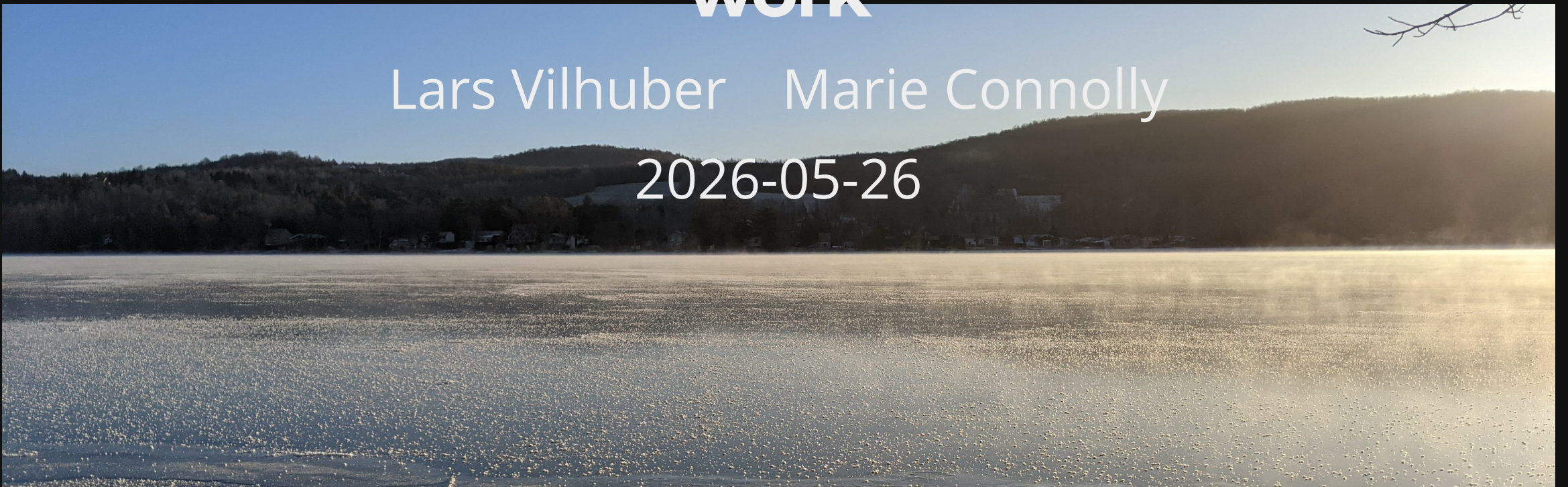


# Reproducibility in research – Ensuring the transparency and credibility of your work

Lars Vilhuber   Marie Connolly

2026-05-26



# Follow along



[larsvilhuber.github.io/workshop-uppsala-2026/presentation/presentation.html](https://larsvilhuber.github.io/workshop-uppsala-2026/presentation/presentation.html)  
(PDF)

# Who are we?

# Your instructors



**Marie Connolly**



**Lars Vilhuber**

# Marie Connolly

Marie Connolly is full professor at the Department of Economics, University of Quebec in Montreal's School of Management (ESG UQAM). Her research is primarily empirical and touches upon various topics in labor economics, such as intergenerational income mobility, the formation of human capital, the gender and family gap, women's labor force participation and the evaluation of public policy. She currently serves as the Data Editor of the Canadian Journal of Economics.

# Lars Vilhuber

Executive Director of the **Labor Dynamics Institute** and Senior Research Associate in the **Economics Department** at **Cornell University**, and the **American Economic Association's** Data Editor.

## American Economic Review



The *American Economic Review* is a general-interest economics journal. Established in 1911, the AER is among the nation's oldest and most respected scholarly journals in economics.

## American Economic Review: Insights



*AER: Insights* is designed to be a top-tier, general-interest economics journal publishing papers of the same quality and importance as those in the AER, but devoted to publishing papers with important insights that can be conveyed succinctly.

## Journal of Economic Literature



The *Journal of Economic Literature* (JEL), first published in 1969, is designed to help economists keep abreast of and synthesize the vast flow of literature.

## Journal of Economic Perspectives



The *Journal of Economic Perspectives* (JEP) fills the gap between the general interest press and academic economics journals.

## American Economic Journal: Applied Economics



*American Economic Journal: Applied Economics* publishes papers covering a range of topics in applied economics, with a focus on empirical microeconomic issues.

## American Economic Journal: Economic Policy



*American Economic Journal: Economic Policy* publishes papers covering a range of topics, the common theme being the role of economic policy in economic outcomes.

## American Economic Journal: Macroeconomics



*American Economic Journal: Macroeconomics* focuses on studies of aggregate fluctuations and growth, and the role of policy in that context.

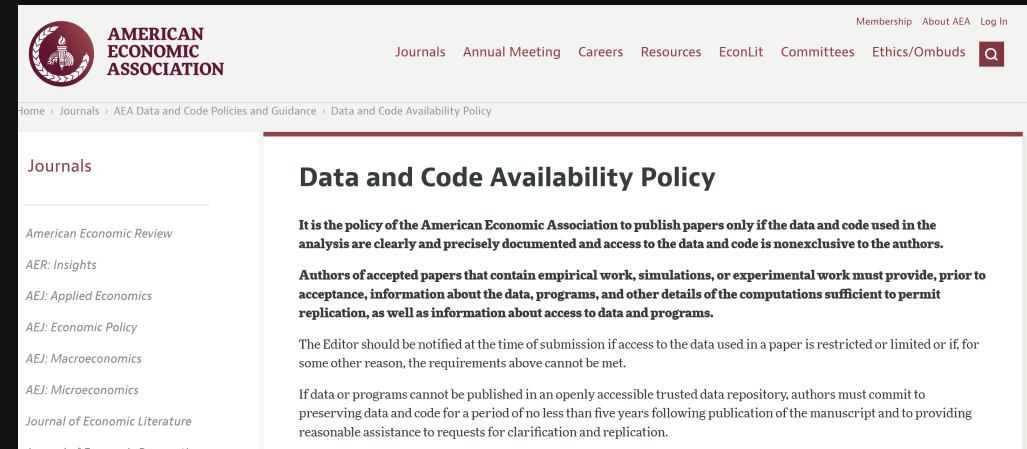
## American Economic Journal: Microeconomics



*American Economic Journal: Microeconomics* publishes papers focusing on microeconomic theory; industrial organization; and the microeconomic aspects of international trade, political economy, and finance.

# Data Editor of the AEA

2389 Manuscripts and 4440 Reports, approx. 4400 authors reached.



DCAP



# Some housekeeping

# Languages

- All slides are in **English**
- Primary language is **English**
- Toutes les questions peuvent être en ***français***
- Toutes les réponses vont être dans la ***langue posée***,  
ou en anglais

# Code of Conduct

- see [full Code of Conduct of LDI Replication Lab, Canadian Economics Association \(in French\)](#)

We are dedicated to providing a welcoming and supportive environment for all people, regardless of background or identity. By participating in this team, participants accept to abide by LDI ReplicationLab's Code of Conduct and accept the procedures by which any Code of Conduct incidents are resolved. Any form of behaviour to exclude, intimidate, or cause discomfort is a violation of the Code of Conduct. In order to foster a positive and professional learning environment we encourage the following kinds of behaviours in all platforms and events:

# Code of Conduct

- Use **welcoming** and inclusive language
- Be **respectful** of different viewpoints and experiences
- Gracefully accept **constructive** criticism
- Show courtesy and respect towards other community members

If you believe someone is violating the Code of Conduct, we ask that you report it to us, QICSS/CIQSS (sponsor), or the CEA (host).



# Walkthrough of the agenda

# Today

- 9:00 Welcome
- 9:05 Walkthrough
- 9:15 Goals
- 9:30  *Hands-on Exercise: A very imperfect example*
- 9:45 Discussion of the “Very imperfect example”
- 10:00 Setting yourself up for reproducibility from Day 1
- 10:30 Break
- 10:45 How to correctly document a replication

Day 2

- 9:00 Review of “homework”, assignment of reviewers, active review
- 9:30 Discussion of results from review
- 10:00 Advanced reproducibility setup
- 10:45 Break
- 11:00 Demonstration of API and principled retrieval
- 11:45 Wrap up

# Tomorrow

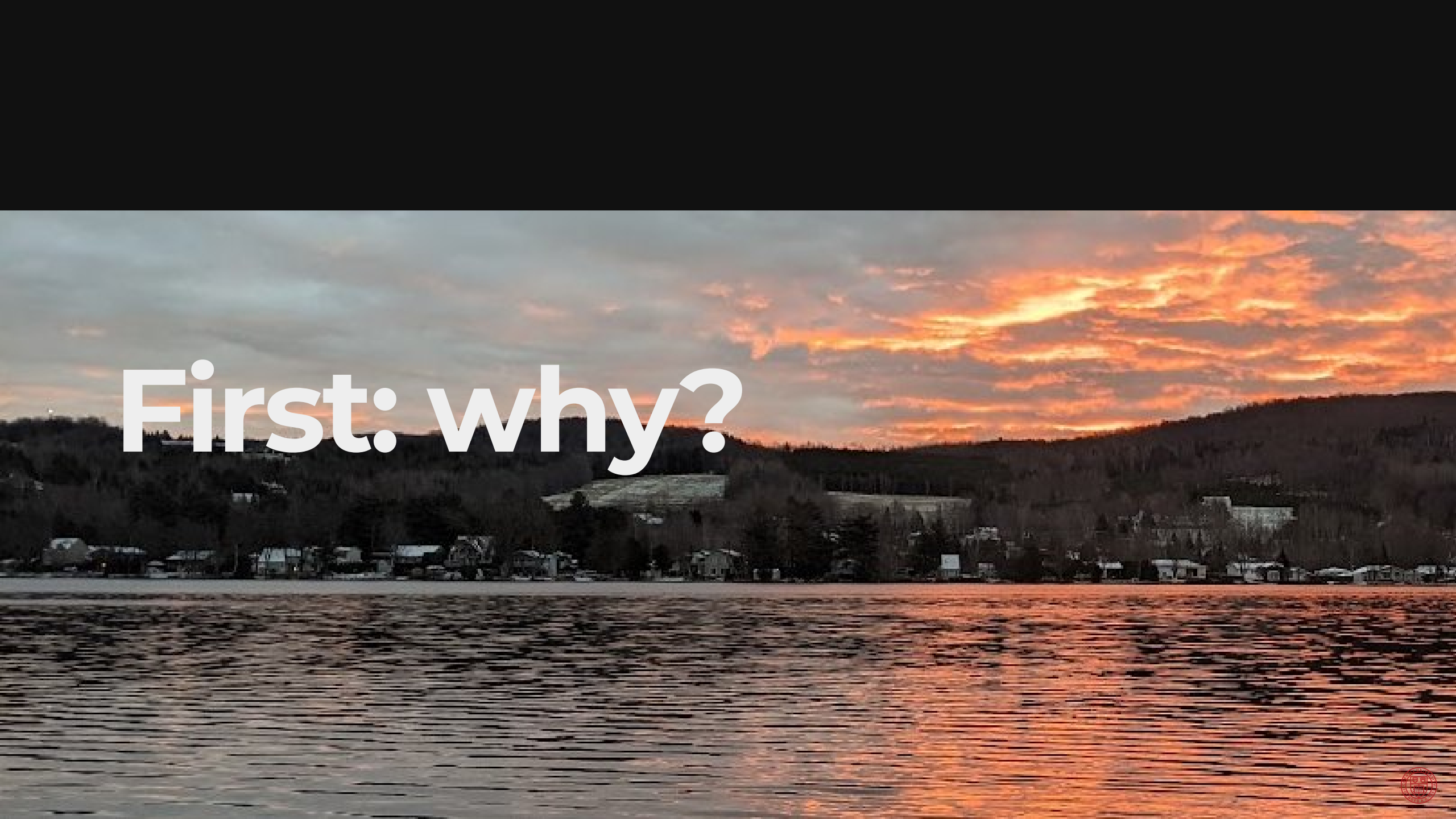
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- 11:45 Wrap up

# Best practices?





# First: why?



# Why reproducibility?

- Credibility
- Transparency (openness)
- Efficiency of scholarly discourse?

# Why reproducibility?

- Early publications (20th century) **contained tables of data**, and the math was simple (maybe)
- Data became electronic, **were no longer included** or cited
- Math was transcribed to **code**, and was **no longer included**

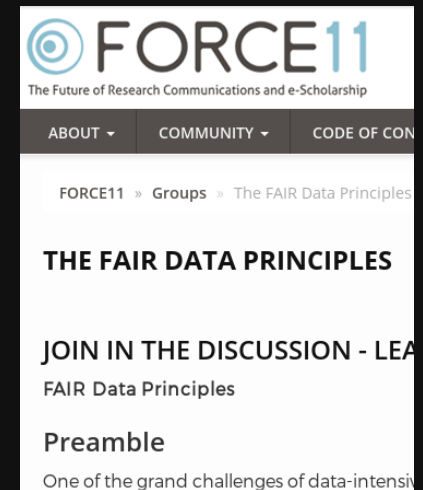
SEASONAL VARIATIONS IN THE NEW YORK MONEY MARKET, 1890-1908

| CALL INTEREST RATES<br>ON STOCK EXCHANGE* |                             | INTEREST RATES ON<br>60-90 DAY, 3 NAME<br>COMMERCIAL PAPER* |                             | PERCENTAGE OF RE-<br>SERVES TO DEPOSITORS<br>N. Y. ASSOCIATED<br>BANKS* |                             | CIRCULATION OF DE-<br>POSIT CURRENCY* |                             | EXCHANGE RATES IN<br>CHICAGO ON NEW<br>YORK, 1890-1908 |                             | NEW INTEREST MOVEMENTS OF CASH<br>OUT OF AND INTO N. Y. CITY<br>BANKS, 1890-1908 |              | STERLING EXCHANGE<br>DEMAND DRAUGHTS* |                             | EXPORTATION AND IMPORTS<br>GOLD, U. S. \$, 1890-1908 (24<br>Months) |                                    |
|-------------------------------------------|-----------------------------|-------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------|-----------------------------|---------------------------------------|-----------------------------|--------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------|--------------|---------------------------------------|-----------------------------|---------------------------------------------------------------------|------------------------------------|
| AVERAGE<br>RATE                           | SEASONAL<br>INDEX<br>NUMBER | AVERAGE<br>RATE                                             | SEASONAL<br>INDEX<br>NUMBER | AVERAGE<br>PERCENTAGE                                                   | SEASONAL<br>INDEX<br>NUMBER | AVERAGE<br>CLEARINGS<br>(100,000)     | SEASONAL<br>INDEX<br>NUMBER | AVERAGE<br>RATE<br>(Premium or<br>Discount)            | SEASONAL<br>INDEX<br>NUMBER | AVERAGE<br>AMOUNT<br>OUT OF<br>1000                                              | INTO<br>1000 | AVERAGE<br>RATE                       | SEASONAL<br>INDEX<br>NUMBER | TOTAL<br>EXCESS<br>EXPORTS<br>1000                                  | TOTAL<br>EXCESS<br>IMPORTS<br>1000 |
| 6.4                                       | 43.4                        | 5.0                                                         | 43.1                        | 28.6                                                                    | 44.3                        | * 81,337.5                            | * 60.8                      | 2.5 P                                                  | 64.7                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 5.5                                       | 23.8                        | 4.7                                                         | 41.5                        | 29.1                                                                    | 64.9                        | * 1,233.6                             | * 59.6                      | 5 P                                                    | 67.4                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.5                                       | 14.9                        | 4.5                                                         | 31.2                        | 29.9                                                                    | 78.8                        | * 1,234.7                             | * 54.4                      | 5 P                                                    | 67.4                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.5                                       | 11.9                        | 4.3                                                         | 22.7                        | 30.3                                                                    | 86.9                        | * 1,140.0                             | * 44.0                      | 10 P                                                   | 67.7                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.5                                       | 11.1                        | 4.3                                                         | 22.9                        | 29.9                                                                    | 77.8                        | * 1,190.5                             | * 42.3                      | 3 P                                                    | 72.1                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.4                                       | 10.1                        | 4.3                                                         | 22.1                        | 29.3                                                                    | 65.4                        | * 1,084.1                             | * 38.4                      | 6 D                                                    | 63.0                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.5                                       | 9.8                         | 4.3                                                         | 22.2                        | 28.8                                                                    | 58.1                        | * 1,004.3                             | * 32.1                      | 9 D                                                    | 54.5                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.7                                       | 13.4                        | 4.4                                                         | 26.5                        | 28.3                                                                    | 53.6                        | * 944.0                               | * 22.6                      | 20 D                                                   | 20.7                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.0                                       | 13.1                        | 4.6                                                         | 32.6                        | 28.1                                                                    | 45.5                        | * 1,165.7                             | * 51.5                      | 20 D                                                   | 38.8                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.6                                       | 19.7                        | * 34.3                                                      | 27.9                        | 43.1                                                                    | 37.0                        | * 1,067.9                             | * 38.2                      | 23 D                                                   | 28.1                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.9                                       | 22.4                        | 4.8                                                         | 40.0                        | 27.7                                                                    | 37.0                        | * 1,119.7                             | * 42.7                      | 13 D                                                   | 35.0                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.2                                       | 19.2                        | 4.8                                                         | 39.6                        | 27.9                                                                    | 30.9                        | * 1,042.3                             | 33.1                        | 14.5 D                                                 | 43.9                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.6                                       | 22.0                        | 4.8                                                         | 38.1                        | 28.0                                                                    | 30.9                        | * 1,031.4                             | 35.5                        | 14 D                                                   | 44.5                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.0                                       | 23.8                        | 4.7                                                         | 36.7                        | 27.8                                                                    | 35.7                        | * 1,135.4                             | 48.0                        | 5 D                                                    | 53.9                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.8                                       | 23.1                        | 4.6                                                         | 33.4                        | 27.9                                                                    | 30.9                        | * 1,119.0                             | 42.9                        | 7.5 D                                                  | 44.5                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.0                                       | 17.5                        | 4.5                                                         | 31.9                        | 28.4                                                                    | 30.9                        | * 1,123.5                             | 46.7                        | 9 D                                                    | 46.4                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.9                                       | 15.4                        | 4.4                                                         | 27.5                        | 28.6                                                                    | 34.4                        | * 1,107.6                             | 43.3                        | 4 P                                                    | 66.3                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.4                                       | 19.3                        | 4.4                                                         | 26.9                        | 28.3                                                                    | 48.3                        | * 1,283.3                             | 67.3                        | 3.5 D                                                  | 55.9                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.5                                       | 19.5                        | 4.4                                                         | 24.5                        | 28.4                                                                    | 48.0                        | * 1,172.4                             | 52.7                        | 2.2 P                                                  | 76.7                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.6                                       | 13.9                        | 4.3                                                         | 22.7                        | 28.6                                                                    | 51.6                        | * 1,123.4                             | 48.0                        | 16 P                                                   | 62.0                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.4                                       | 11.2                        | 4.2                                                         | 19.9                        | 29.0                                                                    | 60.3                        | * 1,011.8                             | 34.1                        | 16 P                                                   | 77.3                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.3                                       | 9.6                         | 4.1                                                         | 17.1                        | 28.8                                                                    | 57.2                        | * 908.1                               | 21.4                        | 10 P                                                   | 71.1                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.3                                       | 8.0                         | 4.1                                                         | 15.8                        | 28.7                                                                    | 56.1                        | * 1,039.4                             | 37.9                        | 5 P                                                    | 64.9                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.4                                       | 7.7                         | 4.1                                                         | 13.3                        | 28.7                                                                    | 56.7                        | * 997.8                               | 31.1                        | 4 P                                                    | 63.6                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.5                                       | 8.0                         | 4.3                                                         | 18.4                        | 28.7                                                                    | 37.5                        | * 998.7                               | 23.8                        | 10.5 P                                                 | 72.8                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.6                                       | 16.4                        | 4.5                                                         | 22.0                        | 28.4                                                                    | 33.5                        | * 1,013.9                             | 33.4                        | 11.5 P                                                 | 73.6                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.4                                       | 13.6                        | 4.5                                                         | 25.0                        | 27.9                                                                    | 45.0                        | * 991.3                               | 33.1                        | 16.5 D                                                 | 40.3                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.9                                       | 9.6                         | 4.6                                                         | 26.9                        | 28.4                                                                    | 26.3                        | * 1,054.6                             | 33.6                        | 7.5 D                                                  | 50.6                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.3                                       | 3.3                         | 4.6                                                         | 31.1                        | 28.7                                                                    | 63.3                        | * 970.2                               | 26.6                        | 8 D                                                    | 52.6                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.4                                       | 5.6                         | 4.6                                                         | 33.3                        | 28.7                                                                    | 63.4                        | * 994.6                               | 21.1                        | 10.5 D                                                 | 50.0                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.5                                       | 6.0                         | 4.6                                                         | 33.3                        | 28.3                                                                    | 60.8                        | * 962.7                               | 27.9                        | 11 D                                                   | 48.0                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.5                                       | 6.3                         | 4.8                                                         | 40.5                        | 28.0                                                                    | 54.3                        | * 910.6                               | 20.8                        | 17.5 D                                                 | 41.8                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 2.6                                       | 7.4                         | 4.9                                                         | 43.7                        | 27.8                                                                    | 49.3                        | * 948.0                               | 25.9                        | 19 D                                                   | 40.1                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.7                                       | 13.6                        | 5.3                                                         | 49.5                        | 27.7                                                                    | 47.7                        | * 931.1                               | 23.9                        | 34.3 D                                                 | 22.7                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.0                                       | 12.3                        | 5.3                                                         | 51.8                        | 27.6                                                                    | 42.6                        | * 856.8                               | 29.0                        | 37.3 D                                                 | 18.8                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.1                                       | 20.7                        | 5.3                                                         | 55.4                        | 27.2                                                                    | 32.8                        | * 880.7                               | 19.9                        | 36.5 D                                                 | 18.1                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.2                                       | 23.4                        | 5.1                                                         | 27.5                        | 27.0                                                                    | 28.8                        | * 1,033.6                             | 38.6                        | 23 D                                                   | 34.7                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.3                                       | 30.6                        | 5.3                                                         | 64.7                        | 27.1                                                                    | 31.9                        | * 1,038.7                             | 44.3                        | 26 D                                                   | 33.5                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.2                                       | 29.6                        | 5.3                                                         | 63.2                        | 27.5                                                                    | 37.4                        | * 1,066.1                             | 36.9                        | 33 D                                                   | 29.1                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.5                                       | 37.9                        | * 61.7                                                      | 27.3                        | 33.0                                                                    | 33.0                        | * 1,135.3                             | 59.0                        | 29 D                                                   | 27.3                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.0                                       | 24.4                        | * 51.1                                                      | 27.3                        | 33.0                                                                    | 33.0                        | * 1,094.1                             | 46.4                        | 29.5 D                                                 | 29.0                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.6                                       | 19.4                        | * 53.2                                                      | 27.5                        | 34.1                                                                    | 34.1                        | * 1,122.3                             | 48.5                        | 27.5 D                                                 | 30.3                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 6.5                                       | 29.3                        | * 51.4                                                      | 27.6                        | 36.4                                                                    | 36.4                        | * 1,144.0                             | 50.1                        | 31 D                                                   | 24.2                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 7.1                                       | 32.9                        | * 48.9                                                      | 27.2                        | 37.5                                                                    | 37.5                        | * 1,140.7                             | 54.2                        | 39 D                                                   | 27.6                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 3.4                                       | 30.3                        | * 51.3                                                      | 27.1                        | 29.7                                                                    | 29.7                        | * 1,077.6                             | 63.3                        | 30 D                                                   | 26.9                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.8                                       | 26.1                        | * 58.5                                                      | 27.4                        | 29.4                                                                    | 29.4                        | * 1,083.9                             | 65.7                        | 4.5 D                                                  | 33.4                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.2                                       | 26.1                        | * 47.7                                                      | 27.8                        | 36.1                                                                    | 36.1                        | * 1,177.0                             | 55.4                        | 13 P                                                   | 71.3                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.0                                       | 26.8                        | 4.8                                                         | 48.6                        | 27.6                                                                    | 32.3                        | * 1,101.3                             | 65.9                        | 11.5 D                                                 | 47.3                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 4.9                                       | 30.3                        | * 47.7                                                      | 27.8                        | 24.9                                                                    | 24.9                        | * 1,222.4                             | 63.3                        | 5 P                                                    | 64.7                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 6.3                                       | 39.2                        | * 4.8                                                       | 29.4                        | 32.8                                                                    | 32.8                        | * 1,202.1                             | 60.8                        | 3.5 P                                                  | 65.1                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 6.6                                       | 46.1                        | * 4.8                                                       | 27.5                        | 32.8                                                                    | 32.8                        | * 1,015.3                             | 35.8                        | 3.5 P                                                  | 65.1                        |                                                                                  |              |                                       |                             |                                                                     |                                    |
| 7.4                                       | 49.3                        | * 4.9                                                       | 27.7                        | 35.3                                                                    | 35.3                        |                                       |                             |                                                        |                             |                                                                                  |              |                                       |                             |                                                                     |                                    |

AER 1911

# Increasing broad consensus in academia

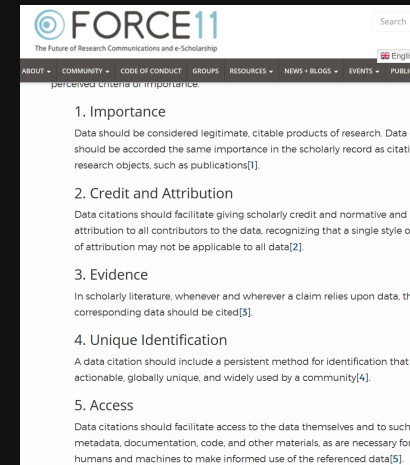
- **FAIR principles**
- Data Citation Principles
- Computational Reproducibility
- **F**indable
- **A**ccessible
- **I**nteroperable
- **R**eusable



# Data Citation Principles

- FAIR principles
- **Data Citation Principles**
- Computational Reproducibility

- To make it **findable,**  
**citations,**
- Give **attribution**  
and **credit** for  
data.



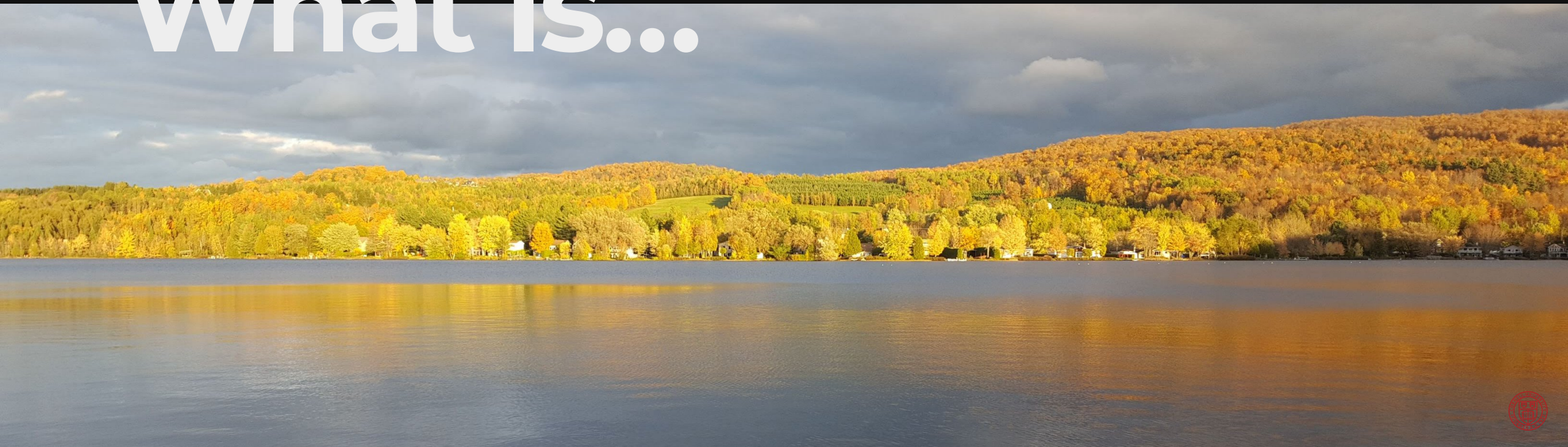
# Computational reproducibility

- FAIR principles
- Data Citation Principles
- **Computational Reproducibility**

- Primary topic today

***Reproducibility*** means obtaining consistent computational results using the same input data, computational steps, methods, code, and conditions of analysis.<sup>2</sup>

# What is...



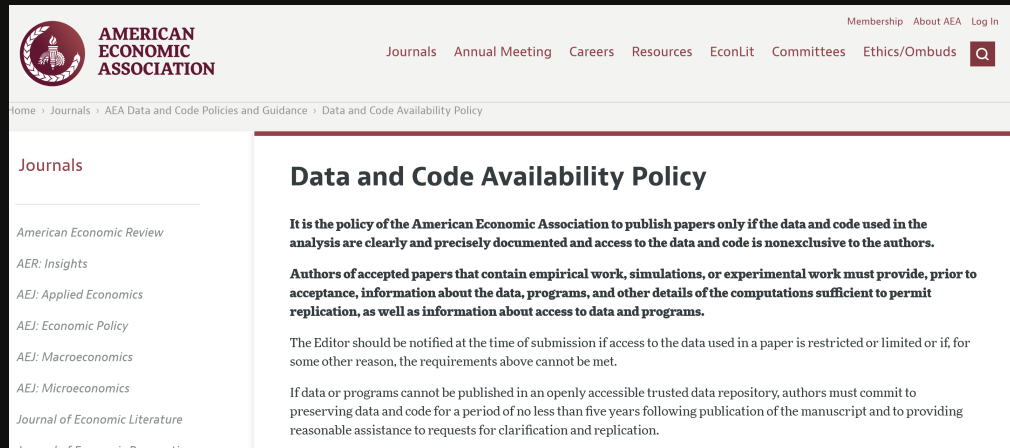
# What is a replication package?

# A Replication Package is

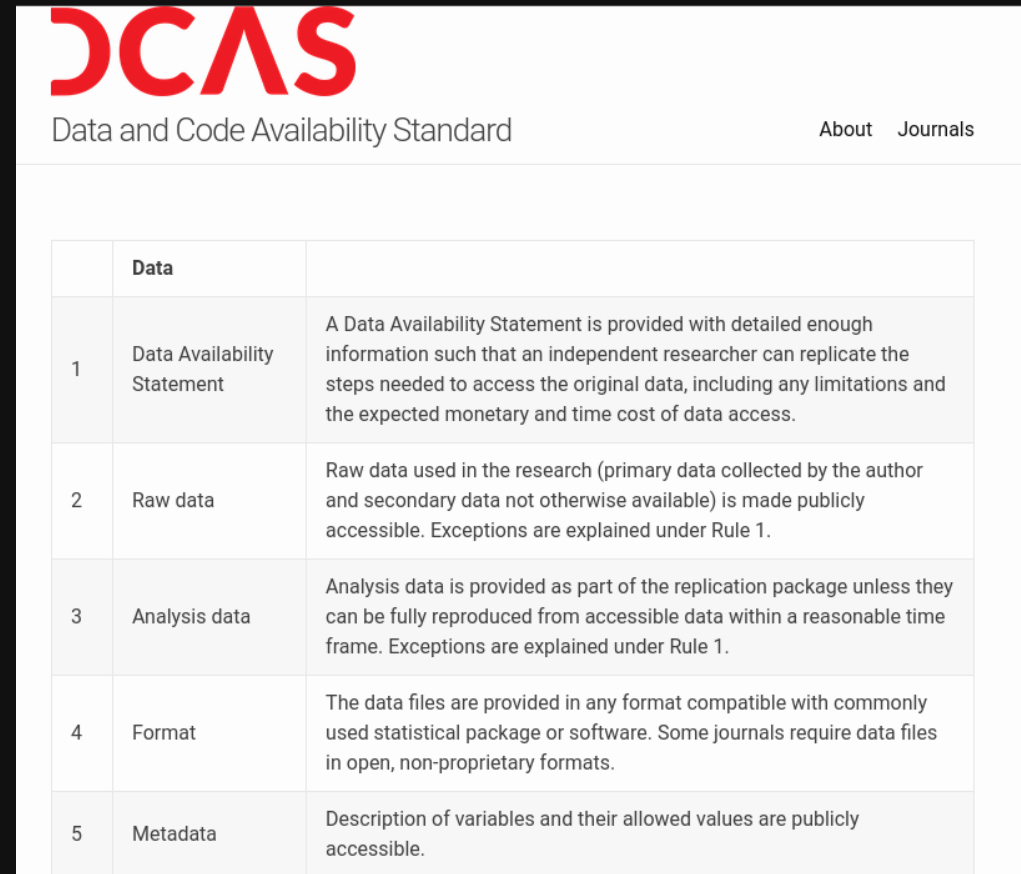
- Code
- Data
- Materials (for surveys, experiments, ...)
- Instructions on how to obtain data not included
- Instructions on how to combine it all
- Known issues documented

# Complies with...

- AEA Data and Code Availability policy
- Data and Code Availability Standard .



The screenshot shows the American Economic Association (AEA) website. The header includes the AEA logo and navigation links: Journals, Annual Meeting, Careers, Resources, EconLit, Committees, Ethics/Ombuds, and a search icon. The main content area is titled "Data and Code Availability Policy". It states that it is the policy of the AEA to publish papers only if the data and code used in the analysis are clearly and precisely documented and access to the data and code is nonexclusive to the authors. It also states that authors of accepted papers that contain empirical work, simulations, or experimental work must provide, prior to acceptance, information about the data, programs, and other details of the computations sufficient to permit replication, as well as information about access to data and programs. The page also mentions that the Editor should be notified at the time of submission if access to the data used in a paper is restricted or limited or if, for some other reason, the requirements above cannot be met. Finally, it states that if data or programs cannot be published in an openly accessible trusted data repository, authors must commit to preserving data and code for a period of no less than five years following publication of the manuscript and to providing reasonable assistance to requests for clarification and replication.



The screenshot shows the Data and Code Availability Standard (DCAS) website. The header includes the DCAS logo and navigation links: About and Journals. The main content area is titled "Data and Code Availability Standard". It contains a table with 5 rows and 3 columns. The first column is a number (1-5), the second column is a category (Data Availability Statement, Raw data, Analysis data, Format, Metadata), and the third column is a description of the requirement.

|   | Data                        |                                                                                                                                                                                                                                                              |
|---|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Data Availability Statement | A Data Availability Statement is provided with detailed enough information such that an independent researcher can replicate the steps needed to access the original data, including any limitations and the expected monetary and time cost of data access. |
| 2 | Raw data                    | Raw data used in the research (primary data collected by the author and secondary data not otherwise available) is made publicly accessible. Exceptions are explained under Rule 1.                                                                          |
| 3 | Analysis data               | Analysis data is provided as part of the replication package unless they can be fully reproduced from accessible data within a reasonable time frame. Exceptions are explained under Rule 1.                                                                 |
| 4 | Format                      | The data files are provided in any format compatible with commonly used statistical package or software. Some journals require data files in open, non-proprietary formats.                                                                                  |
| 5 | Metadata                    | Description of variables and their allowed values are publicly accessible.                                                                                                                                                                                   |



# Is stored in...

- AEA Data and Code Repository
- Other trusted repositories

The screenshot shows the OPENICPSR (Open Infrastructure for Public Procurement Research) interface. The main heading is "Data and Code for: 'Indirect Savings from Public Procurement Centralization'". Below this, it lists the principal investigators: Clarissa Lotti, Lear, Ariada Muco, Central European University; Giancarlo Spagnolo, Site - Stockholm School of Economics; Tommaso Valletti, Imperial College London. The version is V1. The interface includes a table of files and folders, a download button, and usage metrics.

| Name         | File Type           | Size      | Last Modified       |
|--------------|---------------------|-----------|---------------------|
| code         |                     |           | 06/18/2024 01:15:PM |
| data         |                     |           | 06/18/2024 01:16:PM |
| output       |                     |           | 06/18/2024 01:14:PM |
| CITATION.CFE | text/plain          | 862 bytes | 06/18/2024 09:14:AM |
| LICENSE.txt  | text/plain          | 1.2 KB    | 06/18/2024 09:14:AM |
| README.md    | text/x-web-markdown | 6 KB      | 06/18/2024 09:14:AM |
| main.sh      | application/x-sh    | 2.4 KB    | 06/18/2024 09:14:AM |

Usage Metrics

Overall Project Metrics

| Metric       | Value |
|--------------|-------|
| Views        | 14    |
| Downloads    | 3     |
| Publications | 3     |

Folder/File-Level Metrics

| Metric    | Value |
|-----------|-------|
| Views     | 0     |
| Downloads | 0     |

# Best practices?



# Summing up

- **Why**
  - Credibility
  - Transparency (openness)
  - Efficiency of scholarly discourse ([example])
- **How**
  - FAIR principles
  - Data Citation Principles
  - Computational Reproducibility
- As **Replication Packages**
  - Code
  - Data
  - Materials (for surveys, experiments, ...)
  - Instructions on how to obtain data not included
  - Instructions on how to combine it all
  - Known issues documented

# Who?



# Who?

-  Authors at **conditional acceptance**
-  Authors at **submission**
-  Authors at **beginning** of project
-  Experienced researchers
-  Junior researchers
-  Ph.D. students
-  Undergraduates

# Who?

You.



# You

 Now:

- more efficient development
- more efficient collaboration
- more assurance that “everything just works”

 Soon

- more efficient development across projects
- more efficient response to editors and referees
- ... while you are in a **new** institution, on a **new computer**, with three courses to **prep**, and “(b) BA

[Publish](#)[About](#)[Browse](#)

 OPEN ACCESS  PEER-REVIEWED

RESEARCH ARTICLE

# Experience of irreproducibility as a risk factor for poor mental health in biomedical science doctoral students: A survey and interview-based study

Nasser Lubega, Abigail Anderson, Nicole C. Nelson 

Published: November 15, 2023 • <https://doi.org/10.1371/journal.pone.0293584>

Article

Authors

Metrics

Comments

Media Coverage

Peer Review



# How?



# How to create reproducible research?

# Habits

- Reproducibility from Day 1
- Adopt reproducible habits
- Take notes when you do things, not after
- Use version control



# Strategy

**Computational empathy:** think of the next person to run this - It could be **you** in 5 years!

# Hands-on: A very imperfect example

Presentation of the example

# Day 1 reproducibility



# Day 1: How to not to organize your work

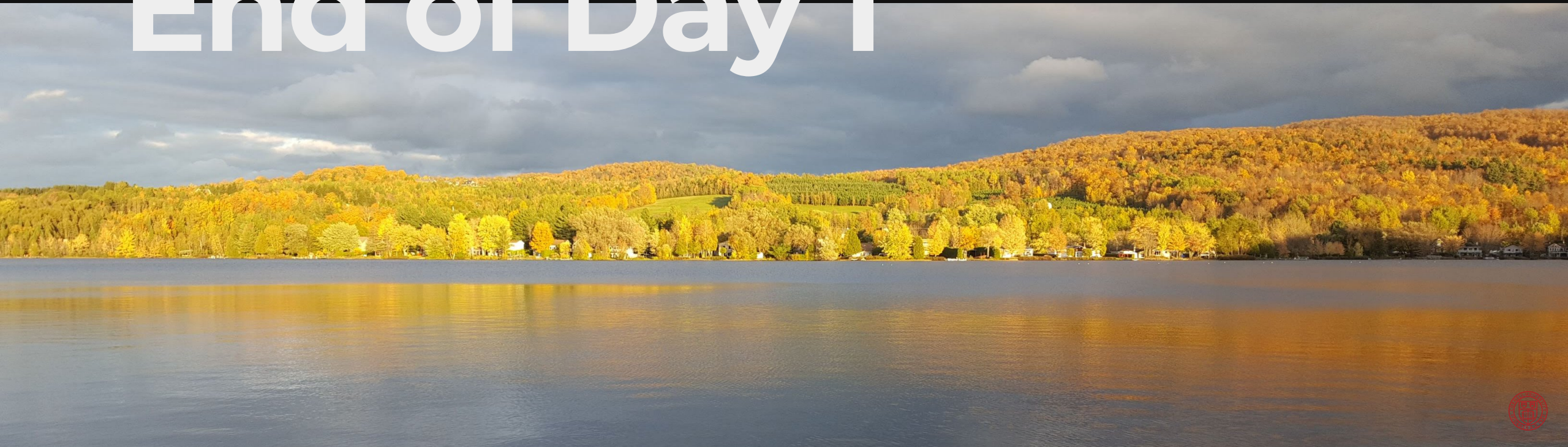
A tale of ineffective technical collaboration



# Day 1: Setting yourself up for reproducibility

An approach to be reproducible from Day 1

# End of Day 1



# Appendix

# Where to?

# Choices

- Issue No. 1: **Data Access** and preservation ✨ [a]
- Issue No. 2: **Confidential data** - same ⬆️! [a] [b]
- Lifecycle checking: **Self-checking reproducibility** and **presentation**
- New challenges: **AI and Big Data** but same ⬆️!
- New methods: **Transparency outsourced or certified**
- Implementation in academia: **Students!**



# Resources

# README

Lars Vilhuber, Connolly, M., Koren, M., Llull, J., & Morrow, P. (2022). A template README for social science replication packages (v1.1). Social Science Data Editors.

<https://doi.org/10.5281/zenodo.7293838>

You can download the Word, LaTeX, or Markdown version of the README with lots of examples.



# Other guidance

- Presentation on “Self Checking Reproducibility” and its associated website
- Guidance when (some) data are confidential:  
<https://labordynamicsinstitute.github.io/reproducibility-confidential/>
- Guidance for citations: <https://social-science-data-editors.github.io/guidance/addtl-data-citation-guidance.html>

# Extra info

- This document's source:  
<https://github.com/larsvilhuber/workshop-uppsala-2026>
- Licensed under  CC BY-NC 4.0

# Sources

- Images: NYT, Bluesky 1, 2, Ike Hayman/Wikimedia

# Details on Transparency, etc.

# Transparency

- Provenance of the *data*
- Processing of the data, from raw data to results (code)

It is the policy of the American Economic Association to publish papers only if the **data** used in the analysis are **clearly and precisely documented** and **access** to the data and code is **clearly and precisely documented** and is non-exclusive to the authors.

# Completeness

- All data needs to be identified and and access described
- All code needs to be described and provided
- All materials must be provided (survey forms, etc.)

Authors ... must provide, prior to acceptance, the **data, programs, and other details** of the computations **sufficient** to permit replication

# Preservation

- All *data* needs to be preserved for future replicators
  - Ideally, within the replication package, subject to ToU, for convenience
  - Otherwise, in a **trusted repository**

# Preservation

- **Code** must be in a trusted repository
  - Usually, within the replication package
  - Websites, Github, are ***not acceptable***

# Historically

| SEASONAL VARIATIONS IN THE NEW YORK MONEY MARKET, 1890-1908 |                       |                                                                   |                       |                                                                         |                       |                                              |                       |                                                  |                       |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
|-------------------------------------------------------------|-----------------------|-------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------|-----------------------|----------------------------------------------|-----------------------|--------------------------------------------------|-----------------------|---------------------------------------------------------------------------|----------|-----------------------|-----------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|--------------------------|
| CALL INTEREST RATES ON STOCK EXCHANGE <sup>a</sup>          |                       | INTEREST RATES ON 60-90 DAY, 2 NAME COMMERCIAL PAPER <sup>b</sup> |                       | PERCENTAGE OF RESERVES TO DEPOSITS, N. Y. ASSOCIATED BANKS <sup>c</sup> |                       | CIRCULATION OF DEPOSIT CURRENCY <sup>d</sup> |                       | EXCHANGE RATES IN CHICAGO ON NEW YORK, 1899-1908 |                       | NET INTERIOR MOVEMENT OF CASH OUT OF AND INTO N. Y. CITY BANKS, 1899-1908 |          |                       | STERLING EXCHANGE, DEMAND DRAFTS <sup>e</sup> |                       | EXPORTATION AND IMPORTATION GOLD, U. S., 1890-1909 (MONTHLY FIGURES) <sup>f</sup> |                          |
| AVERAGE RATE                                                | SEASONAL INDEX NUMBER | AVERAGE RATE                                                      | SEASONAL INDEX NUMBER | AVERAGE PERCENTAGE                                                      | SEASONAL INDEX NUMBER | AVERAGE CLEARINGS (000,000)                  | SEASONAL INDEX NUMBER | AVERAGE RATE (Premium or Discount)               | SEASONAL INDEX NUMBER | AVERAGE AMOUNT                                                            |          | SEASONAL INDEX NUMBER | AVERAGE RATE                                  | SEASONAL INDEX NUMBER | TOTAL EXCESS EXPORTS 000                                                          | TOTAL EXCESS IMPORTS 000 |
|                                                             |                       |                                                                   |                       |                                                                         |                       |                                              |                       |                                                  |                       | OUT OF 000                                                                | INTO 000 |                       |                                               |                       |                                                                                   |                          |
| 6.4                                                         | 43.4                  | 5.0                                                               | 53.1                  | 28.6                                                                    | 44.3                  | * 1,937.5                                    | * 60.8                | 2.5 P                                            | 64.7                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.6                                                         | 23.8                  | 4.7                                                               | 41.5                  | 29.1                                                                    | 64.9                  | * 1,933.6                                    | * 59.6                | 5 P                                              | 67.4                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.8                                                         | 14.9                  | 4.5                                                               | 31.2                  | 29.9                                                                    | 78.8                  | * 1,924.7                                    | * 54.4                | 5 P                                              | 67.7                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.5                                                         | 11.9                  | 4.3                                                               | 22.7                  | 30.3                                                                    | 86.9                  | * 1,140.0                                    | * 44.0                | 10 P                                             | 72.1                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.5                                                         | 11.1                  | 4.3                                                               | 22.9                  | 29.9                                                                    | 77.8                  | * 1,190.5                                    | * 52.5                | 2 P                                              | 63.0                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.4                                                         | 10.1                  | 4.3                                                               | 22.1                  | 29.2                                                                    | 65.4                  | * 1,084.1                                    | * 38.4                | 6 D                                              | 54.8                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.5                                                         | 9.8                   | 4.3                                                               | 22.2                  | 28.8                                                                    | 58.1                  | * 1,004.8                                    | * 32.1                | 9 D                                              | 50.7                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.7                                                         | 13.4                  | 4.4                                                               | 26.5                  | 28.5                                                                    | 53.6                  | * 944.0                                      | * 22.6                | 20 D                                             | 38.8                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.0                                                         | 15.1                  | 4.6                                                               | 32.6                  | 28.1                                                                    | 45.5                  | * 1,165.7                                    | * 51.5                | 29.5 D                                           | 28.1                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.6                                                         | 19.7                  | 4.6                                                               | 34.3                  | 27.9                                                                    | 43.1                  | * 1,067.9                                    | * 38.2                | 23 D                                             | 33.0                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.9                                                         | 22.4                  | 4.8                                                               | 40.0                  | 27.7                                                                    | 37.0                  | * 1,119.7                                    | * 42.7                | 13 D                                             | 45.9                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.2                                                         | 19.2                  | 4.8                                                               | 39.6                  | 27.9                                                                    | 39.9                  | 1,042.3                                      | 33.1                  | 14.5 D                                           | 43.5                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.6                                                         | 22.0                  | 4.8                                                               | 38.1                  | 28.0                                                                    | 40.5                  | 1,051.4                                      | 35.5                  | 5 D                                              | 53.9                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 4.0                                                         | 23.8                  | 4.7                                                               | 36.7                  | 27.8                                                                    | 35.7                  | 1,135.4                                      | 48.0                  | 14 D                                             | 44.5                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.8                                                         | 23.1                  | 4.6                                                               | 33.4                  | 27.9                                                                    | 39.9                  | 1,119.0                                      | 42.9                  | 7.5 D                                            | 52.2                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.0                                                         | 17.5                  | 4.5                                                               | 31.9                  | 28.4                                                                    | 50.9                  | 1,123.5                                      | 46.7                  | 4 P                                              | 66.3                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.9                                                         | 15.4                  | 4.4                                                               | 27.5                  | 28.6                                                                    | 54.4                  | 1,107.6                                      | 43.3                  | 9 D                                              | 48.4                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.4                                                         | 19.3                  | 4.4                                                               | 26.9                  | 28.3                                                                    | 48.3                  | 1,283.3                                      | 67.3                  | 3.5 D                                            | 55.9                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.5                                                         | 19.5                  | 4.4                                                               | 24.5                  | 28.4                                                                    | 48.0                  | 1,175.4                                      | 52.7                  | 2.5 P                                            | 62.0                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.6                                                         | 13.9                  | 4.3                                                               | 22.7                  | 28.6                                                                    | 51.6                  | 1,123.4                                      | 48.0                  | 16 P                                             | 76.7                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.4                                                         | 11.2                  | 4.2                                                               | 19.9                  | 29.0                                                                    | 60.3                  | 1,011.8                                      | 34.1                  | 16 P                                             | 77.3                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.3                                                         | 9.6                   | 4.1                                                               | 17.1                  | 28.8                                                                    | 57.2                  | 908.1                                        | 21.4                  | 10 P                                             | 71.1                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.3                                                         | 8.0                   | 4.1                                                               | 15.8                  | 28.7                                                                    | 56.1                  | 1,039.4                                      | 37.9                  | 5 P                                              | 64.6                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.4                                                         | 7.7                   | 4.1                                                               | 15.3                  | 28.7                                                                    | 56.7                  | 967.8                                        | 31.1                  | 4 P                                              | 63.6                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.5                                                         | 8.0                   | 4.3                                                               | 18.4                  | 28.7                                                                    | 57.5                  | 938.7                                        | 25.8                  | 10.5 P                                           | 72.8                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.6                                                         | 16.4                  | 4.5                                                               | 22.0                  | 28.4                                                                    | 53.5                  | 1,013.9                                      | 35.4                  | 11.5 P                                           | 73.6                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.4                                                         | 13.6                  | 4.5                                                               | 25.0                  | 27.9                                                                    | 45.0                  | 991.5                                        | 33.1                  | 16.5 D                                           | 40.3                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.9                                                         | 9.6                   | 4.6                                                               | 26.9                  | 28.4                                                                    | 56.3                  | 1,034.6                                      | 35.6                  | 7.5 D                                            | 50.6                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.3                                                         | 5.3                   | 4.6                                                               | 31.1                  | 28.7                                                                    | 63.3                  | 970.2                                        | 26.6                  | 8 D                                              | 52.6                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.4                                                         | 5.6                   | 4.6                                                               | 33.5                  | 28.7                                                                    | 65.4                  | 924.6                                        | 21.1                  | 10.5 D                                           | 50.0                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.5                                                         | 6.0                   | 4.6                                                               | 35.2                  | 28.3                                                                    | 60.8                  | 962.7                                        | 27.9                  | 11 D                                             | 48.7                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.5                                                         | 6.3                   | 4.8                                                               | 40.5                  | 28.0                                                                    | 54.3                  | 910.6                                        | 20.8                  | 17.5 D                                           | 41.8                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 2.6                                                         | 7.4                   | 4.9                                                               | 43.7                  | 27.8                                                                    | 49.3                  | 948.0                                        | 25.9                  | 19 D                                             | 40.1                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |
| 3.7                                                         | 13.6                  | 5.3                                                               | 49.5                  | 27.7                                                                    | 47.7                  | 931.1                                        | 23.9                  | 34.5 D                                           | 22.7                  | 8249                                                                      |          |                       |                                               |                       |                                                                                   |                          |
| 3.0                                                         | 12.3                  | 5.3                                                               | 51.8                  | 27.6                                                                    | 42.6                  | 956.8                                        | 29.0                  | 27.5 D                                           | 18.8                  | 1,477                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 4.1                                                         | 20.7                  | 5.3                                                               | 55.4                  | 27.2                                                                    | 32.8                  | 880.7                                        | 19.2                  | 36.5 D                                           | 19.1                  | 2,620                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 4.2                                                         | 23.4                  | 5.1                                                               | 57.5                  | 27.0                                                                    | 28.8                  | 1,033.6                                      | 38.6                  | 25 D                                             | 34.7                  | 2,589                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 4.3                                                         | 30.6                  | 5.3                                                               | 64.7                  | 27.1                                                                    | 31.9                  | 1,058.7                                      | 44.3                  | 26 D                                             | 33.5                  | 3,434                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 4.2                                                         | 29.6                  | 5.3                                                               | 63.2                  | 27.5                                                                    | 37.4                  | 1,066.1                                      | 36.9                  | 33 D                                             | 26.1                  | 3,489                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 4.5                                                         | 27.9                  | * 6.2                                                             | * 61.7                | 27.3                                                                    | 33.0                  | 1,135.2                                      | 59.0                  | 32 D                                             | 27.2                  | 3,883                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 4.0                                                         | 24.4                  | * 5.1                                                             | * 61.5                | 27.3                                                                    | 33.0                  | 1,094.1                                      | 46.4                  | 29.5 D                                           | 29.0                  | 2,543                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 3.6                                                         | 19.4                  | * 4.9                                                             | * 53.2                | 27.5                                                                    | 34.1                  | 1,132.3                                      | 49.6                  | 27.5 D                                           | 30.8                  | 3,014                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 6.5                                                         | 29.3                  | * 4.9                                                             | * 51.4                | 27.6                                                                    | 36.4                  | 1,144.0                                      | 50.1                  | 31 D                                             | 24.2                  | 2,700                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 7.1                                                         | 32.9                  | * 4.9                                                             | * 48.9                | 27.2                                                                    | 27.5                  | 1,140.7                                      | 54.2                  | 29 D                                             | 27.6                  | 2,666                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 5.4                                                         | 30.3                  | * 4.9                                                             | * 51.3                | 27.1                                                                    | 22.7                  | 1,077.6                                      | 45.3                  | 20 D                                             | 36.9                  | 1,530                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 4.8                                                         | 26.1                  | * 5.0                                                             | * 53.5                | 27.1                                                                    | 22.7                  | 1,283.9                                      | 65.7                  | 4.5 D                                            | 53.4                  | 563                                                                       |          |                       |                                               |                       |                                                                                   |                          |
| 4.2                                                         | 26.1                  | * 4.7                                                             | * 46.0                | 27.8                                                                    | 36.1                  | 1,177.0                                      | 55.6                  | 13 P                                             | 71.2                  | 213                                                                       |          |                       |                                               |                       |                                                                                   |                          |
| 4.0                                                         | 30.3                  | * 4.8                                                             | * 48.6                | 27.6                                                                    | 32.3                  | 1,107.7                                      | 48.1                  | 2.5 D                                            | 47.3                  | 836                                                                       |          |                       |                                               |                       |                                                                                   |                          |
| 4.9                                                         | 30.2                  | * 4.7                                                             | * 47.8                | 27.2                                                                    | 24.9                  | 1,191.3                                      | 65.2                  | 11.5 D                                           | 64.7                  | 615                                                                       |          |                       |                                               |                       |                                                                                   |                          |
| 5.5                                                         | 39.2                  | * 4.8                                                             | * 51.6                | 27.4                                                                    | 29.4                  | 1,222.4                                      | 63.5                  | 5 P                                              | 65.1                  | 60                                                                        |          |                       |                                               |                       |                                                                                   |                          |
| 6.6                                                         | 46.1                  | * 4.8                                                             | * 49.3                | 27.5                                                                    | 32.6                  | 1,202.1                                      | 60.8                  | 3.5 P                                            | 65.1                  | 2,188                                                                     |          |                       |                                               |                       |                                                                                   |                          |
| 7.4                                                         | 49.3                  | * 4.9                                                             | * 52.2                | 27.7                                                                    | 35.3                  | 1,015.3                                      | 35.8                  | 3.5 P                                            | 65.1                  |                                                                           |          |                       |                                               |                       |                                                                                   |                          |

AER 1911 thanks to Stefano Dellavigna



# Modern preservation

OPENICPSR

Log In/Create Account

Find Data

Share Data

Repositories

Find Data / Data and Code for: "Indirect Savings from Public Procurement Centralization" / Indirect-Effects-Centralization-main

Data and Code for: "Indirect Savings from Public Procurement Centralization"

Principal Investigator(s):  
Imperial College London

Version: V1

AMERICAN  
ECONOMIC  
ASSOCIATION

| Name         | File Type           | Size      | Last Modified       |
|--------------|---------------------|-----------|---------------------|
| code         |                     |           | 06/18/2024 01:15:PM |
| data         |                     |           | 06/18/2024 01:16:PM |
| output       |                     |           | 06/18/2024 01:14:PM |
| CITATION.CFF | text/plain          | 862 bytes | 06/18/2024 09:14:AM |
| LICENSE.txt  | text/plain          | 1.2 KB    | 06/18/2024 09:14:AM |
| README.md    | text/x-web-markdown | 6 KB      | 06/18/2024 09:14:AM |
| main.sh      | application/x-sh    | 2.4 KB    | 06/18/2024 09:14:AM |

DOWNLOAD THIS FOLDER

Usage Metrics

Overall Project Metrics

14

Views

3

Downloads

3

Publications

Folder/File-Level Metrics

0

Views

0

Downloads

Download Detailed Metrics



# Exceptions to the Policy

None

...

... there is a grey zone:

- When data do not belong to researcher, no control over preservation, access!
- Sometimes, **ToU** prevent researcher from revealing metadata (name of company, location)

# Transparency again

- However:
  - No exception for need to **describe** access (own and other)
  - No exception for need to fully **describe** processing (possibly with redacted code)

# Reproducibility in Economics and beyond



# Social Science Data Editors

Improving reproducibility in the social and economic sciences

## Data and Code Availability Standard

**DCAS** The [Data and Code Availability Standard \(DCAS\)](#) is a standard for sharing research code and data, endorsed by [leading journals](#) in social sciences. See <https://datacodestandard.org/> for more information.

DOI [10.5281/zenodo.7436134](https://doi.org/10.5281/zenodo.7436134)

**DCAS**  
Data and Code Availability Standard

[About](#) [Journals](#)

|   | Data                        |                                                                                                                                                                                                                                                              |
|---|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Data Availability Statement | A Data Availability Statement is provided with detailed enough information such that an independent researcher can replicate the steps needed to access the original data, including any limitations and the expected monetary and time cost of data access. |
| 2 | Raw data                    | Raw data used in the research (primary data collected by the author and secondary data not otherwise available) is made publicly accessible. Exceptions are explained under Rule 1.                                                                          |
| 3 | Analysis data               | Analysis data is provided as part of the replication package unless they are not feasible or not appropriate for sharing.                                                                                                                                    |



# Data Editors

- American Economic Association (8)
- Econometric Society (3)
- Canadian Journal of Economics (1)
- Royal Economic Society (2)
- Western Economic Association International (1)
- European Economic Association (1)
- Review of Economic Studies (1)



Data and Code Availability Standard

## Journals

The following journals endorse the Data and Code Availability Standard.

1. American Economic Journal: Applied Economics  
2. American Economic Journal: Economic Policy  
3. American Economic Journal: Macroeconomics  
4. American Economic Journal: Microeconomics  
5. American Economic Review  
6. American Economic Review: Insights  
7. Canadian Journal of Economics 
8. Econometrica 
9. Econometrics Journal
10. Economic Inquiry 
11. Economic Journal 
12. Journal of Economic Literature  
13. Journal of Economic Perspectives  
14. Journal of the European Economic Association 
15. Quantitative Economics 
16. Review of Economic Studies 
17. Theoretical Economics 



# Common policies

<https://social-science-data-editors.github.io/>

| <br>Data and Code Availability Standard |                             |                                                                                                                                                                                                                                                              | About | Journals |
|--------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|
|                                                                                                                          | Data                        |                                                                                                                                                                                                                                                              |       |          |
| 1                                                                                                                        | Data Availability Statement | A Data Availability Statement is provided with detailed enough information such that an independent researcher can replicate the steps needed to access the original data, including any limitations and the expected monetary and time cost of data access. |       |          |
| 2                                                                                                                        | Raw data                    | Raw data used in the research (primary data collected by the author and secondary data not otherwise available) is made publicly accessible. Exceptions are explained under Rule 1.                                                                          |       |          |
| 3                                                                                                                        | Analysis data               | Analysis data is provided as part of the replication package unless they can be fully reproduced from accessible data within a reasonable time frame. Exceptions are explained under Rule 1.                                                                 |       |          |
| 4                                                                                                                        | Format                      | The data files are provided in any format compatible with commonly used statistical package or software. Some journals require data files in open, non-proprietary formats.                                                                                  |       |          |
| 5                                                                                                                        | Metadata                    | Description of variables and their allowed values are publicly accessible.                                                                                                                                                                                   |       |          |
| 6                                                                                                                        | Citation                    | All data used in the paper are cited.                                                                                                                                                                                                                        |       |          |



## A template README for social science replication packages.

The template README provided on this website is in a form that follows best practices as defined by a number of data editors at social science journals.

## Template README and Guidance

*INSTRUCTIONS: This README suggests structure and content that have been approved by various journals, see [Endorsers](#). It is available as [Markdown/txt](#), [Word](#), [LaTeX](#), and [PDF](#). In practice, there are many variations and complications, and authors should feel free to adapt to their needs. All instructions can (should) be removed from the final README (in Markdown, remove lines starting with > INSTRUCTIONS). Please ensure that a PDF is submitted in addition to the chosen native format.*

### Overview

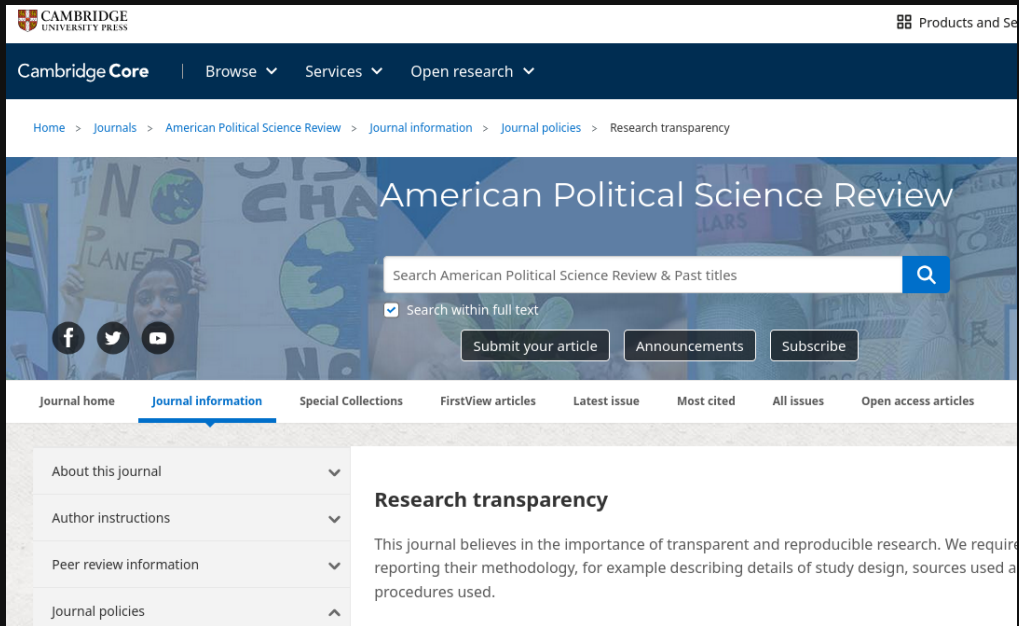
*INSTRUCTIONS: The typical README in social science journals serves the purpose of guiding a reader through the available material and a route to replicating the results in the research paper. Start by providing a brief overview of the available material and a brief guide as to how to proceed from beginning to end.*

Example: The code in this replication package constructs the analysis file from the three data sources (Ruggles et al, 2018; Inglehart et al, 2019; BEA, 2016) using Stata and Julia. Two main files run all of the code to generate the data for the 15 figures and 3 tables in the paper. The replicator should expect the code to run for about 14 hours.

### Data Availability and Provenance Statements

*INSTRUCTIONS: Every README should contain a description of the origin (provenance), location and accessibility (data availability) of the data used in the article. These descriptions are generally referred to as "Data Availability Statements" (DAS). However, in some cases, there is no external data used.*

# Elsewhere: Political Science



The screenshot shows the Cambridge Core website for the American Political Science Review. The header includes the Cambridge University Press logo and navigation links like 'Browse', 'Services', and 'Open research'. A breadcrumb trail leads to 'Research transparency'. The main banner features the journal title and a search bar. Below the banner, a sidebar on the left lists 'About this journal', 'Author instructions', 'Peer review information', and 'Journal policies'. The main content area is titled 'Research transparency' and contains text about the journal's commitment to transparent and reproducible research.

APSR



The screenshot shows the American Journal of Political Science (AJPS) website. The header includes the AJPS logo and navigation links like 'Home', 'About', 'Contact', 'Subscribe/Join', and 'Current Issue'. A green navigation bar contains links for 'HOME', 'AJPS ARTICLES', 'REVIEWS', 'MANUSCRIPTS', and 'ABOUT AJPS'. The main content area is titled 'AJPS Verification Policy' and contains text about the journal's policy on verification materials. A sidebar on the right includes a 'TRANSLATE' section with a language selector, a 'Search this website...' bar, and a 'FOLLOW AJPS VIA EMAIL' section with a 'Follow' button.

AJPS



# Elsewhere: Sociology



**sociological science**

[Articles](#) [For Authors](#)

[Home](#) > Reproducibility Policy

## Reproducibility Policy

Over the last decade, we have witnessed a crisis in science in which many admired research studies have been found to be non-replicable. Researchers increasingly recognize that publication itself does not imply that findings are reliable. This has questioned the credibility of social science research. In order to advance the credibility of sociological research, Sociological Science has adopted a reproducibility policy.

Starting with submissions received after April 1, 2023, authors of articles relying on statistical or computational methods are required to deposit replication packages as a condition of publication in *Sociological Science*. Replication packages should include the statistical code and — when legally and ethically possible — the data required to fully reproduce the results. As part of this policy, Sociological Science hopes other high-impact journals in Sociology will follow suit in setting standards for published work.

In addition to depositing replication packages, papers relying on experimental methods must adhere to the journal's registration requirements outlined in the journal's [Policy on Findings from Experimental Data](#) below.

Under many legitimate circumstances, data cannot legally or ethically be made available to readers. In such cases, if data are not available, they must explain why in the main text of the paper. In such cases, making code and analysis scripts available is required, unless doing so would violate legal or ethical constraints.

Researchers using qualitative data, such as interviews or participant observation data, are not required to deposit replication packages. We encourage authors to make qualitative data available when possible, and urge them to consider how interview protocols or coding schemes can be shared.

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Sociological Science



**But!**

# Elsewhere: Sociology



## sociological science

Articles For Authors

[Home](#) > [Reproducibility Policy](#)

### Reproducibility Policy

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Issue 5.4, Fall 2023 ... 1 more Published on Oct 27, 2023 DOI 10.1162/99608f92.151c41e3 SHOW DETAILS

## Crisis? What Crisis? Sociology's Slow Progress Toward Scientific Transparency

by Kim A. Weeden

Published on Oct 27, 2023

last released 10 months ago

CITE [1]

SOCIAL

DOWNLOAD

CONTENTS

**Column Editor's Note:** The quest for transparency, the support of scientific inquiry, is key for credible research, regardless of the discipline. We started the [Reinforcing Reproducibility and Replicability column](#) in [Issue 5.3](#) with a heavy focus on

3

Sociological Science



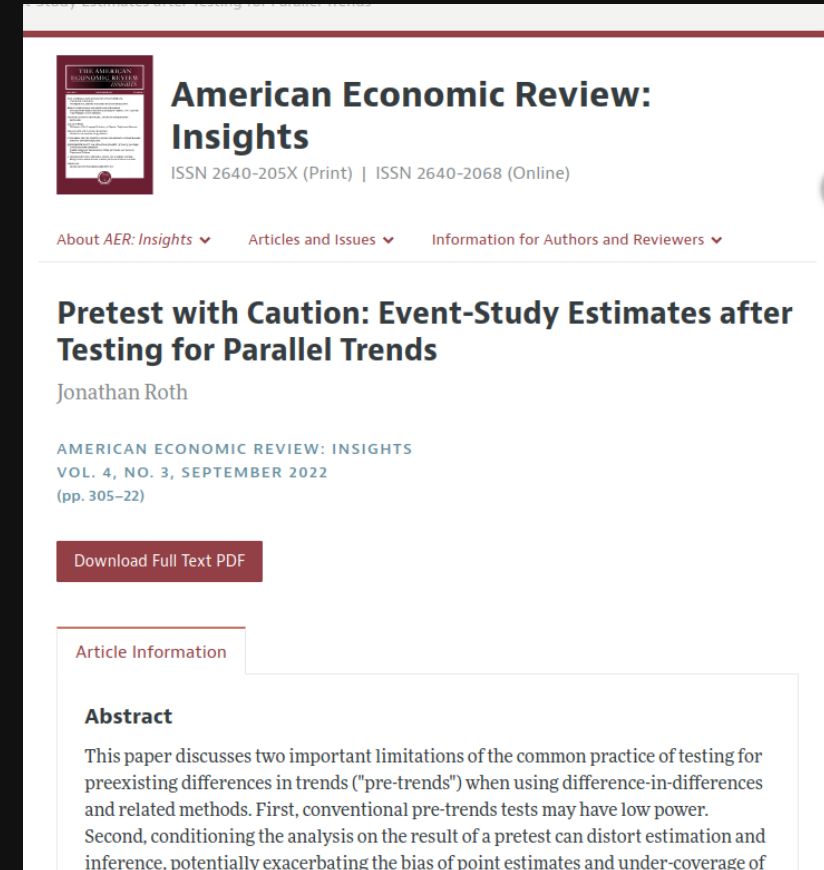
# Benefits

# Building on the work of others

Roth, Jonathan. 2022. "Pretest with Caution: Event-Study Estimates after Testing for Parallel Trends." American Economic Review: Insights 4 (3): 305–22. DOI:

[10.1257/aeri.20210236](https://doi.org/10.1257/aeri.20210236)

Notes: ***"I exclude 43 papers for which data to replicate the main event-study plot were unavailable."***



Roth 2022

# Building on the work of others: dCdH 2020

de Chaisemartin, Clément, and  
Xavier D'Haultfœuille. 2020.

“Two-Way Fixed Effects  
Estimators with Heterogeneous  
Treatment Effects.” American  
Economic Review 110 (9): 2964–  
96. DOI: [10.1257/aer.20181169](https://doi.org/10.1257/aer.20181169)

The results from various other  
papers are recomputed to  
empirically demonstrate the



The screenshot shows the top half of a journal article page. At the top left is the journal's logo, a small image of the cover. To its right is the journal title 'American Economic Review' and its ISSN numbers: 'ISSN 0002-8282 (Print) | ISSN 1944-7981 (Online)'. Below this is a navigation bar with three links: 'About the AER', 'Articles and Issues', and 'Information for Authors and Reviewers', each followed by a downward arrow. The main title of the article, 'Two-Way Fixed Effects Estimators with Heterogeneous Treatment Effects', is prominently displayed in bold. Below the title are the authors' names, 'Clément de Chaisemartin' and 'Xavier D'Haultfœuille'. Further down, the journal's volume and issue information are listed: 'AMERICAN ECONOMIC REVIEW VOL. 110, NO. 9, SEPTEMBER 2020 (pp. 2964–96)'. A red button labeled 'Download Full Text PDF' is positioned below the journal information. At the bottom of the visible section, there is a tab labeled 'Article Information' and a section titled 'Abstract' which contains a paragraph of text summarizing the article's content.

**American Economic Review**  
ISSN 0002-8282 (Print) | ISSN 1944-7981 (Online)

About the AER ▾ Articles and Issues ▾ Information for Authors and Reviewers ▾

**Two-Way Fixed Effects Estimators with Heterogeneous Treatment Effects**  
Clément de Chaisemartin  
Xavier D'Haultfœuille

AMERICAN ECONOMIC REVIEW  
VOL. 110, NO. 9, SEPTEMBER 2020  
(pp. 2964–96)

Download Full Text PDF

Article Information

**Abstract**  
Linear regressions with period and group fixed effects are widely used to estimate treatment effects. We show that they estimate weighted sums of the average treatment effects (ATE) in each group and period, with weights that may be negative. Due to the negative weights, the linear regression coefficient may for instance be negative while all the ATEs are positive. We propose another estimator that solves this issue. In the two applications we revisit, it is significantly different from the linear regression estimator.



**Transparency  
elsewhere**

# Transparency outsourced

- Talk to Limor!
- Cornell's R-squared
- cascad
- World Bank



# Transparency outsourced

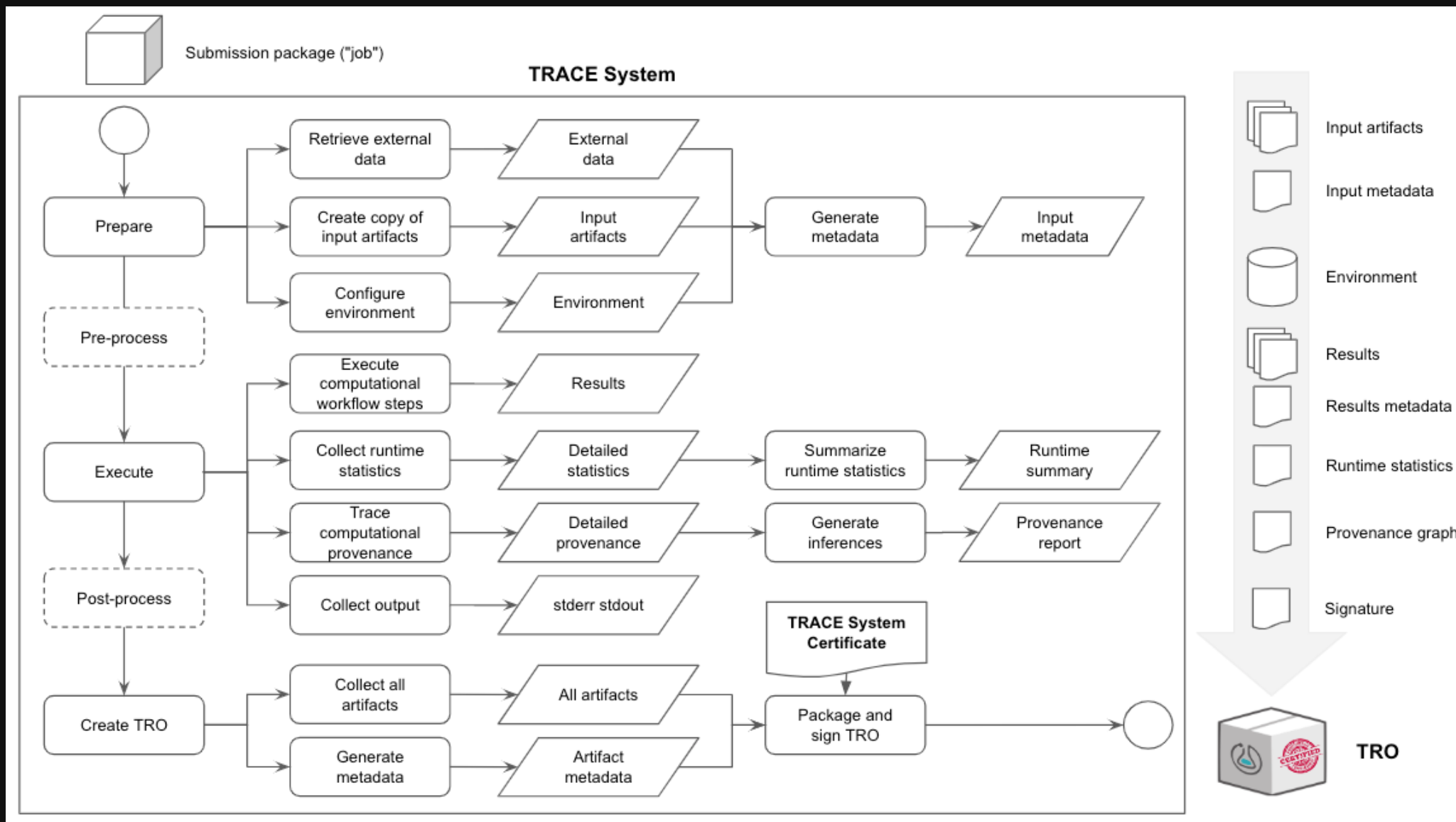
- A third party conducts the reproducibility, not you, not me.
- Need to common understanding, protocols, etc.
- AEA's protocol
- We do this about a dozen times per year

# Transparency outsourced

Why should I believe the third party?

- Trust
- Transparency
- Common methods

# Transparency certified



# Transparency certified

- Providing information about the computing platforms themselves, including specific details about how computational transparency is supported.
- Packaging and signing resulting artifacts along with records of their execution using a standard format.

# Applications

- Limor, R-squared, cascadi, World Bank!
- FSRDC? IRS?
- Meta data?

# Footnotes

1.

Data Citation Synthesis Group: Joint Declaration of Data Citation Principles.

Martone M. (ed.) San Diego CA: FORCE11; 2014

<https://www.force11.org/group/joint-declaration-data-citation-principles-final>

2.

National Academies of Sciences, Engineering, and Medicine. 2019.

***Reproducibility and Replicability in Science***. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25303>.

3.

Weeden, K. A. (2023). Crisis? What Crisis? Sociology's Slow Progress Toward Scientific Transparency . Harvard Data Science Review, 5(4).

<https://doi.org/10.1162/99608f92.151c41e3>

