

Course Syllabus

GRAD-C22: Causal Inference

1. General information

Course Format	Onsite
Instructor(s)	Oliver Lang
Instructor's e-mail	O.Lang@hertie-school.org
Assistant (if applicable)	Camilo Pedraza Jiménez (C.Pedraza-Jimenez@phd.hertie-school.org)
Instructor's Office Hours	On request. Students should make an appointment by email.

Link to [Study, Examination and Admission Rules and MIA, MDS and MPP Module Handbooks](#)

For information on **course room, times and session dates**, please consult the [Course Plan](#) on *MyStudies*.

Instructor Information:

Oliver Lang is a PhD student in political science at the University of Wisconsin. His research interests span political communication, authoritarian politics, and political behavior. Methodologically, he is interested in causal inference and experimental designs that estimate preferences for and effects of high-dimensional interventions.

2. Course Contents and Learning Objectives

Course contents:

This course discusses contemporary methods for causal inference with a focus on applications to public policy topics and connections to data science and machine learning techniques.

Main learning objectives:

The learning objectives of the class are that students have: a conceptual understanding of causal identification strategies in policy; the ability to criticize existing and proposed studies on causal grounds and where possible to suggest improvements; a clear appreciation of the relationship between statistical estimation and causal identification, as it applies to traditional econometric, machine learning, and epidemiological tools.

This course is designed to give firm conceptual foundations for causal inference rather than to provide a set of tools. This is because causal inference is not a distinct set of technical solutions, so the course will not be arranged around 'estimators', 'models', or even 'designs' in the way that a

statistics, machine learning, or econometrics course might each week present a new algorithm, model, or research design each week. Rather it is a way of thinking about problems and evaluating and deploying those elements. There will of course be the opportunity, in lecture examples but mostly in Lab, of seeing how the course content is applied to concrete problems, but primarily as a means to understanding the content itself.

Target group:

1st year MDS students.

Teaching style:

Sessions will be a mixture of lectures, practical exercises in labs, and discussion.

While we will, where reasonable, connect the topics of the course to their concrete policy applications, the course is intended to provide conceptual and mathematical foundations for thinking about causation.

Prerequisites:

Probability: students should be familiar with basic probability theory: That means understanding of independence, conditional independence, expectations.

Statistics: students should be familiar with fitting and interpreting linear regression models, including interactions. Understanding the geometry of least squares will also be helpful. To that end, Statistics 1 or equivalent is required. Statistics 2 or equivalent is strongly recommended. The course presumes knowledge of but will not teach statistical inference and generalized linear models (GLMs).

Computational: students should be competent with the sampling functions (rnorm, rbinom, etc), data frame manipulations (dplyr experience is an advantage), and linear model fitting capabilities of R. Familiarity with lm is sufficient.

More important than any of these is a willingness to think abstractly and formally about inference, about tools – including machine learning tools - and about policy problems.

Diversity Statement:

Causal inference is a topic of intense policy and ethical relevance because, as this course will emphasize, it is a core issue in issues of social welfare, development, and fairness. Perhaps surprisingly, causal inference is a useful tool for thinking about all kinds of diversity and its consequences, including fairness and bias.

Policy on the use of AI tools for assignments

The use of generative AI tools (such as ChatGPT) is **not permitted unless explicitly authorized**. Students must adhere to the specific instructions provided for each assignment. Where AI tools are

used, students are expected to indicate clearly how they were used and to ensure the originality and academic integrity of their work. **Students should include a Statement of Authorship in all written assignments.** Improper or undisclosed use of AI tools may be considered a violation of academic integrity policies. Please consult the course instructor in case of doubt. Further guidance is available in the [Artificial Intelligence Tools at the Hertie School - Teaching Guidelines for Instructors and Students](#), including a template for the **Statement of Authorship, under section 1.1.**

Grading and Assignments

Composition of Final Grade:

Assignment 1: Quiz 1	Week 3	During lab	15%
Assignment 2: Quiz 2	Week 6	During lab	20%
Assignment 3: Quiz 3	Week 9	During lab	20%
Assignment 4: Paper	Deadline: 16.05.2026	During lab	30%
Participation grade			15%

Assignment Details

Assignments 1-3

Biweekly quizzes are a mixture of multiple choice and short answers. They will be based on the material covered in the most recent two classes.

Assignment 4

For the final paper, students choose a substantively oriented paper on a policy topic of their choice, subject to instructor approval, replicate the main set of results, and provide both a critique of its methods from a causal perspective, and motivate a set of proposals to remedy any identified defects (if that is possible), e.g. by providing alternative or additional research design or other analytical strategies to address the original research question. Note that there is no requirement that suggestions must use exactly the same data but suggestions for alternative data sources must be reasonable.

Participation grade

The participation grade is based on the assumption that students take part, not as passive consumers of knowledge, but as active participants in the exchange, production, and critique of ideas—their own ideas and the ideas of others. Participation is marked by its active nature, its consistency, and its quality.

Late submission of assignments: For each day the assignment is turned in late, the grade will be reduced by 10% (e.g. submission two days after the deadline would result in 20% grade deduction).

Attendance: Students are expected to be present and prepared for each class session. Active participation during lectures and seminar discussions is essential. Please note that students can miss up to two sessions (out of twelve) if no course assignments are affected. **Students do not need to inform the course instructor(s) in advance if they are unable to attend a session.** For further information please consult the [Examination Rules](#) §10.

Academic Integrity: The Hertie School is committed to the standards of good academic and ethical conduct. Any violation of these standards shall be subject to disciplinary action. Plagiarism, misuse of AI, free riding in group work, and other deceitful actions are not tolerated. See [Examination Rules](#) §16, the Hertie [Plagiarism Policy](#), and [the Hertie Guidelines for Artificial Intelligence Tools](#).

Compensation for Disadvantages: If a student furnishes evidence that he or she is not able to take an examination as required in whole or in part due to disability or permanent illness, the Examination Committee may upon written request approve learning accommodation(s). In this respect, the submission of adequate certificates may be required. See [Examination Rules](#) §14.

Extenuating circumstances: An extension can be granted due to extenuating circumstances (i.e., for reasons like illness, personal loss or hardship, or caring duties). In such cases, please contact the course instructor and Examination Office *in advance* of the assignment deadline.

3. General Readings

There are no required textbooks, but students may find the following useful for reference:

- Cunningham, S. Causal Inference: The mixtape. <https://mixtape.scunning.com>, 2021
- Morgan, Stephen L., and Christopher Winship. 2015. Counterfactuals and Causal Inference: Methods and Principles for Social Research. 2nd edition. Cambridge: Cambridge University Press.
- Mankiw, Charles F. 2007. Identification for Prediction and Decision. Cambridge: Harvard University Press.
- Pearl, Judea. 2009. Causality, 2nd edition. Cambridge. Cambridge University Press.
- Pearl, Judea, Madelyn Glymour, and Nicholas P. Jewell. Causal inference in statistics: A primer, 2016.
- Hernán, Miguel A., and James M. Robins. Causal Inference: What If, 2020. (<https://www.hsph.harvard.edu/miguel-hernan/causal-inference-book/>) this syllabus will refer to it as What If
- Angrist, Josh D., and Jörn-Steffen Pischke. Mostly harmless econometrics: An empiricists companion, 2008. (Hertie has electronic library access to this)

All course readings can be accessed on the course Moodle page.

4. Course Sessions and Readings

Session 1: Potential outcomes	
Learning Objective	We first review the counterfactual theory of causation and the potential outcomes framework.
Required Readings	Morgan, S. and C. Winship. 2015. Counterfactuals and Causal Inference: Methods and Principles for Social Research. Cambridge: Cambridge University Press. Read pp. 3-74. Carefully work through pages 37-62.
Optional Readings	<p>Holland, P. 1986. "Statistics and Causal Inference." Journal of the American Statistical Association, 81(396): 945-960. Read: 945-949, 959</p> <p>Angrist, JD, and JS Pischke. 2009. Mostly Harmless Econometrics. Chapters 1 & 2.</p> <p>Imbens, G. I. and J. M. Wooldridge (2009) "Recent Developments in the Econometrics of Program Evaluation", Journal of Economic Literature, 47(1): 5-86.</p>

Session 2: Mechanisms, Counterfactuals, Graphs	
Learning Objective	We then introduce the use of directed acyclic graphs to formalize the assumptions necessary for learning about causal relationships.
Required Readings	Elwert, Felix. 2013. "Graphical Causal Models." Pp. 245-73 in Handbook of Causal Analysis for Social Research, S. Morgan (ed.). Dodrecht: Springer. Read: 245-61, 266, 270-1.
Optional Readings	<p>Pearl, Judea, Madelyn Glymour, and Nicholas P. Jewell. Causal inference in statistics: A primer, 2016.</p> <p>Imbens, Guido W. Potential outcome and directed acyclic graph approaches to causality: Relevance for empirical practice in economics, 2020. http://arxiv.org/abs/1907.07271.</p> <p>Steiner, Peter M., Yongnam Kim, Courtney E. Hall, and Dan Su. "Graphical models for quasi-experimental designs," 2017. 46 (2).</p>

Session 3: Randomness, Natural and Otherwise

Learning Objective	Exploiting random variation is not the only way to infer causal effects, but it's a useful one. In this session we consider the advantages and disadvantages of randomized controlled experiments as a research design ideal, what happens when they go wrong, and how to exploit naturally occurring forms of randomness.
Optional Readings	Gerber, Alan S., and Donald P. Green. <i>Field experiments: Design, analysis, and interpretation</i> , 2012. ch. 4, 5, 6
Applications and practical issues	<p>Elections and democratic politics</p> <p>Oforu, George K. 2019. "Do Fairer Elections Increase the Responsiveness of Politicians?" <i>American Political Science Review</i> 113, no. 4: 963–979.</p> <p>Riaño, J. F., Gulzar, S., & Ladino, J. F. (2025). <i>Pay-to-play: Campaign contributions and kickbacks in public procurement</i></p> <p>Dunning, Thad, et al. "Voter information campaigns and political accountability: Cumulative findings from a preregistered meta-analysis of coordinated trials." <i>Science advances</i> 5.7 (2019): eaaw2612.</p> <p>White, Ariel R., Noah L. Nathan, and Julie K. Faller. "What do I need to vote? Bureaucratic discretion and discrimination by local election officials." <i>American Political Science Review</i> 109.1 (2015): 129-142.</p> <p>Authoritarian politics</p> <p>Nugent, E. (2025). <i>System Justification in Authoritarian Regimes</i> (Version 1). OSF Preprints. https://doi.org/10.31235/osf.io/j69fa</p> <p>Kubinec, Robert, Haillie N. Lee, and Andrey Tomashevskiy. "Why corporate political connections can impede investment." <i>Comparative Political Studies</i> 57.11 (2024): 1804-1836.</p> <p>Brooke, Steven. "From medicine to mobilization: Social service provision and the Islamist reputational advantage." <i>Perspectives on Politics</i> 15.1 (2017): 42-61.</p> <p>Wang, Shaoda, and David Y. Yang. "Policy experimentation in China: The political economy of policy learning." <i>Journal of Political Economy</i> 133.7 (2025): 2180-2228.</p> <p>German politics and history</p>

Dinas, E., Fouka, V., & Ziblatt, D. (2025). *Confronting the past? Public norms, private truths, and the politics of memory in post-WWII Germany*

Alizade, Jeyhun, and Fabio Ellger. "Do politicians discriminate against constituents with an immigration background? Field experimental evidence from Germany." *The Journal of Politics* 84.3 (2022): 1823-1827.

Becker, Sascha O., Lukas Mergele, and Ludger Woessmann. "The separation and reunification of Germany: Rethinking a natural experiment interpretation of the enduring effects of communism." *Journal of Economic Perspectives* 34.2 (2020): 143-171.

Labor markets and inequality

Pager, Devah, Bart Bonikowski, and Bruce Western. "Discrimination in a low-wage labor market: A field experiment." *American sociological review* 74.5 (2009): 777-799.

Bursztyn, Leonardo, Alessandra L. González, and David Yanagizawa-Drott. "Misperceived social norms: Women working outside the home in Saudi Arabia." *American economic review* 110.10 (2020): 2997-3029.

Bursztyn, Leonardo, Thomas Fujiwara, and Amanda Pallais. "'Acting wife': Marriage market incentives and labor market investments." *American Economic Review* 107.11 (2017): 3288-3319.

Media and information control

Chen, Yuyu, and David Y. Yang. 2019. "The Impact of Media Censorship: 1984 or Brave New World?" *American Economic Review* 109, no. 6: 2294–2332.

Beazer, Q. H., Crabtree, C., Fariss, C. J., & Kern, H. (2022). When do private actors engage in censorship? Evidence from a correspondence experiment with Russian private media firms. *British Journal of Political Science*, 52(4), 1790–1809.

Bowles, J., Marshall, J., & Raffler, P. (2024). *Access to social media and support for elected autocrats: Natural and field experimental evidence from Uganda*

Fisman, R., Li, Y., & Miao, M. (2025). *Political persuasion in the information age: results from a field experiment*

Barari, Soubhik, Christopher Lucas, and Kevin Munger. 2025. "Political Deepfakes Are as Credible as Other Fake Media and (Sometimes) Real Media." *The Journal of Politics* 87, no. 2.

Bursztyn, Leonardo, et al. "When product markets become collective traps: The case of social media." *American Economic Review* 115.12 (2025): 4105-4136.

Crime and policing

Blair, Graeme, Jeremy Weinstein, Fotini Christia, et al. 2021. "Community Policing Does Not Build Citizen Trust in Police or Reduce Crime in the Global South." *Science* 374, no. 6571: eabd3446.

Slough, T., & Fariss, C. J. (2021). Misgovernance and human rights: Experimental evidence of illegal detention without intent. *American Journal of Political Science*, 65(1), 148–165.

Heller, Sara B., Anuj K. Shah, Jonathan Guryan, Jens Ludwig, Sendhil Mullainathan, and Harold A. Pollack. 2017. "Thinking, Fast and Slow? Some Field Experiments to Reduce Crime and Dropout in Chicago." *The Quarterly Journal of Economics* 132, no. 1: 1–54.

Sanchez de la Sierra, R., Titeca, K., Malukisa Nkuku, A., Lameke, A. A., & Tanutama, V. (2025). *The social fabric of corruption: A field experiment in Congo's public transport*. SSRN. <https://ssrn.com/abstract=5614054>

Immigration

Gaikwad, Nikhar, Kristina Hanson, and Aliz Tóth. 2024. "Bridging the Gulf: How Migration Fosters Tolerance, Cosmopolitanism, and Support for Globalization." *American Journal of Political Science*. <https://doi.org/10.1111/ajps.12893>.

Bureaucracy and governance

Olken, Benjamin A. 2007. "Monitoring Corruption: Evidence from a Field Experiment in Indonesia." *Journal of Political Economy* 115, no. 2: 200–249.

	<p>Habyarimana, James, et al. "Why does ethnic diversity undermine public goods provision?." <i>American political science review</i> 101.4 (2007): 709-725.</p> <p>de la Sierra, Raúl Sanchez, et al. <i>The real state: inside the Congo's traffic police agency</i>. No. w30258. National Bureau of Economic Research, 2022.</p> <p>Environment</p> <p>Hai, Z., & Perlman, R. L. (2022). Extreme weather events and the politics of climate change attribution. <i>Science Advances</i>, 8(36), eabo2190. https://doi.org/10.1126/sciadv.abo2190</p> <p>Buntaine, Mark T., et al. "Does the squeaky wheel get more grease? The direct and indirect effects of citizen participation on environmental governance in China." <i>American Economic Review</i> 114.3 (2024): 815-850.</p> <p>Slough, Tara, et al. "Adoption of community monitoring improves common pool resource management across contexts." <i>Proceedings of the National Academy of Sciences</i> 118.29 (2021): e2015367118.</p> <p>State building and development</p> <p>Humphreys, Macartan, Raul Sanchez de la Sierra, and Peter Van der Windt. "Exporting democratic practices: Evidence from a village governance intervention in Eastern Congo." <i>Journal of Development Economics</i> 140 (2019): 279-301.</p> <p>Sanchez de la Sierra, Raul. "Whither formal contracts?." <i>Econometrica</i> 89.5 (2021): 2341-2373.</p>
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Session 4: What question? Defining estimands	
Learning Objective	In this session, we will learn how to express the questions we want to answer as precise quantitative statements ("estimands") which map causal claims to data we collect.
Required readings	Lundberg, Ian, Rebecca Johnson, and Brandon M. Stewart. "What is your estimand? Defining the target quantity connects statistical

	evidence to theory." <i>American Sociological Review</i> 86.3 (2021): 532-565. Models to Meaning Ch.2: Interpretation
Optional Readings	Blair, Graeme, Jasper Cooper, Alexander Coppock, Macartan Humphreys. 2019. "Declaring and Diagnosing Research Designs." <i>American Journal of Political Science</i> .

Session 5: Adjustment, Regression, and Fixed Effects	
Learning Objective	In this session we consider the familiar old regression model from a causal point of view, as a generalisation of stratification. In doing so, we discover some curious properties of least-squares estimators. We'll also revisit the Frisch-Waugh-Lovell decomposition and its relation to statistical control and 'fixed effects' as we'll need it later for Machine Learning extensions.
Required readings	Aronow & Miller 143-168; 254-261 Pearl, Judea. 2013. "Linear Models: A Useful "Microscope" for Causal Analysis." <i>Journal of Causal Inference</i> 2013; 1(1): 155–170.
Optional Readings	WhatIf ch. 11, 12, 13, 15 Aronow, Peter M., and Cyrus Samii. "Does regression produce representative estimates of causal effects?" 2016. 60 (1). Keele, Luke, Randolph T. Stevenson, and Felix Elwert. " The causal interpretation of estimated associations in regression models ," 2020. 8 (1). Elections and democratic politics Cavaillé, C. (2023). <i>Reasoning about free riding: New foundations for the study of social policy preferences</i> [Working paper]. Department of Political Science, University of Michigan. Margalit, Yotam, Shir Raviv, and Omer Solodoch. "The cultural origins of populism." <i>The Journal of Politics</i> 87.2 (2025): 393-410.

Daniele, Gianmarco, Gemma Dipoppa, and Massimo Pulejo. "Violence against women in politics." *Available at SSRN 4508878* (2023).

Authoritarian politics

Szakonyi, D. (2025). Corruption and co-optation in autocracy: Evidence from Russia. *American Political Science Review*, 119(1), 402–419.

Esberg, J. (2020). *The audience of repression: Killings and disappearances in Pinochet's Chile*

Bautista, Maria Angélica, et al. "The geography of repression and opposition to autocracy." *American Journal of Political Science* 67.1 (2023): 101-118.

German politics and history

Spenkuch, J., & Tillmann, P. (2018). Elite influence? Religion and the electoral success of the Nazis. *American Journal of Political Science*, 62(1), 19–36. <https://doi.org/10.1111/ajps.12328>

Voigtländer, N., & Voth, H.-J. (2012). Persecution perpetuated: The medieval origins of anti-Semitic violence in Nazi Germany. *The Quarterly Journal of Economics*, 127(3), 1339–1392. <https://doi.org/10.1093/qje/qjs019>

Mergele, Lukas, Moritz Hennicke, and Moritz Lubczyk. "The big sell: Privatizing East Germany's economy." *Journal of Public Economics* 242 (2025): 105291.

Labor markets, schooling, and inequality

Biasi, B., & Ma, S. (2025). *Frontier knowledge in college and student success*

Media and information control

Pan, Jennifer, and Kaiping Chen. "Concealing corruption: How Chinese officials distort upward reporting of online grievances." *American Political Science Review* 112.3 (2018): 602-620.

Fan, Yingjie, Jennifer Pan, and Tongtong Zhang. "Gender and political compliance under authoritarian rule." *Comparative Political Studies* 58.9 (2025): 1890-1929.

Vasilenok, Natalia. "Reading Orwell in Moscow." (2025).

Crime and policing

Brooke, Steven, et al. "Religious protection from populist violence: The catholic church and the Philippine drug war." *American journal of political science* 67.1 (2023): 205-220.

Ba, Bocar A., et al. "The role of officer race and gender in police-civilian interactions in Chicago." *Science* 371.6530 (2021): 696-702.

Migration and ethnic politics

Bazzi, S., Gaduh, A., Rothenberg, A. D., & Wong, M. (2019). Unity in diversity? How intergroup contact can foster nation building. *American Economic Review*, 109(11), 3978–4025. <https://doi.org/10.1257/aer.20180171>

Luo, K., Yang, D. Y., & Olken, B. (2025). *Emigration during turbulent times* (Working Paper). Harvard University/MIT.

Malhotra, Neil, Yotam Margalit, and Cecilia Hyunjung Mo. "Economic explanations for opposition to immigration: Distinguishing between prevalence and conditional impact." *American Journal of Political Science* 57.2 (2013): 391-410.

Bureaucracy and governance

Suryanarayan, Pavithra, and Steven White. "Slavery, reconstruction, and bureaucratic capacity in the American south." *American Political Science Review* 115.2 (2021): 568-584.

Dasgupta, Aditya, and Devesh Kapur. "The political economy of bureaucratic overload: Evidence from rural development officials in India." *American Political Science Review* 114.4 (2020): 1316-1334.

State building and development

Schonholzer, D., & François, P. (2023). *Environmental circumscription and the origins of the state* [Working paper].

	Environmental politics
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Session 6: Weighting

Learning Objective	Regression-type adjustments will take us a long way towards controlling confounding, but sometimes we need more, or different, or both. In this session we'll consider weighting methods with a focus on models of treatment assignment (a.k.a. the propensity scores) rather than regression's implicit focus on modelling the the outcome. Having both at once sometimes gets us desirable 'double robustness' to model misspecification.
Optional Readings	<p>WhatIf ch. 12, 15</p> <p>Blackwell, Matthew. "A framework for dynamic causal inference in political science," 2013. 57 (2).</p> <p>CHARNYSH V. Diversity, Institutions, and Economic Outcomes: Post-WWII Displacement in Poland. <i>American Political Science Review</i>. 2019;113(2):423-441. doi:10.1017/S0003055419000042</p> <p>Ben-Michael, E., Feller, A., & Rothstein, J. (2020). <i>Varying impacts of letters of recommendation on college admissions: Approximate balancing weights for subgroup effects in observational studies</i> (arXiv:2008.04394v2). arXiv. https://doi.org/10.48550/arXiv.2008.04394</p>

Session 7: Collider Bias

Learning Objective	Naturally occurring collider bias (where we do not induce it deliberately ourselves) provides a particularly illuminating frame for understanding why all the things you were told not to do in your last statistics class were bad, e.g. selection on the dependent variable, conditioning on post-treatment outcomes, and generally pointing statistical models at data whose provenance you are unsure of. Collider bias is a particular issue for policy students dealing with administrative data that usually created in response to some event, for example a birth, doctor's appointment, accident, or arrest. Colliders will be particularly troublesome when we try to answer some questions with this kind of non-randomly sampled data.
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<p>Required readings</p>	<p>Elwert, Felix, and Christopher Winship. "Endogenous selection bias: The problem of conditioning on a collider variable," 2014. 40 (1).</p> <p>Cinelli, Carlos, Andrew Forney, and Judea Pearl. "A crash course in good and bad controls." <i>Sociological Methods & Research</i> 53.3 (2024): 1071-1104.</p>
<p>Optional Readings</p>	<p>WhatIf ch. 8</p> <p>Hernán, Miguel A., Sonia Hernández-Díaz, and James M. Robins. "A structural approach to selection bias," 2004. 15 (5).</p> <p>Applications:</p> <p>Scharpf, Adam, and Christian Gläsel. "Why underachievers dominate secret police organizations: evidence from autocratic Argentina." <i>American Journal of Political Science</i> 64.4 (2020): 791-806.</p> <p>Michel, J., Miller, M. K., & Peters, M. E. (2023). How authoritarian governments decide who emigrates: Evidence from East Germany. <i>International Organization</i>, 77(3), 527–563.</p>

<p>Session 8: Principal stratification & Instrumental Variables</p>	
<p>Learning Objective</p>	<p>In this session, we will learn how to use the framework of principal stratification to understand and define causal effects. This framework delineates groups according to how units will respond to different interventions. The discussion of principal stratification motivates discussion of non-compliance in experiments and instrumental variable estimators.</p>
<p>Required readings</p>	<p>Page, Lindsay C., et al. "Principal stratification: A tool for understanding variation in program effects across endogenous subgroups." <i>American Journal of Evaluation</i> 36.4 (2015): 514-531..</p>
<p>Optional Readings</p>	<p>Angrist, J., Imbens, G., and Rubin, D. 1996. "Identification of causal effects using instrumental variables." <i>Journal of the American Statistical Association</i> 91, 444–455.</p> <p>Freedman 2009, Ch. 6</p>

Pearl & Mackenzie 2018, Ch. 9

Pearl 2009 (Ch.8)

Elections and democratic politics

White, Ariel R., et al. "Child Welfare System Contact and Voting." (2025).

Dipoppa, Gemma. "How criminal organizations expand to strong states: Migrant exploitation and political brokerage in Northern Italy." (2021).

Authoritarian politics

Croke, Kevin, et al. "Deliberate disengagement: How education can decrease political participation in electoral authoritarian regimes." *American Political Science Review* 110.3 (2016): 579-600.

German politics and history

Hager, Anselm, and Hanno Hilbig. "Do inheritance customs affect political and social inequality?." *American Journal of Political Science* 63.4 (2019): 758-773.

Labor markets and inequality

Acemoglu, Daron, and Pascual Restrepo. "Tasks, automation, and the rise in US wage inequality." *Econometrica* 90.5 (2022): 1973-2016.

Media and information control

Bursztyn, Leonardo, et al. *Social Media and Xenophobia: Theory and Evidence from Russia*. Working Paper, https://drive.google.com/file/d/1oYpM6XQyge9J0MwW0MHR_Q2aJUxyZYWJ/view, 2024.

DellaVigna, Stefano, and Ethan Kaplan. "The Fox News effect: Media bias and voting." *The Quarterly Journal of Economics* 122.3 (2007): 1187-1234.

Crime and policing

Baron, E. Jason, and Max Gross. "Is there a foster care-to-prison pipeline? Evidence from quasi-randomly assigned investigators." *Review of Economics and Statistics* (2025): 1-46.

Aneja, A. P., & Avenancio-León, C. F. (2020). *No credit for time served? Incarceration and credit-driven crime cycles*

Immigration

Calderon, A., Fouka, V., & Tabellini, M. (2023). Racial diversity and racial policy preferences: The Great Migration and civil rights. *The Review of Economic Studies*, 90(1), 165–200.

<https://doi.org/10.1093/restud/rdac026>

Cavaille, Charlotte, and John Marshall. "Education and anti-immigration attitudes: Evidence from compulsory schooling reforms across Western Europe." *American Political Science Review* 113.1 (2019): 254-263.

Bureaucracy and governance

Doyle Jr, Joseph J. "Child protection and child outcomes: Measuring the effects of foster care." *American Economic Review* 97.5 (2007): 1583-1610.

Bhavnani, Rikhil R., and Alexander Lee. "Does affirmative action worsen bureaucratic performance? Evidence from the Indian administrative service." *American Journal of Political Science* 65.1 (2021): 5-20.

Environmental politics

Albert, Christoph, Paula Bustos, and Jacopo Ponticelli. *The effects of climate change on labor and capital reallocation*. No. w28995. National Bureau of Economic Research, 2021.

La Nauze, Andrea, and Edson Severnini. "Air pollution and adult cognition: evidence from brain training." *Journal of the Association of Environmental and Resource Economists* 12.1 (2025): 221-255.

State building and development

Sánchez De La Sierra, Raúl. "On the origins of the state: Stationary bandits and taxation in eastern congo." *Journal of Political Economy* 128.1 (2020): 000-000.

Abramson, Scott F. "The economic origins of the territorial state." *International Organization* 71.1 (2017): 97-130.

Session 9: Panel data 1 - Difference-in-differences

Learning Objective	In this week, we will learn how to analyze the causal effects of policy interventions that “turn on” at a certain point in time for some units but not for others. The discussion of “modern” difference-in-differences estimators motivates a more general discussion of how to choose “clean controls” appropriate to a specific substantive context.
Optional Readings	<p>de Chaisemartin, C. and X. D’Haultfœuille (2023). Difference-in-differences for simple and complex natural experiments. Available at SSRN. (Ch. 2 and 3)</p> <p>Elections and democratic politics</p> <p>Cavaillé, Charlotte, and Jeremy Ferwerda. "How distributional conflict over in-kind benefits generates support for far-right parties." <i>The Journal of Politics</i> 85.1 (2023): 19-33.</p> <p>Daniele, Gianmarco, and Gemma Dipoppa. "Mafia, elections and violence against politicians." <i>Journal of Public Economics</i> 154 (2017): 10-33.</p> <p>Authoritarian politics</p> <p>Cantoni, Davide, et al. "Curriculum and ideology." <i>Journal of political economy</i> 125.2 (2017): 338-392.</p> <p>Bandiera, Antonella, Horacio Larreguy, and Jorge Mangonnet. "Family ties, social control, and authoritarian distribution to elites." <i>American Political Science Review</i> (2025): 1-19.</p> <p>Naidu, Suresh, James A. Robinson, and Lauren E. Young. "Social origins of dictatorships: Elite networks and political transitions in Haiti." <i>American Political Science Review</i> 115.3 (2021): 900-916.</p> <p>German politics and history</p> <p>Hilbig, Hanno, Hans Lueders, and Sascha Riaz. "Do autocrats respond to citizen demands? Petitions and housing construction in the GDR." <i>Comparative Political Studies</i> (2024): 00104140251342919.</p> <p>or</p>

Lueders, Hans. "Electoral responsiveness in closed autocracies: Evidence from petitions in the former German Democratic Republic." *American Political Science Review* 116.3 (2022): 827-842.

Lueders, Hans. "A Little Lift in the Iron Curtain: Emigration Restrictions and Criminal Activity in Socialist East Germany." *Perspectives on Politics* (2025): 1-20.

Labor markets and inequality

Kleven, Henrik, Camille Landais, and Jakob Egholt Sjøgaard. "Children and gender inequality: Evidence from Denmark." *American Economic Journal: Applied Economics* 11.4 (2019): 181-209.

Dipoppa, Gemma. "When migrants mobilize against labor exploitation: Evidence from the Italian farmlands." *American Political Science Review* 119.3 (2025): 1479-1496.

Media and information control

Esberg, J. (2025). The repression of cultural elites: Evidence from Argentina's film industry. *The Journal of Politics*. Advance online publication. <https://doi.org/10.1086/739961>

Grossman, Guy, Yotam Margalit, and Tamar Mitts. "How the ultrarich use media ownership as a political investment." *The Journal of Politics* 84.4 (2022): 1913-1931.

Crime and policing

Dube, Arindrajit, Oeindrila Dube, and Omar García-Ponce. "Cross-border spillover: US gun laws and violence in Mexico." *American Political Science Review* 107.3 (2013): 397-417.

Immigration

Vasiliki Fouka, Backlash: The Unintended Effects of Language Prohibition in U.S. Schools after World War I, *The Review of Economic Studies*, Volume 87, Issue 1, January 2020, Pages 204–239, <https://doi.org/10.1093/restud/rdz024>

Bureaucracy and governance

	<p>Garfias, F. (2019). Elite coalitions, limited government, and fiscal capacity development: Evidence from Bourbon Mexico. <i>The Journal of Politics</i>, 81(1), 94–111.</p> <p>Lee, Alexander. "Does affirmative action work? Evaluating India's quota system." <i>Comparative Political Studies</i> 54.9 (2021): 1534-1564.</p> <p>Environmental politics</p> <p>Viard, V. Brian, and Shihe Fu. "The effect of Beijing's driving restrictions on pollution and economic activity." <i>Journal of Public Economics</i> 125 (2015): 98-115.</p> <p>Dasgupta, Aditya, and Elena Ramirez. "Explaining rural conservatism: Political consequences of technological change in the Great Plains." <i>American Political Science Review</i> 119.1 (2025): 277-299.</p>
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Session 10: Panel data 2 - Synthetic control	
Learning Objective	In this week, we study synthetic control methods for identifying the effects of policy interventions—including those that are implemented for a single unit. We contrast synthetic control with difference-in-differences to consider how distinct sources of randomness in our design motivate our choice of method in the context of panel data.
Optional Readings	<p>A good overview: Abadie, A. (2021). Using synthetic controls: Feasibility, data requirements, and methodological aspects. <i>Journal of Economic Literature</i>, 59(2), 391–425.</p> <p>Applications:</p> <p>Mitze, Timo, et al. "Face masks considerably reduce COVID-19 cases in Germany." <i>Proceedings of the National Academy of Sciences</i> 117.51 (2020): 32293-32301.</p> <p>Contrast this with DiD: Shen, Dennis, et al. "Same Root Different Leaves: Time Series and</p>

	<p>Cross-Sectional Methods in Panel Data." <i>Econometrica</i> 91.6 (2023): 2125-2154.</p> <p>Ben-Michael, Eli, et al. "Statistical methods to estimate the impact of gun policy on gun violence." <i>arXiv preprint arXiv:2404.11506</i> (2024).</p>
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Session 11: Mediation, of the Statistical Kind	
Learning Objective	When policy effects can be realised according to several mechanisms at the same time how important is each route? What happens if one offset the effects of the other? Answering these questions is the task of mediation analysis, beloved of psychologists and communication scholars and, we shall see, rather more difficult than they hoped.
Required readings	Nguyen, Schmid, and Stuart. 2019. "Clarifying causal mediation analysis for the applied researcher: Defining effects based on what we want to learn." <i>arXiv:1904.08515</i> .
Optional Readings	<p>Some alternatives. Pick one:</p> <p>Keele, Luke. "Causal mediation analysis: Warning! Assumptions ahead," 2015. 36 (4).</p> <p>Green, Donald P., Shang E. Ha, and John G. Bullock. "Enough already about 'black box' experiments: Studying mediation is more difficult than most scholars suppose," 2010. 628 (1).</p> <p>Bullock, John G., Donald P. Green, and Shang E. Ha. "Yes, but what's the mechanism? (Don't expect an easy answer)," 2010. 98 (4).</p> <p>Imai, Kosuke, Luke Keele, and Dustin Tingley. "A general approach to causal mediation analysis." 2010. 15 (4)http://doi.apa.org/getdoi.cfm?doi=10.1037/a0020761.</p> <p>Acharya, Avidit, Matthew Blackwell, and Maya Sen. "Explaining causal findings without bias: Detecting and assessing direct effects," 2016. 110 (03).</p>

	<p>Applications:</p> <p>Kayser, Mark A., and Michael Peress. "Do Voters Respond to the Economy or to News Reporting on the Economy? A Mediation Analysis." <i>The Journal of Politics</i> 88.1 (2026): 267-281.</p> <p>Renshon, Jonathan, Julia J. Lee, and Dustin Tingley. "Emotions and the micro-foundations of commitment problems." <i>International Organization</i> 71.S1 (2017): S189-S218.</p> <p>Abramson, Scott, and Sergio Montero. "The Effect of Local News on Political Knowledge." <i>Available at SSRN 4380889</i> (2024).</p>
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Session 12: Application: policing	
Learning Objective	This week we take an in-depth look at the question of whether and if so, to what extent, US police are biased against minorities in their use of force. We will base the session around a recent paper on the topic in the light of its precursors and subsequent controversy. This issue will encompass many of the causal inference issues dealt with in the course, and provides an important policy-relevant example of multiple causal inference tools at work
Optional Readings	<p>Knox, Dean, Will Lowe, and Jonathan Mummolo. "Administrative records mask racially biased policing," 2020. 114 (3).</p> <p>Humphreys blog post</p>
More Optional Readings	<p>Gaebler et al. Deconstructing Claims of Post-Treatment Bias in Observational Studies of Discrimination MS</p> <p>Knox et al. Can Racial Bias in Policing Be Credibly Estimated Using Data Contaminated by Post-Treatment Selection? MS</p>