Senior Thesis Research Seminar in
Finance, Trade, International Economics, and Econometrics

Objective

The Ec 985 year-long seminars provide a forum where students pursue their independent thesis research. Each seminar is led by an Ec 985 instructor and has roughly 10-15 thesis writers per seminar. The Ec 985 seminars and instructors are integral in guiding students from the beginning stages of research to the final product of a high-quality thesis.

The Role of the Ec 985 Instructor

While each thesis student has a faculty advisor, the Ec 985 instructor's role is fundamental to a student's progress on their thesis. The style of each Ec 985 course may differ slightly, but all Ec 985 instructors have the same goal: helping thesis writers in the transition from student to scholar, leading them to conduct sound research and produce high-quality work.

Part of becoming a scholar also involves understanding, critiquing, and contributing to the work of others. Thus, a related role of the Ec 985 seminar is to foster discussion and peer-review among students.

Meetings

In the spring semester, there is one all-thesis meeting and two seminar meetings, as well as individual meetings with the Ec 985 instructor.

Seminar meetings will take place in Science Center 113. Individual meetings will take place in Littauer basement (unless otherwise noted).

Thesis Content

Acceptable theses are those which make a worthwhile contribution to the literature. Sometimes this contribution comes from an interesting empirical or theoretical result, but contributions can also arise from showing how an apparently promising avenue of research may not prove fruitful. Though there is no minimum or maximum length for theses, each thesis should have a reasonable idea, developed well enough for submission to an economic journal.

Collaboration

Discussing ideas and work-in-progress with others is an important and desirable part of the research process, both for thesis writers and researchers more generally. This is a key component of Ec 985. However, in the end, a student's thesis must be his or her own effort, written by the student, and ultimately based on his or her own thinking. All written assignments must use appropriate citation practices to acknowledge sources the student has consulted. For any questions about Harvard's stance on academic honesty, please consult the Academic Information section of the *Harvard College Handbook for Students*.

Deadlines

Humans have a natural propensity toward procrastination. The effects of procrastination can be even worse for young researchers, who may not understand how long some parts of their projects will take (especially those involving data). Ec 985 provides a series of deadlines and deliverables to help thesis writers make steady progress on their research and produce high-quality theses. (Note: deliverables' lengths are based on double-spaced pages. Additionally, page lengths are only suggestions—not minimums.)

Presentations

Students will give three presentations over the course of the year to their thesis seminar class. The purpose of these presentations is for students to receive wider feedback on their work from their classmates. To that end, presenters should prepare *two* questions to ask the audience during each presentation. Additionally, included in the deliverables

are documents to be distributed to the class ahead of the presentations. Non-presenters should read these documents and be prepared with questions and comments.

Grading
Students receive a letter grade for the fall semester of Ec 985, which is overwritten by the thesis grade if the student completes the thesis.[1] The fall grade is based on the Fall semester final paper (80%) and seminar participation (20%). If the student does not continue with Ec 985 in the spring semester, the fall grade will be the final course grade.

Resources
- **Ec Senior Thesis** page, with information on research funding, IRB, advisors, past thesis titles, formatting guidelines, etc. http://economics.harvard.edu/senior-thesis

- **Ec Department Stata/R Team**: Greg Bruich, Stacey Gelsheimer, Andrés Maggi, Samuel Stemper. https://economics.harvard.edu/stata

- **Institute for Quantitative Social Science**: http://www.iq.harvard.edu. Especially: access to the RCE (www.iq.harvard.edu/research-computing) and support (www.iq.harvard.edu/data-science-services).

- **Economics Reference Librarian,** Diane Sredl: sredl@fas.harvard.edu. Diane is an amazing resource for any questions about finding data.

- **HBS Data Sources (finance, business, etc):** https://asklib.library.hbs.edu/faq/205180

- **EconLit**: database of economics literature, useful for exploring papers in an area. Access online through Harvard Library: http://library.harvard.edu

- **Google Scholar**: useful for finding specific papers. When off-campus, tell google scholar you have Harvard Library access ("Settings" → "Library Links"). https://scholar.google.com

- **Citation tools** (EndNote, Zotero, …): http://guides.library.harvard.edu/cite

- A ranking of **economics publications**, to gain familiarity with different journals: http://research.stlouisfed.org/publications/review/09/05/Engemann.pdf

- John Cochrane's **writing tips** for Ph.D. students. A bit advanced for undergrads, but useful. http://faculty.chicagobooth.edu/john.cochrane/research/Papers/phd_paper_writing.pdf

- Some recommended **books on writing and research**: *Elements of Style* by William Strunk, Jr. and E. B. White, *On Writing Well* by William Zinsser, *The Craft of Research* by Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams, and *Economical Writing* Deirdre N. McCloskey.

- **Funding sources**: The **Database of Funding and Opportunities for Undergraduates**: https://carat.fas.harvard.edu. The Economics Department also has small grants for thesis-related work (up to $700): http://economics.harvard.edu/jobs-raships-funding.

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[1] If the final thesis evaluation is "No Distinction," the full-year Ec 985 grade will be determined in consultation with the Thesis Advisor and Ec 985 Instructor. In the case of a borderline thesis grade (e.g., A-/B+), the full-year Ec 985 grade will be determined by the Ec 985 Instructor. See "calculating Department honors": https://economics.harvard.edu/honors.

2020 Schedule for Ec Thesis Writers

Friday 1/24

- **Deliverable #6.5, due Friday 1/24**: Please email a short update to the Ec 985 instructor: how the thesis is going, summarize any changes since the December draft, etc.

Week of 1/27

- **Monday, 1/27**: First day of classes
- **Meet individually with Ec 985 instructor**. Goal: touch base, discuss what needs to be done in the next six weeks, help with any questions that have arisen since December.

Week of 2/3

- **Wednesday, 2/5: All-thesis meeting, *Putting it All Together*, Littauer 3rd Floor Lounge.**
  Led by Jeff Miron. Writing up the thesis, presenting your results, and some final thoughts as students finish up their theses. Hot breakfast at 8.45am! Meeting begins promptly at 9am.

Week of 2/10

- **Meet individually with Ec 985 instructor**. Last meeting before submitting the final draft.

Week of 2/17

- **Deliverable #7, due Sunday 2/16, 11:59pm, for presenters in this week's seminar only**: Submit (1) a complete draft of the thesis, including abstract and (2) a one-page summary for distribution to the class.
- **Tuesday 2/18, 3-5:30pm: Seminar meeting**. **Half** of the class presents their thesis findings. Hand out advisor invitations for the Thesis Champagne Celebration.

Week of 2/24

- **Deliverable #7, due Sunday 2/23, 11:59pm, for presenters in this week's seminar only**: Submit (1) a complete draft of the thesis, including abstract and (2) a one-page summary for distribution to the class.
- **Tuesday 2/25, 3-5:30pm: Seminar meeting**. **The other half** of the class does the same as last week. Hand out advisor invitations for the Thesis Champagne Celebration.
- *Optional***: Meet individually with Ec 985 instructor**. Helpful if there are major issues to discuss from the thesis draft.
- **Friday, 2/28: Thesis relaxation lunch**, featuring sushi and chair massages. Details TBA.

Week of 3/2

- **Final individual meeting with Ec 985 instructor**. Discuss thesis draft, any remaining work to be done, and any final comments.

Week of 3/9

- **Thursday, 3/12**: **Theses due** by 5pm. *Champagne party, 4-6pm, Littauer 3rd Floor Lounge!*

April & May

- **Wednesday, 4/8**: **Honors exam**, 3-6pm. Party at the Cambridge Queenshead afterwards!
- **Thursday, 4/30**: Ec Senior Thesis Poster Session (participation optional). Display your thesis work for faculty and students. Sign-ups and details TBA. If interested, contact Kiran (kgajwani@fas.harvard.edu).
- **Tuesday, 5/19**: Ec Department Senior Picnic, 12-2pm, Littauer backyard. Great food, fab people, fun times!
- **Tuesday, 5/26**: Ec Seniors Cap & Gown photo on the Littauer steps, ~4pm (after Widener photo).
- **Thursday, 5/30**: Graduation!

Additional Information:
Announcements from last semester

Some notes on thesis sections:

The introduction:

I'm sure that most of you have at some point been told to read an academic paper for a class and have decided that you only have time/interest for the introduction. However, that was mostly OK, since the introduction pretty much told you everything you needed to know. You knew what the paper did, why it was important, and what the results were. You actually knew most of this after the first two paragraphs of the introduction! Remember, you're not writing a suspense novel; you're writing a thesis, meaning you want to hammer home your points. The best way to do this is to right away say what you're doing and what you find. Your question and motivation should all be apparent in either the first or second paragraph.

The literature review:

Similarly, you're not writing a literature review article (the point of which would be to familiarize future students with the current state of the literature). The literature review section has a few purposes:

1. *Academic honestly*. You need to state the work you build on, so that we know that you are not claiming to come up with everything yourself.
2. *To show where the current research frontier is and how you're expanding it*. In order to show how you're expanding the state of knowledge, you need to tell the reader what the current state is!

Note: you do not need to summarize every paper you reference.

Examples:

I'm referencing two papers to illustrate my points: Alesina, Giuliano, Nunn (2013) and Hassan, Mertens, Zhang (2019). Note that in both of them, you know their question and have a sense of what the paper does within the first two paragraphs of the introduction.

For example, this is the first paragraph and a bit from Alesina, Giuliano, Nunn (2013):

"This study examines an important deeply held belief that varies widely across societies: the appropriate or natural role of women in society. In some societies, the dominant belief is that women should be allowed to participate freely, and equally to males, in employment outside the home. In others, there is the very different view that the appropriate place for women is within the home, and they are discouraged from participating in activities outside the domestic sphere. These differences can be most clearly seen in surveys that report attitudes about gender roles. For example, the proportion of respondents in the World Values Survey that "agree" with the statement that "when jobs are scarce, men should have more right to a job than women" varies widely across countries, ranging from 3.6% (in Iceland) to 99.6% (in Egypt).

Our interest is in explaining the origins of these cultural differences. Specifically, we test the hypothesis, put forth by Ester Boserup (1970), that differences in gender roles have their origins in the form of agriculture traditionally practiced in the pre-industrial period."

You've barely started the paper, but you already know what they're testing and why. Within the first two paragraphs of Hassan, Mertens, Zhang (2019), you also know the primary question behind their paper, a sense of motivation, and how the paper tackles the question.

"Two thirds of all countries in the world manipulate the stochastic properties of their exchange rates by stabilizing their currency relative to the US dollar. Such stabilizations take on many different forms, including pegs, moving bands, stabilized arrangements, and managed floats. Their common feature is that they set an

upper bound for the volatility of the real or nominal exchange rate, without necessarily manipulating its mean. Why do so many countries stabilize their exchange rates relative to the US dollar?

In this paper, we develop a novel, risk-based theory of the effects of currency manipulation in general, and currency stabilization in particular. In this model, the choice of exchange rate regime affects economic outcomes because it allows policymakers to make their currency, and by extension, the firms based in their country, a safer investment from the perspective of international investors."

In the third paragraph of Hassan, Mertens, Zhang (2019), you learn the results of their paper (it's a theoretical paper, so results take the form of insights gained from the model):

"This approach, linking a country's exchange rate regime to the value of domestic firms, yields three main insights. First, in canonical models of exchange rate determination, a direct link exists between the stochastic properties of a country's exchange rate, the expected return on its currency, and the world-market value of firms producing country-specific (or nontraded) goods. The safer a country's currency is from the perspective of international investors, the higher the world-market value of its firms, and the higher domestic investment and wages. Second, …"

Both of these papers include their literature reviews in the introduction, but the structure is the same regardless of whether you give the literature review its own section title. Note how the literature review advances what they're trying to argue.

For example, from pages 2-3 of Hassan, Mertens, Zhang (2019):

"Our work builds on a growing literature that links highly persistent differences in interest rates, currency returns, and capital-output ratios across countries to the stochastic properties of their currencies (Lustig and Verdelhan, 2007; Lustig, Roussanov, and Verdelhan, 2011; Hassan and Mano, 2019; Hassan, Mertens, and Zhang, 2016). This literature has explored various potential drivers of heterogeneity in the stochastic properties of countries' exchange rates, ranging from differences in country size (Martin, 2012; Hassan, 2013) and nancial development (Maggiori, 2017) to trade centrality (Richmond, 2019) and differential resilience to disaster risk (Farhi and Gabaix, 2015; Colacito et al., 2018). The common theme across these "risk-based" theories is that whatever makes countries different from each other results in differential sensitivities of their exchange rates to various shocks, such that some currencies (typically the US dollar) tend to appreciate systematically when marginal utility is high.

In this paper, we go one step further and argue the stochastic properties of exchange rates are themselves subject to policy intervention."

From pages 473-474 of Alesina, Giuliano, Nunn (2013):

"Our findings contribute to a deeper understanding of the origins of cultural norms and beliefs. Studies have documented the continuity of cultural norms over remarkably long periods of time (e.g., Voigtlander and Voth 2012). Others show that historical factors influence the evolution of culture over time by affecting the relative costs and benefits of different cultural traits. Guiso et al. (2008) provide evidence that the formation of medieval communes had a long-term impact on the level of social capital within Northern Italy. Similarly, Becker et al. (2010) and Grosjean (2011b) provide evidence of historical state boundaries having lasting cultural impacts. Nunn and Wantchekon (2011) show that Africa's slave trade generated a culture of distrust that continues to persist today. Nisbett and Cohen (1996) and Grosjean (2011a) show that the culture of honor in the US South has its origins in a tradition of herding among the Scots-Irish. The findings of our paper add to this line of enquiry by providing additional evidence that shows that historical factors—namely, differences in traditional farming practices—have shaped the evolution of norms and beliefs about the appropriate role of women in society.

Our focus on a historical determinant of gender roles is not meant to imply that other short-run factors are unimportant. A number of existing studies have shown the importance of determinants like economic development, medical improvements, technological change, and the production structure of the economy (e.g., Goldin 2006; Ross 2008; Albanesi and Olivetti 2007; 2009; Doepke and Tertilt 2009; Iversen and Rosenbluth 2010). As we show, accounting for these important factors, there remains a strong persistent impact of traditional plough use on gender norms today."

Typesetting:

I've received a couple questions on the best way to typeset math. For most of you, Microsoft Word equation editor will be totally fine. However, some of you will find it clunky (it is clunky) and may wish your theses to look more like the working paper drafts you see online.

Economists use something called LaTex to type our equations. If you want to download an application to your computer, there are multiple programs that work, but I use Texmaker. Other people prefer using Overleaf, which is somewhat more straightforward and web-based. Here is a template:

https://www.overleaf.com/project/5dc579b04de4e6000110bce5

Information on typing equations in LaTex:
https://en.wikibooks.org/wiki/LaTeX/Mathematics#Advanced_Mathematics:_AMS_Math_package

Information on creating tables in Latex: https://www.overleaf.com/learn/latex/Tables

Information on creating LaTex tables directly from Stata regression output (packages outreg2 or estout):

- https://www.princeton.edu/~otorres/Outreg2.pdf
- http://repec.sowi.unibe.ch/stata/estout/
- https://www.jwe.cc/2012/03/stata-latex-tables-estout/
- https://www.jwe.cc/2012/08/latex-and-stata-integration-solving-some-problems/
- https://www.jwe.cc/2012/08/latex-stata-design/