

Political Economy with R - An Integrated, Hands-on Introduction (SOT86134)

Technical University of Munich

Term: Summer 2026
Credits: 3 ECTS
Time: Thursday, 15:00-17:15
Room: H.103

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Office Hours: by appointment/after class

Course Description

This course offers an integrated and hands-on introduction to political economy and R — no prior knowledge of either is required. Political economy is a subfield of political science that studies economic processes along the lines of distributional conflict, contested rule-making, and the power of interests and ideas. R is a free and open-source programming language for statistical computing and graphics. The point behind teaching both in one module is to allow students to get the best of both worlds. On the one hand, they will get a good sense for how to actually do political economy research: how to get data, how to bring them into the right shape, how to visualize them, and how to analyze them in basic ways. On the other hand, students will get a practical but also substantively interesting introduction to R. After basic introductions to both political economy and R, the module covers two substantive blocs: the political economy of climate change and the political economy of economic security, geopolitics, and industrial policy. In each bloc, students will read political economy scholarship and learn how to work with related data in R. The goal is not full replication of existing studies, but learning how to get, transform, and visualize political economy data to address substantively important questions.

Learning Outcomes

The course aims to equip students with basic knowledge of political economy and R. Upon successful completion of the course, students will be able to:

- Describe and summarize key arguments and debates in political economy, with a focus on climate change and economic security.
- Understand basic concepts of data science and their implementation in the R tidyverse.

- Critically assess theoretical arguments from the substantive areas covered in the course and apply them to real-world problems.
- Apply insights from political economy and basic knowledge of R to identify and visualize empirical puzzles.

Requirements

In line with the module, the examination consists of practical credit requirements (Übungsleistung), combining in-class tests and a data visualization assignment. The in-class tests will count for 60% of students' grade, and the data visualization assignment for 40%. The in-class tests consist of 8 short multiple-choice tests administered throughout the semester, designed to assess students' understanding of key R concepts and operations (e.g., data transformation, visualization, tidyverse functions). Students must complete at least 4 tests; if more than 4 are completed, the 4 highest-graded tests will count toward the final grade. With these tests, students demonstrate their grasp of the practical skills covered in the course. The data visualization assignment requires students to work with one or more provided datasets to identify an empirical puzzle in political economy and to present it through 2-3 compelling visualizations accompanied by a brief written interpretation (1500-2000 words). Students are expected to describe the puzzle, explain why it is substantively interesting, and sketch how a political economy framework might help explain it. With this assignment, students demonstrate their ability to connect data skills with substantive political economy thinking and to communicate empirical findings clearly and effectively.

Prerequisites

Students need no prior knowledge to successfully complete the seminar, although basic knowledge of R is useful.

Course Policy

Basically, don't cheat and try to learn stuff. I'd also would—genuinely—appreciate if you regularly attend class in person, I promise I'll do my best to make it worth your while. For some more details, see below.

Feedback Policy

I want to give you as much feedback as you want—but I also don't want to waste my time writing more detailed feedback if you don't even care. So while by default you will only receive your grade, you can easily request written feedback by simply writing on your assignment or telling me directly that you would like to receive written feedback (e.g., 'I want to receive written feedback on this paper.').

E-mail Policy

You can always email me if you have an idea for an assignment, if you want to learn more about a certain topic and don't know where to start, or if you have a question that you really don't want to ask in class. Please don't email me with questions that you could easily find the answer to in the syllabus or in my previous emails. I might take it badly. Two more things that make my life easier: First, please make sure to mention the course title in the subject line of your email. Second, please reply to previous email conversations with me instead of starting a new email, especially if it's about the same topic.

A.I. Policy

I encourage you to use large language models like *ChatGPT* to improve, speed up, or challenge your writing (be that of text or code)—I regularly do so myself. However, not only do I expect you do make this use very (!) transparent.¹ I also want you to reflect on three things: First, current large language models are not very useful if it's really important to get things right. If you see yourself working in an area where this matters, you will have to learn how to get things right. Second, current large language models are much more useful if you actually know what you're doing—much like a cheat code in a video game is much more useful to someone who is actually good at the game. So if you want to be augmented instead of replaced by large language models, keep learning stuff. Lastly, by routinely relying on AI shortcuts you relinquish, as English professor Thomas Pfau puts it, 'the experience of intellectual achievement and growth, which can only ever be the fruit of *sustained* personal effort'. Your time at university will become 'a relentless series of logistical challenges', rather than 'a process of learning and intellectual and personal growth'. So think very clearly about what you are giving up—and risking—when trying to save some time.

Grading Policy

In principle, all assigned tasks must receive a passing grade in order to pass the module. In exceptional cases, deviations from this rule may be considered, but any such decisions will be made on a case-by-case basis at the instructor's discretion. However, in exceptional circumstances, alternative assignments may be permitted as a substitute. Your final grade will be a weighted average of the above-described assignments.

In general terms, what is important to me when it comes to grading are two things. First, stick to the task at hand and look at the syllabus to see what is actually expected from you; and second, put a bit of effort into it. Try to write something that you yourself would like to read. Be concise and clear, or at least make it clear when you found something unclear. You don't need to understand everything, have read a ton of additional literature, or write in a fancy way to get a very good grade. Just stick to the task and try to make sense.

¹For example, you used an LLM to help you rephrase a certain paragraph, add a footnote saying something like 'I used GPT-4o to help me improve the phrasing of this paragraph.' If you use an LLM to brainstorm or come up with potential criticisms of your main argument, add a footnote at the start of the paper where you briefly explain how you used this criticism to improve your paper.

Below you can find more detailed grading criteria, which apply, with varying degrees of emphasis, to most types of assessments. These criteria comprise: Strength and Originality of Argument, Theoretical Framework and Literature Engagement, Methodology and Empirical Evidence, Topicality and Academic or Practical Relevance, Structure and Organization, Clarity and Quality of Communication, Citation and Academic Integrity. In addition, I put some general advice on writing (a good term or response paper) on my website, which you can find [here](#).

Very Good (1,0—1,3):

- *The argument is exceptionally clear, compelling, and thoroughly grounded in critical thinking, showcasing a high degree of originality. It demonstrates a sophisticated understanding of the topic, integrating novel insights or approaches with persuasive and well-substantiated reasoning.*
- *Demonstrates an exceptional understanding and engagement with the theoretical framework and relevant literature. The research is characterized by extensive depth and breadth, critically engaging with a wide range of sources to offer new insights or interpretations. It reflects a sophisticated integration of theory with the research topic.*
- *The methodology is excellently chosen, well-executed, and thoroughly justified, with empirical evidence used effectively to support the argument. Evidence is highly relevant, accurately interpreted, and integrated seamlessly into the research, enhancing the strength and credibility of the findings.*
- *The research is exceptionally topical, engaging deeply with current questions or themes within the field. It demonstrates a high degree of academic relevance, providing insightful analysis that could inform theoretical frameworks, discussions, or future research. The paper offers thoughtful reflections on potential practical insights or implications, highlighting its broader significance.*
- *Excellently structured. Outstanding organization and clarity.*
- *Exceptional communication. Written or oral expression is clear, fluent, elegant, and highly engaging. Ideas are articulated effectively and concisely, facilitating a deep understanding.*
- *Perfect or near-perfect adherence to citation guidelines and excellent, visually appealing formatting. High academic integrity.*

Good (1,7—2,3):

- *The argument is strong and well-founded, displaying a good level of original thinking and critical engagement with the subject matter. It presents a coherent and convincing case, supported by evidence, with some innovative perspectives or methods.*
- *Shows a thorough understanding of the theoretical framework with a good engagement with pertinent literature. The research covers a broad spectrum of sources, providing a solid grounding in the field and contributing to the topic with some new perspectives or critical reflections.*
- *The methodology is mostly appropriate and well-executed, with good use of empirical evidence that supports the main argument. While mostly relevant and well-integrated, there may be minor issues in execution or interpretation that do not significantly detract from the overall strength of the research.*
- *Shows strong topicality and relevance, connecting well with contemporary scholarly debates or issues. It makes a notable academic contribution, with implications that suggest possible avenues for further investigation, theoretical development, or practical considerations in a more general sense. Practical insights are offered in a way that enriches the academic discourse.*

- *Well-structured. Good organization that supports the content.*
- *Good communication. Mostly clear and engaging, with minimal errors or distractions. Ideas are effectively conveyed, and the overall expression supports comprehension.*
- *Only cosmetic mistakes in citation or formatting. Generally adheres to academic standards.*

Satisfactory (2.7—3.3):

- *The work shows an adequate argument that is reasonably clear and supported, featuring some degree of originality. The argument has merit and is founded on appropriate reasoning, though it may occasionally lack depth or fail to fully persuade.*
- *Provides an adequate review of the theoretical framework and engages reasonably with relevant literature. The research demonstrates a sufficient depth and breadth, identifying key theories and sources, though it may lack in offering substantial new insights or critical analysis.*
- *The methodology is adequate, with some issues in choice or execution. Empirical evidence is used, with some relevance and support for the argument, but the integration and interpretation of data could be improved to strengthen the research outcomes.*
- *Adequately addresses current topics and demonstrates relevance to ongoing academic conversations. It offers some practical insights, presenting a grounded perspective on how the findings might be applied or considered in broader contexts. The paper contributes to academic understanding, albeit with more limited scope or depth.*
- *Adequately structured. Generally clear with some organizational issues.*
- *Adequate communication. Generally clear, though minor errors or awkwardness occasionally distract or impede immediate understanding. Ideas are communicated sufficiently but could benefit from improved presentation.*
- *Some smaller issues with citation or formatting, but generally correct.*

Sufficient (3.7—4.0):

- *There is an attempt at arguing a thesis, but the argument often lacks clarity, depth, and convincing evidence. Originality is limited, with the work showing minimal innovation in thought or approach. The argument is weak and not particularly persuasive.*
- *Exhibits a basic understanding of the theoretical framework with a limited engagement with relevant literature. The research scope is somewhat narrow, with gaps in the depth and breadth of literature reviewed, offering minimal new interpretations or critical engagement with existing theories.*
- *The methodology shows a basic level of appropriateness and execution, but lacks in thoroughness or precision. Empirical evidence is present but limited or flawed, with issues in relevance or integration that weaken the argument and research findings.*
- *Exhibits basic engagement with topical issues, with some relevance to the academic field. It hints at practical insights or implications, though these are not fully developed or are only tangentially addressed. The work provides a modest contribution, with potential areas for further exploration identified but not deeply explored.*
- *Acceptably structured. Some effort at organization but lacks clarity.*

- *Acceptable communication. Understandable overall, but frequently awkward, unclear, or disorganized. Errors or unclear expression frequently interrupt or complicate comprehension.*
- *Acceptable adherence but with some sloppiness or minor errors.*

Insufficient/Fail (4,3—5,0):

- *The argument is poorly structured, unclear, or largely absent, with no evidence of original thinking or critical engagement. It fails to make a convincing case, lacking both in strength and in the presentation of any novel insights or perspectives.*
- *Shows poor understanding and engagement with the theoretical framework and literature. The research is significantly lacking in depth and breadth, with little to no critical engagement with relevant sources or theories, failing to adequately support or contextualize the research topic.*
- *The methodology is poor or inappropriate, with significant flaws in execution. Empirical evidence is poorly used, irrelevant, or largely absent, offering little to no support for the argument or findings. This level reflects a fundamental misunderstanding or neglect of sound research practices.*
- *Lacks significant topicality or relevance, with minimal engagement with current academic or practical concerns. The paper offers little in the way of practical insights, failing to connect findings to broader discussions, potential applications, or theoretical implications.*
- *Poorly structured. Disorganized and difficult to follow.*
- *Poor communication. Frequent errors, unclear wording, disorganization, or a lack of coherence make understanding difficult.*
- *Poor adherence to citation and formatting. Major errors or ethical issues.*

Course Outline

Part I: General Introduction

Week 1, Apr 16, 2026

no session!

Week 2, Apr 23, 2026: Introduction

no readings for this session

Week 3, Apr 30, 2026:

no session!

Week 3, May 7, 2026: Basics & Setup

no readings for this session

Week 3.1, May 8, 2026: Importing, Transforming, and Visualizing Data in R: Block I

Block Session: 13:00-17:30 (same room)

Week 3.2, May 9, 2026: Importing, Transforming, and Visualizing Data in R: Block II

Block Session: 13:00-17:30 (same room)

Part II: Economic Security

Week 4, May 21, 2026: The Return of Industrial Policy in Europe

Required Readings:

Lavery, S. (2024). Rebuilding the fortress? Europe in a changing world economy. *Review of International Political Economy*, 31(1), 330–353. <https://doi.org/10.1080/09692290.2023.2211281>

Breznitz, D., & Gingrich, J. (2025). Industrial Policy Revisited. *Annual Review of Political Science*, 28(1), 329–350. <https://doi.org/10.1146/annurev-polisci-033123-020253>

Optional Readings:

Haddad, C., Vorlíček, D., & Klimburg-Witjes, N. (2024). The Security-Innovation Nexus in (Geo-)Political Imagination. *Geopolitics*, 29(3), 741–764. <https://doi.org/10.1080/14650045.2024.2329940>

Juhász, R., Lane, N., & Rodrik, D. (2024). The New Economics of Industrial Policy. *Annual Review of Economics*, 16(1), 213–242. <https://doi.org/10.1146/annurev-economics-081023-024638>

Week 5, May 28, 2026: The Return of Industrial Policy in Data

Required Readings:

Evenett, S., Jakubik, A., Martín, F., & Ruta, M. (2024). The Return of Industrial Policy in Data. *IMF Working Papers*, 2024(001), 1. <https://doi.org/10.5089/9798400260964.001>

Optional Readings:

Evenett, S., Jakubik, A., Kim, J., Martín, F., Pienknagura, S., Ruta, M., Baquie, S., Huang, Y., & Machado Parente, R. (2025). Industrial Policy Since the Great Financial Crisis. *IMF Working Papers*, 2025(222), 1. <https://doi.org/10.5089/9798229027786.001>

Week 6, June 11, 2026: Geopolitical Economy

Required Readings:

Schneider, E. (2023). Germany's Industrial strategy 2030, EU competition policy and the Crisis of New Constitutionalism. (Geo-)political economy of a contested paradigm shift. *New Political Economy*, 28(2), 241–258. <https://doi.org/10.1080/13563467.2022.2091535>

Optional Readings:

Germann, J. (2023). Global rivalries, corporate interests and Germany's 'National Industrial Strategy 2030.' *Review of International Political Economy*, 30(5), 1749–1775. <https://doi.org/10.1080/09692290.2022.2130958>

Koddenbrock, K., & Mertens, D. (2022). Geoeconomics and National Production Regimes: On German Exportism and the Integration of Economic and Security Policy. In M. Babić, A. D. Dixon, & I. T. Liu (Eds.), *The Political Economy of Geoeconomics: Europe in a Changing World* (pp. 137–159). Springer International Publishing. https://doi.org/10.1007/978-3-031-01968-5_6

Week 7, June 18, 2026:

no session!

Part III: Climate Change

Week 8, June 25, 2026: Political Economy of Climate Change

Required Readings:

Aklin, M., & Mildenberger, M. (2020). Prisoners of the Wrong Dilemma: Why Distributive Conflict, Not Collective Action, Characterizes the Politics of Climate Change. *Global Environmental Politics*, 20(4), 4–27. https://doi.org/10.1162/glep_a_00578

Kupzok, N., & Nahm, J. (2024). The Decarbonization Bargain: How the Decarbonizable Sector Shapes Climate Politics. *Perspectives on Politics*, 22(4), 1203–1223. <https://doi.org/10.1017/S1537592724000951>

Optional Readings:

Colgan, J. D., Green, J. F., & Hale, T. N. (2021). Asset Revaluation and the Existential Politics of Climate Change. *International Organization*, 75(2), 586–610. <https://doi.org/10.1017/S0020818320000296>

Meckling, J., & Nahm, J. (2022). Strategic State Capacity: How States Counter Opposition to Climate Policy. *Comparative Political Studies*, 55(3), 493–523. <https://doi.org/10.1177/00104140211024308>

Week 9, July 2, 2026:

no session!

Week 10, July 9, 2026: Geopolitical Economy of Climate Change

Required Readings:

Meckling, J. (2025). The geoeconomic turn in decarbonization. *Nature*, 645(8082), 869–876. <https://doi.org/10.1038/s41586-025-09416-x>

Optional Readings:

Steinebach, Y., Hinterleitner, M., Knill, C., & Fernández-i-Marín, X. (2024). A review of national climate policies via existing databases. *Npj Climate Action*, 3(1), 80. <https://doi.org/10.1038/s44168-024-00160-y>

Week 11, July 16, 2026: Climate Policy & Politics

Required Readings:

Optional Readings: