

Causal Inference for IR and IPE with Substantive Applications

(PLSC 683)

Spring 2024

Instructor: Carlos Felipe Balcázar

Time and location: Monday 9:25am - 11:15am - RKZ 301 - Rosenkranz Hall 301

Office hours: Thursdays: 10:00am - 11:30am; 3:00pm - 4:30pm, at Rosenkranz Hall 248

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Course Description:

Causal inference is of importance to rigorously test theoretical hypotheses in International Political Economy (IPE) and International Relations (IR). However collecting data, measuring concepts, estimating causal effects and performing correct statistical inference is challenging in these fields: Problems such as small sample sizes, missing data, self-selection, omitted variable bias, spatial correlation, interference, measurement error, among other, plague the field, which can lead to incorrect or misleading conclusions from empirical analysis.

The objective of this course is to help students understanding the aforementioned challenges in the study of substantive topics in IR and IPE, and to instruct them in the design of commensurable research. To this end, we will review various papers on IPE and IR that make an exemplary use of the various tools of causal inference with strong theoretical foundations. We will also get acquainted with the state-of-the-art tools for research design and for estimating causal effects, interaction effects, and their standard errors, with the objective of understanding various alternatives for addressing measurement and inference issues in key areas of study in IR and IPE.

Course Format

This is an in-person seminar class. Remote participation via Zoom will be allowed only under exceptional circumstances, provided evidence for these circumstances. Zoom sessions will NOT be recorded. The course will be both a combination of a masterclass with discussions during the first half, followed by an open debate during the second half.

Course Requirements

- Quantitative Methods I and II for PhD students (PLSC 500 and PLSC 503), or their equivalent (e.g., PhD-level introductory econometrics and causal inference).
- Having taken the graduate introductory class in IPE (PLSC 698)—or its equivalent in International Economics—is required.
- Grading is as follows:
 1. **Attendance and participation (20%):** I expect you to attend class each week prepared to contribute to the seminar. The minimum I expect from you is to read all mandatory readings.
 2. **Presentations (30%):** You will serve as a discussant 2 times over the course of the semester. This will involve making slides and giving a 10-minute presentation (total) for two papers of those assigned. For these presentations, especial attention needs to be paid to problems of inference and commensurability.
 3. **Term assignment (50%):** 1. A full length journal article (25 pages max.), 2. A shorter article in the style of a letter or research note (5-10 pages). Your final project will depend on the stage of your research and what would be most useful for you. The assignment is due right after the End-of-Semester discussion.
- Grading and late assignments will be dealt following the College's rules. You can find a copy of them [here](#) and [here](#), respectively.

Readings

There is no textbook for this class. Required readings are expected to be completed before class. Students should make an effort to understand the research design and method that the paper

is using to prove its theoretical claim. Students are also encouraged to dig into the replication materials of the papers if the replication material is available, and the formal model in the paper if the paper has one.

The following technical textbooks are recommended for reference throughout the course and beyond:

Angrist, J. D. and Pischke, J.-S. (2009). *Mostly harmless econometrics: An empiricist's companion*. Princeton university press.

Imbens, G. W. and Rubin, D. B. (2015). *Causal inference in statistics, social, and biomedical sciences*. Cambridge University Press.

Aronow, P. M. and Miller, B. T. (2019). *Foundations of agnostic statistics*. Cambridge University Press.

King, G., Keohane, R. O., and Verba, S. (2021). *Designing social inquiry: Scientific inference in qualitative research*. Princeton university press.

Ashworth, S., Berry, C. R., and de Mesquita, E. B. (2021). *Theory and Credibility: Integrating Theoretical and Empirical Social Science*. Princeton University Press.

Huddleston, R. J., Jamieson, T., and James, P. (2022). *Handbook of research methods in international relations*. Edward Elgar Publishing.

Academic Integrity

Plagiarism and cheating will be severely penalized – this includes using Generative Pre-trained Transformers such as chatGPT. Students should be familiar with the University's policies on academic integrity and disciplinary action, which you can find [here](#). Citations strengthen your work, as you can show that your argument is supported by area experts. You can find Yale Poorvu's guide on when and how to cite [here](#). The instructor is happy to address any questions in that regard.

Diversity, Equity, Inclusion, & Accessibility

I am committed to making this course a safe and open learning environment for all students,

regardless of background, race, ethnicity, country of origin, gender identity, sexual orientation, abilities, or religion. Students are expected to treat each other with respect at all times, and should expect the same from me. If you believe this obligation has not been fulfilled, I encourage you to bring your concerns to me, to the Department Chair or Director of Graduate Studies, or to the Department of Politics Climate Committee. In addition, all students have the right to take any complaints directly to Yale's [Office of Diversity and Inclusion](#), [Belonging at Yale Initiative](#) and the [Office of Institutional Equity & Accessibility](#).

Students requesting academic accommodations are advised to reach out to Yale's Accessibility Resources as early as possible in the semester for assistance. More information can be found [here](#) and [here](#).

I. Challenges for empirical work in IR and IPE

Week 1. Generating theory-based testable hypotheses

Acemoglu, D. (2010). Theory, general equilibrium, and political economy in development economics. *Journal of Economic Perspectives*, 24(3):17–32.

Mearsheimer, J. J. and Walt, S. M. (2013). Leaving theory behind: Why simplistic hypothesis testing is bad for international relations. *European Journal of International Relations*, 19(3):427–457.

Lorentzen, P., Fravel, M. T., and Paine, J. (2017). Qualitative investigation of theoretical models: the value of process tracing. *Journal of Theoretical Politics*, 29(3):467–491.

Ashworth, S., Berry, C. R., and de Mesquita, E. B. (2021). *Theory and Credibility: Integrating Theoretical and Empirical Social Science*. Princeton University Press. Chapters 1 to 5.

King, G., Keohane, R. O., and Verba, S. (2021). *Designing social inquiry: Scientific inference in qualitative research*. Princeton university press. Chapter 1.

Optional readings:

Brady, H. E. and Collier, D. (2010). *Rethinking social inquiry: Diverse tools, shared standards*. Rowman & Littlefield Publishers. Chapters 2 and 7.

Gordon, S. C. and Simpson, H. K. (2020). Causes, theories, and the past in political science. *Public choice*, 185(3-4):315–333.

Ashworth, S., Berry, C. R., and de Mesquita, E. B. (2021). *Theory and Credibility: Integrating Theoretical and Empirical Social Science*. Princeton University Press. Sections 6.2, 7.4 and 9.2.

Findley, M. G., Kikuta, K., and Denly, M. (2021). External validity. *Annual Review of Political Science*, 24:365–393.

Week 2. Common shortcomings in empirical work

Aronow, P. M. and Samii, C. (2016). Does regression produce representative estimates of causal effects? *American Journal of Political Science*, 60(1):250–267.

Carlson, J., Incerti, T., and Aronow, P. (2023). Dyadic clustering in international relations. *Political Analysis*. doi:10.1017/pan.2023.26.

Balcazar, C. F. and Malis, M. (2021). *Handbook of Research Methods in International Relations*, chapter Think locally, regress globally: Promises and Pitfalls of Conventional IR Data. Edward Elgar.

Abadie, A., Athey, S., Imbens, G. W., and Wooldridge, J. M. (2023). When should you adjust standard errors for clustering? *The Quarterly Journal of Economics*, 138(1):1–35.

Optional readings:

Colin Cameron, A., Gelbach, J. B., and Miller, D. L. (2008). Bootstrap-based improvements for inference with clustered errors. *Review of Economics and Statistics*, 90(3):414–427.

Aronow, P. M., Samii, C., and Assenova, V. A. (2015). Cluster-robust variance estimation for dyadic data. *Political Analysis*, pages 564–577.

Adao, R., Kolesár, M., and Morales, E. (2019). Shift-share designs: Theory and inference. *The Quarterly Journal of Economics*, 134(4):1949–2010.

Abadie, A., Athey, S., Imbens, G. W., and Wooldridge, J. M. (2020). Sampling-Based versus Design-Based Uncertainty in Regression Analysis. *Econometrica*, 88(1):265–296.

II. International change and politics

Week 3. International trade, conflict and democratization

Silva, J. S. and Tenreyro, S. (2006). The log of gravity. *The Review of Economics and statistics*, 88(4):641–658.

Ahlquist, J. S. and Wibbels, E. (2012). Riding the wave: World trade and factor-based models of democratization. *American Journal of Political Science*, 56(2):447–464.

Gallea, Q. and Rohner, D. (2021). Globalization mitigates the risk of conflict caused by strategic territory. *Proceedings of the National Academy of Sciences*, 118(39):e2105624118.

Bellégo, C., Benatia, D., and Pape, L. (2022). Dealing with logs and zeros in regression models. *arXiv preprint arXiv:2203.11820*.

Balcazar, C. F. and Ch, R. (2023). Tariff revenues matter for democratization: Theory and evidence from the first wave of globalization. *Available at SSRN 4206979*.

Optional readings:

Milner, H. V. and Mukherjee, B. (2009). Democratization and economic globalization. *Annual Review of Political Science*, 12:163–181.

Bellemare, M. F. and Wichman, C. J. (2020). Elasticities and the inverse hyperbolic sine transformation. *Oxford Bulletin of Economics and Statistics*, 82(1):50–61.

Mansfield, E. D. (2021). *The Oxford Handbook of International Political Economy*, chapter International Trade and Conflict. Oxford University Press.

Chen, J. and Roth, J. (2023). Logs with zeros? some problems and solutions. *The Quarterly Journal of Economics*.

Week 4. Interdependence in International Politics

Acemoglu, D., Akcigit, U., and Kerr, W. (2016). Networks and the macroeconomy: An empirical exploration. *Nber macroeconomics annual*, 30(1):273–335.

Kelly, M. (2019). The standard errors of persistence. *CEPR Discussion Paper No. DP13783*.

Mahdavi, P., Schneider, C. J., and Tobin, J. L. (2020). Coordinated financial crisis resolution. USCB Mimeo.

Wang, Y., Samii, C., Chang, H., and Aronow, P. (2020). Design-based inference for spatial experiments with interference. *arXiv preprint arXiv:2010.13599*.

Optional readings:

Malesky, E. J. and Mosley, L. (2018). Chains of love? global production and the firm-level diffusion of labor standards. *American Journal of Political Science*, 62(3):712–728.

Strezhnev, A., Kelley, J. G., and Simmons, B. A. (2021). Testing for negative spillovers: Is promoting human rights really part of the “problem”? *International Organization*, 75(1):71–102.

Wang, Y. (2021). Causal inference under temporal and spatial interference. *arXiv preprint arXiv:2106.15074*.

Barkema, J., Mircheva, B., Mrkaic, M. M., and Yang, Y. (2021). *License to Spill: How Do We Discuss Spillovers in Article IV Staff Reports*. International Monetary Fund.

Week 5. Climate change and political mobilization

Hainmueller, J., Mummolo, J., and Xu, Y. (2019). How Much Should We Trust Estimates from Multiplicative Interaction Models? Simple Tools to Improve Empirical Practice. *Political Analysis*, 27(2):163–192.

De Chaisemartin, C. and d’Haultfoeuille, X. (2020). Two-way fixed effects estimators with heterogeneous treatment effects. *American Economic Review*, 110(9):2964–96.

Balcazar, C. F. and Kennard, A. (2023). Climate change and political mobilization: Theory and evidence from india. *Available at SSRN 4206967*.

Fu, J. and Slough, T. (2023). Heterogeneous treatment effects and causal mechanisms. *Mimeo New York University*.

Optional readings:

Cattaneo, M. D., Crump, R. K., Farrell, M. H., and Feng, Y. (2023a). On binscatter. *Federal Reserve Bank of New York Staff Reports*, no. 881.

Callaway, B. and Sant’Anna, P. H. (2021). Difference-in-Differences with multiple time periods. *Journal of Econometrics*, 225(2):200–230.

Sun, L. and Abraham, S. (2021). Estimating dynamic treatment effects in event studies with heterogeneous treatment effects. *Journal of Econometrics*, 225(2):175–199.

Słoczyński, T. (2022). Interpreting ols estimands when treatment effects are heterogeneous: Smaller groups get larger weights. *Review of Economics and Statistics*, 104(3):501–509.

Valentim, A. (2023). Repeated exposure and protest outcomes: How fridays for future protests influenced voters. *Mimeo, Yale university*.

III. International competition and the backlash against globalization

Week 6. Understanding observed impacts

Jaeger, D. A., Ruist, J., and Stuhler, J. (2018). Shift-share instruments and the impact of immigration. Technical report, National Bureau of Economic Research.

Autor, D., Dorn, D., Hanson, G., and Majlesi, K. (2020). Importing political polarization? the electoral consequences of rising trade exposure. *American Economic Review*, 110(10):3139–3183.

Borusyak, K., Hull, P., and Jaravel, X. (2022). Quasi-experimental shift-share research designs. *The Review of Economic Studies*, 89(1):181–213.

Balcazar, C. F. (2023). Globalization, unions and robots: The effects of automation on the power of labor and policymaking. *Mimeo Yale University*.

Optional readings:

Autor, D. H., Dorn, D., and Hanson, G. H. (2016). The china shock: Learning from labor-market adjustment to large changes in trade. *Annual Review of Economics*, 8:205–240.

Goldsmith-Pinkham, P., Sorkin, I., and Swift, H. (2020). Bartik instruments: What, when, why, and how. *American Economic Review*, 110(8):2586–2624.

Fouka, V. and Tabellini, M. (2022). Changing in-group boundaries: The effect of immigration on race relations in the united states. *American Political Science Review*, 116(3):968–984.

de Chaisemartin, C. and Lei, Z. (2023). More robust estimators for instrumental-variable panel designs, with an application to the effect of imports from china on us employment. *Mimeo Sciences Po University*.

wang, Y. (2023). Understanding shift-share designs from the perspective of interference. *Mimeo University of North Carolina at Chapel Hill*.

Week 7. Understanding changes in political preferences

Olken, B. A. (2015). Promises and perils of pre-analysis plans. *Journal of Economic Perspectives*, 29(3):61–80.

Solon, G., Haider, S. J., and Wooldridge, J. M. (2015). What are we weighting for? *Journal of Human resources*, 50(2):301–316.

Abramson, S. F., Koçak, K., and Magazinnik, A. (2022). What do we learn about voter preferences from conjoint experiments? *American Journal of Political Science*, 66(4):1008–1020.

Stantcheva, S. (2022b). Understanding of trade. Technical report, National Bureau of Economic Research.

Chaudoin, S. and Mangini, M.-D. (2022). Robots, foreigners, and foreign robots: Policy responses to automation and trade. Mimeo, Harvard University.

Optional readings:

Bansak, K., Hainmueller, J., Hopkins, D. J., Yamamoto, T., Druckman, J. N., and Green, D. P. (2021). Conjoint survey experiments. *Advances in experimental political science*, 19:19–41.

Brutger, R. and Rathbun, B. (2021). Fair share? equality and equity in american attitudes toward trade. *International Organization*, 75(3):880–900.

Stantcheva, S. (2022a). How to Run Surveys: A Guide to Creating Your Own Identifying Variation and Revealing the Invisible. *SSRN Electronic Journal*.

Haaland, I., Roth, C., and Wohlfart, J. (2023). Designing information provision experiments. *Journal of economic literature*, 61(1):3–40.

IV. Transparency, International shocks and violence

Week 8. Transparency and international cooperation

Lee, D. S. (2009). Training, wages, and sample selection: Estimating sharp bounds on treatment effects. *The Review of Economic Studies*.

Kelley, J. G. and Simmons, B. A. (2015). Politics by number: Indicators as social pressure in international relations. *American journal of political science*, 59(1):55–70.

Martinez, L. R. (2022). How much should we trust the dictator’s gdp growth estimates? *Journal of Political Economy*, 130(10):2731–2769.

Balcazar, C. F. and Rosendorff, P. (2024). The perils of post-treatment measurement error and self-selection in tscs. *Mimeo Yale University*.

Optional readings:

Manski, C. F. (1990). Nonparametric bounds on treatment effects. *The American Economic Review*, 80(2):319–323.

Arel-Bundock, V. and Pelc, K. J. (2018). When can multiple imputation improve regression estimates? *Political Analysis*, 26(2):240–245.

Pepinsky, T. B. (2018). A note on listwise deletion versus multiple imputation. *Political Analysis*, 26(4):480–488.

Hollyer, J. R., Rosendorff, B. P., and Vreeland, J. R. (2018). *Transparency, democracy, and autocracy: Economic transparency and political (in) stability*. Cambridge University Press. Chapters 8 to 10.

Montgomery, J. M., Nyhan, B., and Torres, M. (2018). How conditioning on posttreatment variables can ruin your experiment and what to do about it. *American Journal of Political Science*, 62(3):760–775.

Week 9. Natural resources, conflict and authoritarianism

Caselli, F. and Tesei, A. (2016). Resource windfalls, political regimes, and political stability. *Review of Economics and Statistics*, 98(3):573–590.

Boese, V. A. (2019). How (not) to measure democracy. *International Area Studies Review*, 22(2):95–127.

Gibler, D. M., Miller, S. V., and Little, E. K. (2020). The importance of correct measurement: A response to palmer, et al. *International Studies Quarterly*, 64(2):476–479.

Little, A. and Meng, A. (2023). Subjective and objective measurement of democratic backsliding. *Available at SSRN 4327307*.

Optional readings:

Dube, O. and Vargas, J. F. (2013). Commodity price shocks and civil conflict: Evidence from colombia. *The review of economic studies*, 80(4):1384–1421.

Gibler, D. M., Miller, S. V., and Little, E. K. (2016). An analysis of the militarized interstate dispute (mid) dataset, 1816–2001. *International Studies Quarterly*, 60(4):719–730.

Blackwell, M. and Glynn, A. N. (2018). How to Make Causal Inferences with Time-Series Cross-Sectional Data under Selection on Observables. *American Political Science Review*, 112(4):1036–1049.

Palmer, G., D’Orazio, V., Kenwick, M. R., and McManus, R. W. (2020). Updating the militarized interstate dispute data: A response to gibler, miller, and little. *International Studies Quarterly*, 64(2):469–475.

Week 10. Intervention, violence, and domestic and international responses

Crost, B., Felter, J., and Johnston, P. (2014). Aid under fire: Development projects and civil conflict. *American Economic Review*, 104(6):1833–1856.

Dell, M. and Querubin, P. (2018). Nation building through foreign intervention: Evidence from discontinuities in military strategies. *The Quarterly Journal of Economics*, 133(2):701–764.

Muñoz, J., Falcó-Gimeno, A., and Hernández, E. (2020). Unexpected event during survey design: Promise and pitfalls for causal inference. *Political Analysis*, 28(2):186–206.

Van Hauwaert, S. M. and Huber, R. A. (2020). In-group solidarity or out-group hostility in response to terrorism in france? evidence from a regression discontinuity design. *European Journal of Political Research*, 59(4):936–953.

Nomikos, W. G., Sener, I., and Williams, R. (2021). Does un peacekeeping protect civilians? evidence from the border between burkina faso and mali. *Mimeo University of California, Santa Barbara*.

Optional readings:

Hausman, C. and Rapson, D. S. (2018). Regression discontinuity in time: Considerations for empirical applications. *Annual Review of Resource Economics*, 10:533–552.

Durante, R. and Zhuravskaya, E. (2018). Attack when the world is not watching? us news and the israeli-palestinian conflict. *Journal of Political Economy*, 126(3):1085–1133.

Cattaneo, M. D., Idrobo, N., and Titiunik, R. (2019). *A practical introduction to regression discontinuity designs: Foundations*. Cambridge University Press. Chapters 1 to 5.

Clark, A. E., Doyle, O., and Stancanelli, E. (2020). The impact of terrorism on individual well-being: Evidence from the boston marathon bombing. *The Economic Journal*, 130(631):2065–2104.

Cattaneo, M. D., Idrobo, N., and Titiunik, R. (2023b). A practical introduction to regression discontinuity designs: Extensions. *arXiv preprint arXiv:2301.08958*. Chapters 1 to 4.

V. Leaders and bureaucrats

Week 11. Leaders and bureaucrats in international politics

Imbens, G. W. (2003). Sensitivity to exogeneity assumptions in program evaluation. *American Economic Review*, 93(2):126–132.

Conley, T. G., Hansen, C. B., and Rossi, P. E. (2012). Plausibly exogenous. *Review of Economics and Statistics*, 94(1):260–272.

Dube, O. and Harish, S. (2020). Queens. *Journal of Political Economy*, 128(7):2579–2652.

Malis, M. (2021). Conflict, cooperation, and delegated diplomacy. *International Organization*, 75(4):1018–1057.

Lee, D. S., McCrary, J., Moreira, M. J., and Porter, J. (2022). Valid t-ratio inference for iv. *American Economic Review*, 112(10):3260–3290.

Optional readings:

Heckman, J. J. and Urzúa, S. (2010). Comparing IV with structural models: What simple IV can and cannot identify. *Journal of Econometrics*, 156(1):27–37.

Deaton, A. (2010). Learning about Development. *Journal of Economic Literature*, 48(June):424–455.

Imbens, G. W. (2010). Better LATE than nothing: Some comments on Deaton (2009) and Heckman and Urzua (2009). *Journal of Economic Literature*, 48(2):399–423.

Andrews, I., Stock, J. H., and Sun, L. (2019). Weak instruments in instrumental variables regression: Theory and practice. *Annual Review of Economics*, 11:727–753.

Kennard, A. and Stanescu, D. (2023). Do international bureaucrats matter? evidence from the international monetary fund. *Mimeo Stanford University*.

III. End of semester discussion

Week 12. End-of-semester Conference

PhD students will circulate the preliminary drafts of their term papers the week before. All students will read the term papers in advance, and come prepared to give comments during their peers' presentations.