bank has "run out of ammunition." That is, low rates risk fostering the misimpression that monetary policy is ineffective. As we have stressed, that would indeed be a misimpression, as the central bank has means of providing monetary stimulus other than the conventional

measure of lowering the overnight nominal interest rate. However it is also true that policymakers' inexperience with these alternative measures makes the calibration of policy actions more difficult. Moreover, given the important role for expectations in making many of these policies work, the communications challenges would be considerable. Given these difficulties, policymakers are well advised to act preemptively and aggressively to avoid facing the complications raised by the zero lower bound. (Bernanke and Reinhart, 2004)

when using your own words to state someone else's idea or reproducing their image, graph, or data, you don't need quotes but still need a reference.

example:

It is important to address the issues of providing an appropriate decision tree when analyzing game theoretic choices (Aumann, Hart, and Perry 1997).

The cite is of a format that enables the reader to go to your bibliography & find that reference. The usual style is (Author, p. ##) for a book or (Author, Date) for an article or other reference. A footnote or endnote is similar, but placed in a different spot. I think cites work best.

The Bibliography is at the end of the paper, and lists all works used. Include data sources! Also books, articles, web pages, images, graphs, etc. Make sure if your cite is a hyperlink, it gives enough info for a reader of the hard copy to find the reference.

Examples:

Aumann, R., S. Hart and M. Perry, (1997). "The Forgetful Passenger," *Games and Economic Behavior*, 117-20.

Bank of Japan, Flow of Funds Accounts, (2010). <http://www.boj.or.jp/en/theme/stat/index.htm> accessed July 12, 2010.

Bernanke, B. S., and V. R. Reinhart, (2004). "Conducting Monetary Policy at Very Low Short-Term Interest Rates," *American Economic Review*, May.

Ehrenberg, R. G., and R. S. Smith, (2000). *Modern Labor Economics: Theory and Policy*, seventh edition. New York: Addison-Wesley.

Heckman, J., (1974). "Shadow Prices, Market Wages, and Labor Supply," *Econometrica*, 42(4).

National Academy of Sciences, (2010). "Advancing the Science of Climate Change," *Expert Consensus Report*, National Research Council.

Vames, Steven, (2000). "Income Gains in March Outpaced Spending," *New York Times*, April 28, 2000. <http://www.nytimes.com/yr/mo/day/news/financial/28tsc-economy.html>

## CONSEQUENCES:

Failure to follow these rules is a violation of Academic Integrity. This is a severe violation of the basic principles of the academic community. You may be brought up on academic charges before a Disciplinary Committee of the College, where you are subject to a range of consequences up to expulsion.



