

Topics in Empirical Microeconomics

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Class Meeting Time: Once a week on Wednesdays, 5:15-8:15pm *Note: Class on September 14 needs to be rescheduled to September 12 (Monday). Location TBD.*

Class Location: PCPSE 203

Office Hours: Mondays 3:30-5pm and By appointment.

Course Objectives: The main goals of the course are:

- to stimulate your research interests in these topics, and to learn about the frontier of the relevant literature;
- to hopefully generate new and independent research questions/ideas that will contribute to your third year paper or your dissertations.

In this course, we survey several topics that are part of my own current research interests, particularly in the areas of health insurance/health care, and social insurance; and discrimination/affirmative action:

- Health care and health insurance markets and their interactions with the labor market.
- An overview of the recent theoretical and empirical developments related to the economics of discrimination and affirmative action.

Requirement and Grading: The course will be a combination of lectures and student presentations. You are expected to be an active participants in the class. For each of the paper we will discuss in class, you need to read the paper and answer the guided-reading questions. You are required to complete the guided-reading assignment prior to the class and then submitted an updated version after the class discussions. I will assign papers to you for presentations.

1. **(20%)** Class participation and presentations. I will assign papers for you to present.
2. **(25%)** Answers to weekly guided-reading questions and occasional homework.
3. **(25%)** A take-home final exam.
4. **(30%)** Term paper/research proposal. You are expected to pursue some topics covered in class. You must get my approval for the topics that you intend to write on. The proposal may consist of an empirical and/or theoretical analysis, but should contain some original aspects. You are required to turn in a two-page research proposal by October 31, 2022; and you have until January 31, 2023 to complete the proposal. Please speak to me if you have difficulty developing a topic, and we will work on it together. Each enrolled student is required to give a short presentation of the preliminary proposal in class toward the end of the semester.

The goal is to get you started on your first research project that can potentially be turned into the third-year paper later.

Reading List

1 Health Care and Health Insurance Markets

1.1 Theoretical Models of Health Insurance and Health Insurance Market

The key reason for the government to be involved in providing insurance is the potential market failure as a result of asymmetric information. Here we review the basic theory of how asymmetric information may lead to market failure; and the tests for asymmetric information that are derived from the theory; and finally some recent empirical methods to examine the welfare effects of asymmetric information.

The classical readings on the market failure due to asymmetric information is Akerlof's (1970) lemon's paper and Rothschild & Stiglitz's analysis of competitive insurance market (1976). Arrow's (1963) classical paper makes uncertainty and asymmetric information central focus of the economic analysis of health economics. All these papers assume one dimensional private information in the risk type of the agents. Recent empirical literature suggests the importance of multi-dimensional heterogeneity in driving the equilibrium of the health insurance market.

- Arrow, Kenneth (1963). "Uncertainty and the Welfare Economics of Medical Care," *American Economic Review* Vol. 53, No. 5, 941-973.
- [*] Akerlof, George (1970). "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics* (August 1970).
- [*] Rothschild, Michael and Joseph Stiglitz (1976). "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information", *Quarterly Journal of Economics*, 90 (4), 629-650.
- [*] Hemenway, David (1990). "Propitious Selection." *Quarterly Journal of Economics*, Vol. 105, 1063-1069.
- Azevedo, Eduardo and Daniel Gottlieb (2017). "Perfect Competition in Markets with Adverse Selection," *Econometrica*, 85 (1), 67-105, 2017.
- [*] Fang, Hanming and Zenan Wu (2018). "Multidimensional Private Information, Market Structure and Insurance Markets." *Rand Journal of Economics*, 49(3), pages 751-787, 2018.
- [*] Einav, Liran, Amy Finkelstein and Jonathan Levin (2010). "Beyond Testing: Empirical Models of Insurance Markets," *Annual Review of Economics*, 2, September 2010, 311-336
- Einav, Liran, and Amy Finkelstein (2011). "Selection in Insurance Markets: Theory and Empirics in Pictures." *Journal of Economic Perspectives*, 25 (1): 115-38.
- Geruso, Mike, Timothy Layton, Grace McCormack, and Mark Shepard(2022). "The Two Margin Problem in Insurance Markets." NBER Working Paper 26288, forthcoming at the *Review of Economics and Statistics*.

1.2 Why Do American Spend So Much More on Health Care?

- [*] Hall, Robert E. and Charles I. Jones (2007). “The Value of Life and the Rise in Health Spending,” *Quarterly Journal of Economics*, 122, 39-72.

1.3 Demand for Health and Health Care

- Grossman, Michael (1972). “On the Concept of Health Capital and the Demand for Health.” *Journal of Political Economy*, Vol. 80, No. 2, 223-255.
- [*] W. Manning et al. (1987). “Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment”, *American Economic Review*, 77(3), 251-177.
- [*] Amanda Kowalski (2016). “Censored Quantile Instrumental Variable Estimates of the Price Elasticity of Expenditure on Medical Care”. *Journal of Business and Economic Statistics*, Vol. 34, No. 1: 107-117.
- [*] Finkelstein, Amy et al. (2012). The Oregon Health Insurance Experiment: Evidence from the First Year. *Quarterly Journal of Economics*.
- [*] Fang, Hanming and Alessandro Gavazza (2011). “Dynamic Inefficiencies in an Employment-Based Health-Insurance System: Theory and Evidence,” *American Economic Review*, 101(7), 3047-3077.

1.4 Reclassification Risk and Long-Term Insurance Contracts

Reclassification risk is the risk that consumers face in future insurance premiums. There is no long-term health insurance currently in the U.S. This could lead to significant welfare loss.

- Peter Diamond (1992). “Organizing the Health Insurance Market,” *Econometrica*, 60, 1233-1254.
- Pauly, M., H. Kunreuther and R. Hirth (1995), “Guaranteed Renewability in Insurance,” *Journal of Risk and Uncertainty*, 10: 143-56.
- [*] Benjamin Handel, Igal Hendel and Michael D. Whinston (2015). “Equilibria in Health Exchanges: Adverse Selection vs. Reclassification Risk.” *Econometrica*, vol 83(4), 1261-1313.
- [*] Ghili, Soheil, Benjamin Handel, Igal Hendel and Michael D. Whinston (2020). “The Welfare Effects of Long-term Health Insurance Contracts.” MIT Sloan Working Paper.
- [*] Juan Pablo Atal, Hanming Fang, Martin Karlsson and Nicolas R. Ziebarth (2022). “German Long-Term Health Insurance: Theory Meets Evidence.” R & R, *Journal of Political Economy*.

1.5 Health Insurance and Labor Markets, and Evaluating the Affordable Care Act

We will first digress on a discussion about a variety of labor market models that differ in the nature of the friction, and how wages are determined. Such models are ingredients to study the interaction between social insurance programs and the labor market.

- [*] Rogerson, Richard, Robert Shimer and Randall Wright (2005). "Search-Theoretic Models Of The Labor Market: A Survey," *Journal of Economic Literature*, 959-988.
- [*] Burdett, Kenneth and Dale T. Mortensen (1998). "Wage Differentials, Employer Size, and Unemployment," *International Economic Review*, 1998, 39, 257-273.
- Hwang, Hae-shin, Mortensen, Dale; Reed, W. Robert (1998). "Hedonic Wages and Labor Market Search." *Journal of Labor Economics*. 815-847.
- [*] Mortensen, Dale T. and Christopher A. Pissarides (1994). "Job Creation and Job Destruction in the Theory of Unemployment," *Review of Economic Studies*, 61, 397-415.
- [*] Menzio, Guido and Shouyong Shi (2011). "Efficient Search on the Job and the Business Cycle." *Journal of Political Economy*, Vol. 119(3), pages 468 - 510.

Health care reform is one of the most important policy issues in the US. There are numerous angles from which one can examine the issues related to the health care system.

- Madrian, Brigitte C. (1994). "Employment-Based Health Insurance and Job Mobility: Is There Evidence of Job Lock?" *Quarterly Journal of Economics*, Vol. 109, No. 1, 27-54.
- Currie, J. and B. Madrian (1999). "Health, Health Insurance, and the Labor Market," in *Handbook of Labor Economics*, Volume 3C: 3309-3416. Amsterdam: North Holland.
- [*] Dey, M. and C. Flinn (2005). "An Equilibrium Model of Health Insurance Provision and Wage Determination." *Econometrica* 73, 571-627.
- Dey, M. and C. Flinn (2008). "Household Search and Health Insurance Coverage." *Journal of Econometrics*, 145 July, 43-63.
- [*] Kolstad, J. T., Martin Hackmann and A. E. Kowalski (2012): "Adverse Selection and an Individual Mandate: When Theory Meets Practice." *American Economic Review*, Vol. 105, No. 3: 1030-66.
- Cole, Harold, Soojin Kim and Dirk Krueger (2019). "Analyzing the Effects of Insuring Health Risks: On the Tradeoff between Short Run Insurance Benefits vs. Long Run Incentive Costs", *Review of Economic Studies*, Vol 86, 1123-1169.
- Aizawa, Naoki (2019). "Labor Market Sorting and Health Insurance System Design." *Quantitative Economics*, 10 (4): 1401-1451.
- [*] Aizawa, Naoki and Hanming Fang (2020). "Equilibrium Labor Market Search and Health Insurance Reform." *Journal of Political Economy*, November 2020.

- Fang, Hanming and Andrew Shephard (2019). “Joint Labor Search, Spousal Insurance, and Health Care Reform.”, R&R at *Econometrica*.
- Makoto Nakajima and Didem Tüzemen (2016). ”Health-Care Reform or Labor Market Reform? A Qualitative Analysis of the Affordable Care Act,” Working Paper 15-34/R, February 2016.
- Fang, Hanming and Dirk Krueger (2022). “The Affordable Care Act After a Decade: Impacts on the Labor Market and the Macro Economy.” *Annual Review of Economics*, Volume 14.
- Handel, Ben and Jonathan Kolstad (2022). “The Affordable Care Act After a Decade: Industrial Organization of Health Insurance Market.” *Annual Review of Economics*, Volume 14.

1.6 Supply Side of Health Care

- A. Measurement of Quality:
 - Geweke, John, Gautam Gowrisankaran, and Robert J. Town (2003). “Bayesian Inference for Hospital Quality in a Selection Model.” *Econometrica*, 71(4), 1215–1238.
- B. Physician Induced Demand:
 - Clemens, Jeffrey and Joshua D Gottlieb (2014). “Do Physicians’ Financial Incentives Affect Medical Treatment and Patient Health?” *American Economic Review*, 2014, 104 (4), 1320–49.
 - Fang, Hanming, Xiaoyan Lei, Julie Shi, and Xuejie Yi (2021). “Physician-Induced Demand: Evidence from China’s Drug Price Zero-Markup Policy.” NBER Working Paper.
- C. Physician Fraud:
 - Fang, Hanming and Qing Gong (2017). “Detecting Potential Overbilling in Medicare Reimbursement via Hours Worked.” *American Economic Review*, 107(2): 562-591.
 - Geruso, Mike and Timothy Layton (2020). “Upcoding: Evidence from Medicare on Squishy Risk Adjustment.” NBER Working Paper 21222. *Journal of Political Economy*, 128(3): 984-1026.
- D. Competition:
 - Kessler, D. P., and M. B. McClellan (2000). “Is Hospital Competition Socially Wasteful?” *Quarterly Journal of Economics*, 115: 577–615.
 - Dafny, Leemore, Kate Ho, and Mauricio Varela (2013). “Let Them Have Choice: Gains from Shifting Away from Employer-Sponsored Health Insurance and toward an Individual Exchange.” *American Economic Journal: Economic Policy*, 5(1): 32–58.
 - Gaynor, Martin, Carol Propper, and Stephan Seiler (2016). ”Free to Choose? Reform, Choice, and Consideration Sets in the English National Health Service.” *American Economic Review*, 106 (11): 3521-57.

- E. Payment Reforms:
 - Alexander, Diane: How do Doctors Respond to Incentives? Unintended Consequences of Paying Doctors to Reduce Costs, *Journal of Political Economy*, Vol. 128, November, 2020.
- F. IO of the Health Care Markets:
 - Gaynor, Martin, Kate Ho, and Robert J. Town (2015). “The Industrial Organization of Health-Care Markets.” *Journal of Economic Literature*, 53(2): 235– 84.
 - Ho, Kate (2009). “Insurer-Provider Networks in the Medical Care Market.” *American Economic Review*, 99(1): 393–430.

2 Economics of Discrimination and Affirmative Action

2.1 Theoretical Models of Discrimination and Affirmative Action

- [*] Survey: Hanming Fang and Andrea Moro (2010). “Theories of Statistical Discrimination and Affirmative Action: A Survey.” Chapter 5 in Handbook of Social Economics, Vol IA, edited by Jess Benhabib, Alberto Bisin, and Matthew Jackson, North-Holland, 2010, pp. 133-200.
- [*] Edmund Phelps (1972). “The Statistical Theory of Racism and Sexism,” *American Economic Review*, Vol. 62, 659–661.
- [*] Stephen Coate and Glenn Loury (1993). “Will Affirmative Action Eliminate Negative Stereotypes?” *The American Economic Review*, Vol. 83, No. 5, 1220-40.
- [*] Fang, H. (2001), “Social Culture and Economic Performance”, *American Economic Review*, Vol. 91, No. 4, 924-937.
- [*] Mailath, G., L. Samuelson and A. Shaked (2000), “Endogenous Inequality in Integrated Labor Markets with Two-Sided Search.” *American Economic Review*, Vol. 90, No. 1, 46-72.
- Fang H. and P. Norman (2006), “Government-mandated discriminatory policies”, *International Economic Review*, Vol. 47, No. 2, 361-189.
- [*] Chan, J. and E. Eyster (2003), “Does Banning Affirmative Action Lower College Student Quality?” *American Economic Review*, Vol. 93, No. 3, 858-872.
- [*] Moro, A. and P. Norman (2004), “A General Equilibrium Model of Statistical Discrimination.” *Journal of Economic Theory*, 114 (1), 1-30.
- Mailath, George J. and Andrew Postlewaite (2006): “Social Assets,” *International Economic Review*, 47, 1057—1091.
- Lang, Kevin and Michael Manove and W.T. Dickens (2005). “Racial Discrimination in Labor Markets with Posted Wage Offers,” *American Economic Review*, 95(4), 1327—1340.

- [*] Eeckhout, Jan (2006): “Minorities and Endogenous Segregation,” *Review of Economic Studies*, 254, 31-53.
- Peski, Marcin, and Balázs Szentes (2013). ”Spontaneous Discrimination.” *American Economic Review*, 103(6): 2412-36.
- Fryer, Roland and Glenn Loury (2013). “Valuing Diversity” *Journal of Political Economy* 121, no. 4, (2013): 747-774.
- Arjada Bardhi, Yingni Guo and Bruno Strulovici (2020). “Early-Career Discrimination: Spiraling or Self-Correcting?” [Slides]

2.2 Empirical Methods to Distinguish Prejudice from Statistical Discrimination

- [*] Becker, Gary S. (1957). *The Economics of Discrimination*. Chicago: University of Chicago Press.
- [*] Becker, Gary S. (1993b). “Nobel Lecture: The Economic Way of Looking at Behavior.” *Journal of Political Economy*, Vol. 101, 385-409.
- [*] Knowles, John, Nicola Persico and Petra Todd (2001). “Racial Bias in Motor Vehicle Searches: Theory and Evidence.” *Journal of Political Economy*, Vol. 109, 203-228.
- [*] Anwar, Shamena and Hanming Fang (2006). “An Alternative Test of Racial Profiling in Motor Vehicle Searches: Theory and Evidence.” *American Economic Review*, Vol. 96, No. 1, 127-151.
- [*] Anwar, Shamena and Hanming Fang (2012). ”Testing for the Role of Racial Prejudice Using Bounceback Rates in Emergency Departments.” *The B.E. Journal of Economic Analysis & Policy*, Vol. 13: Issue 3 (Advances), Article 4.
- [*] Anwar, Shamena and Hanming Fang (2015). ”Testing for Racial Prejudice in the Parole Board Release Process: Theory and Evidence” . *Journal of Legal Studies*, vol. 44.
- [*] Fang, Hanming and Nicola Persico (2010). ”Difference-in-Difference Estimators of Prejudice: An Examination of the Existing Test and An Alternative.” Working Paper.
- Goldin, Claudia and Cecilia Rouse (2000) “Orchestrating Impartiality: The Impact of ”Blind” Auditions on Female Musicians” *The American Economic Review*, Vol. 90, No. 4 (Sep., 2000), pp. 715-741.
- Charles, K. K., and J. Guryan (2008): “Prejudice and Wages: An Empirical Assessment of Becker’s *The Economics of Discrimination*,” *Journal of Political Economy*, 116(5), 773–809.
- Bowlus, A. J., and Z. Eckstein (2002): “Discrimination and Skill Differences in an Equilibrium Search Model,” *International Economic Review*, 43(4), 1309–1345.
- [*] Arcidiacono, Peter, Esteban M. Aucejo, Hanming Fang and Kenneth I. Spenner (2011). “Does Affirmative Action Lead to Mismatch? A New Test and Evidence.” *Quantitative Economics*, No. 2, 303–333.

- Doleac, Jennifer L., and Benjamin Hansen (2016). “Does “Ban the Box” Help or Hurt Low-Skilled Workers? Statistical Discrimination and Employment Outcomes When Criminal Histories Are Hidden,” NBER Working Paper 22469, 2016.
- Amanda Agan and Sonja Starr (2017). “Ban the Box, Criminal Records, and Racial Discrimination: A Field Experiment.” *The Quarterly Journal of Economics*.

2.3 Digital Discrimination

- Cathy O’Neil (2016). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. Broadway Books.
- Barocas, Solon and Selbst, Andrew D., *Big Data’s Disparate Impact* (2016). 104 *California Law Review* 671 (2016). Available at SSRN: <https://ssrn.com/abstract=2477899> or <http://dx.doi.org/10.2139/ssrn.2477899>
- Edelman, Benjamin G., Michael Luca, and Daniel Svirsky. “Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment,” *American Economic Journal: Applied Economic* Vol. 9, no. 2 (April 2017): 1-22.
- Dwork, Cynthia; Roth, Aaron (2014). *The Algorithmic Foundations of Differential Privacy* (PDF available online). *Foundations and Trends in Theoretical Computer Science*. Now Publishers. ISBN 978-1601988188.
- Moritz Hardt, Eric Price and Nathan Srebro (2016) *Equality of Opportunity in Supervised Learning*. *30th Conference on Neural Information Processing Systems (NIPS 2016)*, Barcelona, Spain.
- Jon M. Kleinberg, Sendhil Mullainathan, and Manish Raghavan. *Inherent trade-offs in the fair determination of risk scores*. CoRR, abs/1609.05807, 2016.
- Alexandra Chouldechova (2016). “Fair prediction with disparate impact: A study of bias in recidivism prediction instruments.” <https://arxiv.org/pdf/1610.07524.pdf>
- Arnold, David, Will Dobbie, and Peter Hull (2021). “Measuring Racial Discrimination in Algorithms.” *AEA Papers and Proceedings*, 111: 49-54.
- Arnold, David, Will Dobbie, and Peter Hull (2022). “Measuring Racial Discrimination in Bail Decisions.” forthcoming, *American Economic Review*.
- Arnold, David, Will Dobbie, and Crystal Yang (2018). “Racial Bias in Bail Decisions.” *Quarterly Journal of Economics*, 133(4): 1885–1932.
- J. Aislinn Bohren, Kareem Haggag, Alex Imas, & Devin G. Pope (2020). “Inaccurate Statistical Discrimination: An Identification Problem”, [Slides]
- Yan Zhang (2018). “Assessing Fair Lending Risks Using Race/Ethnicity Proxies.” *Management Science*, 64(1):178-197.

- Anja Lambrecht, Catherine Tucker (2019). “Algorithmic Bias? An Empirical Study of Apparent Gender-Based Discrimination in the Display of STEM Career Ads.” *Management Science* 65(7):2966-2981.
- Hamsa Bastania (2021). “Predicting with Proxies: Transfer Learning in High Dimension.” *Management Science* 67(5):2964-2984.
- Nathan Kallus, Xiaojie Mao, Angela Zhou (2021). “Assessing Algorithmic Fairness with Unobserved Protected Class Using Data Combination.” *Management Science*.