

HKS SUP-427, Econ 1078, GSE A-142: Inequality and Education Policy
Spring / 2023

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Office Hours: Schedule office hour using this link.	Teaching Fellow (TF): Alice Danon
Class Days/Time: Tue 1:30-2:45 PM (L130) Thu 1:30-2:45 PM (L130)	TF Email: adanon@g.harvard.edu
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Course Description

This course analyzes the key role of education policy and human capital accumulation in reducing inequality and affecting labor market opportunities. The course is designed to equip students with program evaluation tools (using multiple regression analysis) to evaluate policy effectiveness. The policy applications in the course will focus on education policies implemented worldwide to reduce inequality and discrimination in education. During the last two classes, we will conclude the course by discussing the future of education policy using machine learning.

The course is designed with two objectives in mind. The first is to provide you with the ability to analyze critically the empirical studies done by others at a level sufficient to make intelligent decisions about how to use that analysis in the design of public policy. The second is to provide you with the skills necessary to perform empirical policy analysis on your own, to participate on a team involved in such an empirical analysis and to present your work in a convincing and clear way.

Learning Objectives

- 1) You will have an analytical framework for thinking about education policy in the US and across the world.

- 2) You will be able to judge the quality of quantitative education research.
- 3) You will be able to persuasively communicate the central findings of such research to others and articulate your own proposal in education policy.

Prerequisites and Cross-Registration

Solid grounding in regression analysis is strongly recommended (API-202 or equivalent). Otherwise, permission from the instructor is necessary. The course is open to students outside of HKS.

Communication Norms

Faculty will respond to email within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

Updates via Canvas: We will post all announcements and any policy changes.

Assignments, Exams, and Grading

You will be graded on: midterm exam (30%), individual problem sets (20%), memo/literature review (20%), and program evaluation proposal (30%).

Midterm exam (30%): The midterm will test your understanding of the econometric techniques and other ideas we have studied in the first part of the course.

Problem sets (20%): you will individually turn in three problem sets to help you get ready to the midterm exam.

Memo/Literature Review (15%): Students will be divided into small groups by the instructor, each covering one of the 6 topics. For each group, I will provide a list of two/three articles and a key question I want the group to focus on. The group will review the articles provided and at least two additional articles of their choice¹. The group will handle in a 2-page memo **24 hours before the class in which the memo will be discussed** reviewing the literature on the topic and using the results of the papers to address the research question. The memo needs to include

1. Motivation
2. Summary of the paper(s): background/context, empirical method used, and main results.
3. Conclusion:
 - How do the papers relate to each other?
 - Remarks with unaddressed/unsolved questions

¹ You can select three papers among the references of the papers in the list I prepared for you.

You will be graded on how clearly and thoroughly you review the evidence and explain it in both writing and orally during the class. The grade from the memo is 20% of the final score. The memos will be uploaded on the Canvas page 24 hours before class so all students will have the time to read them and think about questions/unclear aspects.

Class participation (5%): Students will receive a grade for their engagement in class, with a focus on 1) the feedback provided to classmates during the discussion of the program evaluation proposals, 2) the answer to questions in the reading list, including the memos prepared by classmates. I will use PollEverywhere to track participation in class.

Program evaluation proposal (30%): You will write a proposal to evaluate a program or a reform aimed at decreasing inequalities in education outcomes or access to opportunities (single spaced, 12pt, max 5 pages excluding tables, figures, and appendices). You should work in teams of 2 to 4 members. I will allow individual program evaluation proposals if discussed with me beforehand in case they are related to an individual idea that you plan to develop in your dissertation or SYPA/PAE.

1. You need to complete the google spreadsheet with the **group members** and topic **by 3/28**:

https://docs.google.com/spreadsheets/d/1NclKnq_ARgYs17R5igIwAV681M7KXY1lcTHTCpDAIyc/edit?usp=sharing.

2. You will need to submit to michela_carlana@hks.harvard.edu a paragraph with the **topic/executive summary** of your PEP plan by **3/30**.

3. You will need to prepare a **presentation** of up to 10 minutes that will be discussed in class on **4/18** and **4/20**. You will receive feedback on your presentation by the instructor and classmates. You will need to incorporate the feedback in the final proposal.

4. Your **final proposal** is due by **4/27** and needs to include:

1. Motivation: describe the concrete policy problem pertaining to a specific education system (city / municipality / region) and motivate why it would be policy and academically relevant to know the result of your proposed evaluation (around half a page);
2. Contribution to the literature (around half/one page): how does your work contributes to the academic literature?
3. Research question
4. Background (around half a page): context, policy reform
5. Methodology (around one pages): which empirical method are you proposing to address the research question? Describe in details the assumptions, write the equation that you plan to estimate.

6. Data (around one page): which data are you planning to use to address the research question? Describe in detail whether the data are available (and if so from which source), or whether you would need to collect them.
7. Partners and feasibility issues (around half a page): do you need partners to implement this intervention? NGO/government organization? If so, specify.

Regrade policy: Requests for reconsideration of grades on exams are not encouraged, and will be accepted only in writing, with a clear statement of what has been incorrectly graded, and within one week of receiving your graded exam. Please submit your full exam so grading on all questions can be reconsidered. Late assignments are usually not accepted. Exceptions could be considered based on specific circumstances (e.g., unexpected health shock).

Course Organization, Materials, and Access

The readings will come from articles that are available online through Harvard's libraries. Below are three books that are important for your review of causal inference, program evaluation, and economics of education.

- Michael Lovenheim and Sarah E. Turner, *Economics of Education*. (2017).
- Angrist, J. and Pischke, J-S., *Mastering 'Metrics*, Princeton University Press (2015).
- Stock and Watson, *Introduction to Econometrics*, (2014) --> this is useful to review the prerequisite for this course.

Academic integrity

You are expected to abide by the University policies on academic honesty and integrity as given in the Student Handbook. Violations of these policies will not be tolerated and are subject to severe sanctions up to and including expulsion from the university. While study groups are encouraged, their proper purpose is not to do the homework assignments, but to help you learn the material. Each student is responsible for writing up and submitting the assignments. Separate copies of a group-constructed assignment are not acceptable.

Accessibility & Accommodations for Student Learning

Harvard Kennedy School is committed to the full inclusion of students with disabilities (learning, mental-health related, physical, chronic illness, temporary injury, etc.). The School provides accommodations and support to students with documented disabilities on an individual, case-by-case basis. If students have a disability, or think they may have a disability and would like

to receive accommodations for their learning, they must disclose and provide medical documentation about their disability to Melissa Wojciechowski St. John. Melissa is the [Senior Director of Student Services](#) -- and serves as the local disability coordinator -- in the HKS Office of Student Services. She can talk to you about your needs and assist you in the process for requesting and implementing accommodations. Because accommodations may require early planning and generally are not provided retroactively, we recommend that you contact her as soon as possible.

Supporting Student Wellness and Mental Health

Take care of yourself. Do your best to maintain a healthy lifestyle this semester. This will help you achieve your goals and cope with stress. As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. Harvard services are available, and treatment does work. You can learn more about confidential mental health services available on campus at: <https://camhs.huhs.harvard.edu/>.

Supporting an Inclusive Classroom

It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups. To help create a learning environment that supports a diversity of thoughts, perspectives and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, etc.):

- If you have a name and/or set of pronouns that differ from those that appear in your official Harvard records, please let me know!
- If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to talk with me. I want to be a resource for you.
- I (like many people) am still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone)

that made you feel uncomfortable, please talk to me about it.
 (Anonymous feedback is always an option)

Course Schedule

<u>Class</u>	<u>Date</u>	<u>Unit</u>	<u>Topic Lecture</u>	<u>Economic Topic</u>	<i>Posted and Due on Canvas Assignments</i>
1	01/24	Introduction	Facts and Trends on Education & Inequality		
2	01/26	Human Capital and Signaling Models	Human Capital Model: Early childhood	RCT	
3	01/31		Human Capital Model: Early childhood	Dif-in-Dif	<i>PSet1 Posted</i>
4	02/02		Guest: Noam Angrist Young love		
5	02/07		Signaling Model: high-school	RDD	PSet 1
6	02/12		Human Capital Model: college	IV	<i>PSet2 Posted</i>
7	02/14		Soft skills and returns on the labor market		
8	02/16		Education Production Function	School funding	
9	02/21	Class size			<i>PSet3 Posted</i>
10	02/23	Teacher Quality			
11	02/28	Peer effects			PSet 3
12	03/02		Midterm review		
13	03/07		Midterm Exam		Memo Posted
14	03/09		Guest: J. Goodman Biden's Council of Economic Advisers		
15	03/21	How to tackle inequalities in education	Gender Stereotypes		Memo Team1
16	03/23		Tutoring and Mentoring		Memo Team2
17	03/28		Financial Aid		<i>Submit PEP group choice</i> Memo Team3
18	03/30		Work on Program Evaluation Proposals (with instructor supervision in class)		<i>Submit PEP executive summary</i>

19	04/04	Discrimination and Stereotypes	School Desegregation		Memo Team4
20	04/06		Inter-ethnic cohesion in Schools		Memo Team5
21	04/11		Conditional Cash Transfers and Incentives		Memo Team6
22	04/12		Guest: Helen Ho, Harvard		
23	04/18	Discussion of the Program Evaluation Proposals			
24	04/20				
25	04/25	How can we use machine learning to improve education policy?	Recruiting Teachers		
26	04/27		Minimizing Bias toward low SES Students		Program Evaluation Proposal (PEP)

REVIEW SECTIONS SCHEDULE

<u>Class</u>	<u>Date</u>	<u>Topic Review</u>
R1	1/27	OVB and RCT
R2	2/3	RDD
R3	2/10	IV
R4	2/17	Dif-in-Dif
R5	2/24	Fixed effects
R6	3/3	Review of all Empirical Methods
R7	3/10	How to do a Literature Review → Key to prepare the Memo!
R8	3/24	Discussion on Program Evaluation Proposal
R9	3/31	Discussion on Program Evaluation Proposal
R10	4/7	Discussion on Program Evaluation Proposal
R11	4/14	Discussion on Program Evaluation Proposal

R12	4/21	Discussion on Program Evaluation Proposal
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READINGS

Please note that the specifics of this Course Syllabus can be changed at any time, and you will be responsible for abiding by any such changes. All changes will be communicated to you via email, course announcement and/or Canvas.

(*) Compulsory: These readings will be discussed in class.

(**) Focus mainly on abstract, and introduction.

Other readings will deepen or complement knowledge of the topic.

<p>Class #1: Facts and Trends on Education & Inequality</p>	<p>Goldin C, Katz LF. <i>The Race between Education and Technology: The Evolution of U.S. Educational Wage Differentials, 1890 to 2005</i>. 2009.</p> <p>Hanushek, Eric A., and Ludger Woessmann. 2008. "The Role of Cognitive Skills in Economic Development." <i>Journal of Economic Literature</i>, 46 (3): 607-68.</p> <p>Economics of Education. 2017. Michael Lovenheim and Sarah E. Turner. Ch. 1</p>
<p>Class #2: Human Capital Model</p>	<p>Economics of Education. 2017. Michael Lovenheim and Sarah E. Turner. Ch. 4, 6</p> <p>(**) Heckman, James, Rodrigo Pinto, and Peter Savelyev. 2013. "Understanding the Mechanisms through Which an Influential Early Childhood Program Boosted Adult Outcomes." <i>American Economic Review</i>, 103 (6): 2052-86. Link</p> <p><u>Asynchronous materials to watch BEFORE class:</u> video on OVB and RCT explanation</p>
<p>Class #3: Human Capital Model</p>	<p>(*) <i>Claire Clain Miller, Why the U.S. Has Long Resisted Universal Child Care, New York Times – Upshot, Aug. 15 2019</i></p> <p>(*) <i>Baker, Michael, Jonathan Gruber, and Kevin Milligan. 2008. "Universal Child Care, Maternal Labor Supply, and Family Well-Being." Journal of Political Economy 116 (4): 709– 45.</i></p> <p>(**) <i>Baker, Michael, Jonathan Gruber, and Kevin Milligan. 2019. "The Long-Run Impacts of a Universal Child Care Program." American Economic Journal: Economic Policy, 11 (3): 1-26.</i></p> <p><u>Asynchronous materials to watch BEFORE class:</u> video on Dif-in-</p>

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Class #4	<p>Guest: Noam Angrist Young love</p> <p>Angrist, N., Bergman, P. & Matsheng, M. <i>Experimental evidence on learning using low-tech when school is out. Nat Hum Behav</i> 6, 941–950 (2022). https://doi.org/10.1038/s41562-022-01381-z</p>
Class #5: Signaling	<p>(*) Clark, Damon, and Paco Martorell (2014). The Signaling Value of a High School Diploma. <i>Journal of Political Economy</i> 122(2): 282-318. Clark, Damon; Martorell, Paco. <i>The Signaling Value of a High School Diploma [282-318].html</i></p> <p>Mary C. Daly, Shelby R. Buckman, and Lily M. Seitelman, "The Unequal Impact of COVID-19: Why Education Matters", <i>Economic Letters Federal Reserve Bank of San Francisco</i>, June 29, 2020</p> <p>Economics of Education. 2017. Michael Lovenheim and Sarah E. Turner. Ch. 5</p> <p>Asynchronous materials to watch BEFORE class: video on RDD explanation https://harvard.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=c441412d-5e79-4616-8708-ac1e00d1cf6e</p>
Class #6: College	<p>(*) Card, David (1995). <i>Using Geographic Variation in College Proximity to Estimate the Return to Schooling. Aspects of Labour Market Behaviour: Essays in Honour of John Vanderkamp</i>, 201-222. Card, David. Chapter 7 Using Geographic Variation in College Proximity to Estimate the Ret [201-222].pdf</p> <p>Lovenheim, M. F., & Smith, J. (2022). Returns to Different Postsecondary Investments: Institution Type, Academic Programs, and Credentials (No. w29933). National Bureau of Economic Research.</p> <p><i>Economics of Education. 2017. Michael Lovenheim and Sarah E. Turner. Ch. 7,8</i></p> <p>Asynchronous materials to watch BEFORE class: video on IV explanation https://harvard.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=01c1e5d9-984a-47a5-b199-ac1e0118c50f</p>
Class #7 – soft skills	<p>(**) Deming, David (2017). "The growing importance of social skills in the labor market." <i>The Quarterly Journal of Economics</i> 132.4:1593-1640. (Link) For a summary: (Link)</p>

	<p>(*)Sule Alan, Teodora Boneva, Seda Ertac, Ever Failed, Try Again, Succeed Better: Results from a Randomized Educational Intervention on Grit, <i>The Quarterly Journal of Economics</i>, Volume 134, Issue 3, August 2019, Pages 1121–1162, https://doi.org/10.1093/qje/qjz006</p>
<p>Class #8 – School funding</p>	<p>(**) Jackson, Kirabo, Rucker Johnson and Claudia Persico "The Effects of School Spending on Educational and Economic Outcomes: Evidence from School Finance Reforms". <i>Quarterly Journal of Economics</i>, (2016) 131 (1): 157-218.</p> <p>(**) Hyman Joshua, "Does Money Matter in the Long Run? Effects of School Spending on Educational Attainment", <i>American Economic Journal: Economic Policy</i> 2017, 9(4): 256–280</p> <p><i>Economics of Education</i>. 2017. Michael Lovenheim and Sarah E. Turner. Ch. 7,8</p>
<p>Class #9 – Class size</p>	<p>(*) J. Angrist and V. Lavy, "Using Maimonides Rule to Estimate the Effects of Class Size on Academic Achievement," <i>Quarterly Journal of Economics</i> (May 1999), 533-575.</p> <p>Angrist, Joshua D., Victor Lavy, Jetson Leder-Luis, and Adi Shany. 2019. "Maimonides' Rule Redux." <i>American Economic Review: Insights</i>, 1 (3): 309-24. (only abstract)</p> <p>Jepsen, Christopher and Steven Rivkin. "Class Size Reduction and Student Achievement: The Potential Tradeoff between Teacher Quality and Class Size." <i>The Journal of Human Resources</i>, 44, no. 1 (winter 2009): 223-250.</p> <p>Krueger, Alan B. "Experimental estimates of education production functions." <i>The quarterly journal of economics</i> 114.2 (1999): 497-532. [link added to Canvas Syllabus and Pages]</p> <p>Susan M. Dynarski, Joshua Hyman, and Diane Schanzenbach. 2013. "Experimental Evidence on the Effect of Childhood Investments on Post-Secondary Attainment and Degree Completion." <i>Journal of Policy Analysis and Management</i> 32(4): 692-717. [link added to Canvas Syllabus and Pages]</p> <p>Jepsen, Christopher, and Steven Rivkin. "Class size reduction and student achievement the potential tradeoff between teacher quality and class size." <i>Journal of human resources</i> 44.1 (2009): 223-250. [link added to Canvas Syllabus and Pages]</p> <p><i>Economics of Education</i>. 2017. Michael Lovenheim and Sarah E. Turner. Ch. 9</p>

<p>Class #10 – Teacher Quality</p>	<p><u>CASE STUDY MATERIAL ON IMPACT (on Canvas)</u></p> <p><i>Chetty, R., Friedman, J. and Rockoff, J. (2014) "Measuring the Impacts of Teachers I: Evaluating Bias in Teacher Value-Added Estimates. American Economic Review, 104(9):2593–2632. (only introduction)</i></p> <p><i>Jackson (2018) "What Do Test Scores Miss? The Importance of Teacher Effects on Non-Test Score Outcomes." Journal of Political Economy, Volume 126, Issue 5(only abstract)</i></p> <p>Economics of Education. 2017. Michael Lovenheim and Sarah E. Turner. Ch. 15.3</p>
<p>Class #11 Peer effects and networks</p>	<p>(*) Lavy, Victor, and Analia Schlosser. 2011. "Mechanisms and Impacts of Gender Peer Effects at School." American Economic Journal: Applied Economics, 3 (2): 1-33.</p> <p>(***) Bursztyn, L., & Jensen, R. (2015). How does peer pressure affect educational investments? The Quarterly Journal of Economics, 130(3), 1329-1367. Link</p>
<p>Class #12 – Review</p>	<p><u>BEFORE class:</u> solve the mock exam posted on Canvas</p>
<p>Class #13 – Midterm</p>	
<p>Class #14 –</p>	<p>Guest: Josh Goodman – President Biden’s Economic Advisor</p>
<p>Class #15 – Gender Stereotypes in Schools</p>	<p>(*) <i>Carlana, M. (2019). Implicit stereotypes: Evidence from teachers’ gender bias. The Quarterly Journal of Economics, 134 (3), 1163–1224. Link</i></p> <p><u>Asynchronous materials to read BEFORE class: Memo Team 1</u></p>
<p>Class #16 – Tutoring</p>	<p>(*) <i>Carlana, M., La Ferrara, E. (2020). "Apart but Connected: Online Tutoring to Mitigate the Impact of COVID-19 on Educational Inequality"</i></p> <p><u>Asynchronous materials to read BEFORE class: Memo Team 2</u></p>

<p>Class #17 – Financial Aid</p>	<p>(*) Susan Dynarski, Katherine Michelmore, CJ Libassi, and Stephanie Owen. 2018. "Closing the Gap: The Effect of a Targeted, Tuition-Free Promise on College Choices of High-Achieving, Low-Income Students." NBER Working Paper. Link</p> <p><i>Economics of Education</i>. 2017. Michael Lovenheim and Sarah E. Turner. Ch. 14</p> <p><u>Asynchronous materials to read BEFORE class: Memo Team 3</u></p>
<p>Class #18 –</p>	<ul style="list-style-type: none"> ● <u>BEFORE class:</u> You need to <ul style="list-style-type: none"> ○ Select your team (or individual work). Complete this spreadsheet https://docs.google.com/spreadsheets/d/1NclKnq_ARgYs17R5igIwAV681M7KXY1lcTHTCpDAIyc/edit?usp=sharing at least 24 hours before this class. ○ Meet at least once with your team to discuss potential ideas for the program evaluation proposal. ○ Arrange a meeting with Alice during her Friday sessions. ● Breakout rooms to work on Program Evaluation Proposals (with instructor supervision – I will send out a calendar 24 hours before class) ● <u>AFTER class (by the end of the day):</u> <ul style="list-style-type: none"> ○ Send to michela_carlana@hks.harvard.edu a paragraph with the topic/executive summary of your PEP plan.
<p>Class #19 – School Desegregation</p>	<p><i>Jackson, Kirabo (2009). Student Demographics, Teacher Sorting, and Teacher Quality: Evidence from the End of School Desegregation. Journal of Labor Economics: 213-256. Link</i></p> <p><i>Guryan, Jonathan (2004). Desegregation and Black Dropout Rates. American Economic Review, 94(4): 919-943. Link</i></p> <p><i>Rao, Gautam. 2019. Familiarity Does Not Breed Contempt: Generosity, Discrimination, and Diversity in Delhi Schools. American Economic Review, 109 (3): 774-809. Link</i></p> <p><u>Asynchronous materials to read BEFORE class: Memo Team 4</u></p>
<p>Class #20 – Immigrants and Refugees</p>	<p>(*) Sule Alan, Ceren Baysan, Mert Gumren, and Elif Kubilay, "Building Inter-Ethnic Cohesion in Schools: An Intervention on Perspective Taking", 2019. Link</p> <p><u>Asynchronous materials to read BEFORE class: Memo Team 5</u></p>

<p>es in Schools</p>	
<p>Class #21 – Conditional Cash Transfers and Incentives</p>	<p>(*) Glewwe, P., & Kassouf, A. L. (2012). The impact of the Bolsa Escola/Familia conditional cash transfer program on enrollment, dropout rates and grade promotion in Brazil. <i>Journal of Development Economics</i>, 97(2), 505-517. https://doi.org/10.1016/j.jdeveco.2011.05.008</p> <p>(***) Jackson, Kirabo (2008). Cash for Test Scores: The Impact of the Texas Advanced Placement Incentive Program. <i>Education Next</i>: 70-77.</p> <p>Duflo, E., Hanna, R. and Ryan, S. (2012). <i>Incentives Work: Getting Teachers to Come to School. American Economic Review</i>, 102 (4): 1241–1278. <i>Link (skip the structural model in this paper)</i></p> <p>Glewwe, Paul, Nauman Ilias, and Michael Kremer. <i>Teacher incentives. American Economic Journal: Applied Economics</i> 2.3 (2010): 205-27</p> <p><u>Asynchronous materials to read BEFORE class: Memo Team 6</u></p>
<p>Class #22</p>	<p>Guest: Helen Ho</p> <p>"STEM Summer Programs for Underrepresented High Schoolers Increase STEM Degrees," with Sarah Cohodes and Silvia Robles.</p>
<p>Class #23-#24</p>	<p>Presentations in class</p>
<p>Class #25 #26– How can we use machine learning in education?</p>	<p>(*) Jon Kleinberg, Jens Ludwig, and Sendhil Mullainathan, "A Guide to Solving Social Problems with Machine Learning", <i>Harvard Business Review</i>. (Uploaded on Canvas)</p> <p>(**) Neilson C., Gallegos S., Calle F., <i>Screening and Recruiting Talent at Teacher Colleges. Link</i></p>