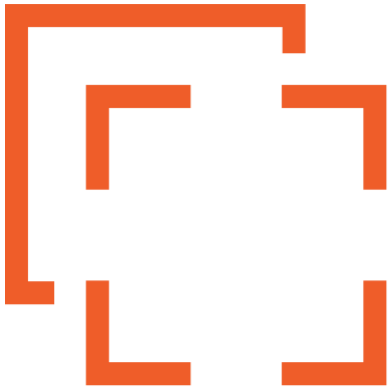

INSTITUTE for REPLICATION

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Welcome to the Replication Challenge!!!

- Intro to Institute for Replication (I4R) and its goals
- Going through the Social Science Reproduction Platform
- Replication challenge
  - What needs to be done
  - Selection of articles
  - Template
  - Deadline

Institute for Replication (I4R): Launch January 2022

- Objectives:
  - » Reproduce and replicate studies published in leading journals
    - Multidisciplinary: Economics, finance, political sciences, and more disciplines later on
  - » Establish an open access website (https://i4replication.org/) to serve as a central repository containing all replications, answers from original authors and documentation
  - » Develop and provide access to educational material
  - » Prepare and develop standardized file structure, code, and documentation aimed at facilitating reproducibility and replicability

Taking Stock

- **Replications in economics and social sciences:**
  - Very small number of (individual) replications published in leading journals
    - About 20 publications per year in economics (ref. Replication Network)
    - Comments published by AER slightly down over past few years
  - Large scaled replications for experimental studies
    - Open Science Framework and Camerer et al., 2016 and 2018
    - Replication rate of about 50%

Taking Stock

- **Why such a small number of replications?**
  - Lack of incentives
- **Bad equilibrium and lack of norms/guidelines**
  - Only “negative” replications are disseminated
  - No clear standards for how to write a replication and contact original author(s)
- **What is a replication? And why do we need replications?**

Definitions

- **Conceptual reproducibility (same code/data):**
  - Ability to duplicate the results of a prior study using the same data and procedures as were used by the original investigator. Reproducibility is done using the same computer code (possibly rebuilt from scratch), but can be achieved using a different software package.
- **Robustness replicability (same data):**
  - Ability to duplicate the results of a prior study using the same data but different procedures as were used by the original investigator. Robustness replicability can be done using the raw, intermediate or final data sets used by the original authors.
- **Direct replicability (same code):**
  - Ability to duplicate the results of a prior study using new data but the same procedures as were used by the original investigator.
- **Conceptual replicability:**
  - Ability to duplicate the results of a prior study using new data and different procedures as were used by the original investigator.

I4R's Strategy for Generating Replications

- Identify studies to be replicated
  - » Empirical studies published in selected leading journals
  - » Check if data and codes available
  - » Check if data can be accessed and by whom
  - » Then reproduce the results (or done by data editor)

- Editorial board selects replicators
  - » Invitation to replicators sent by email
    - Similar to requesting referee reports
  - » Choice of replicators is based on knowledge of the literature and data, but also data access in some cases

Replicators

- **Anonymous if wanted**
- **No incentives to show that the results do not replicate**
  - Positive and negative replications are disseminated
- **Conflict of interest**
  - Cannot be colleague, recent collaborator, friend, etc.
- **They choose “how” to replicate**
  - Different design / research question requires different specification check
    - » Identification of coding errors could lead to different checks
  - But general guidelines (with examples of specification checks) will be provided to the replicators
  - Pre-analysis plan required

Role of the replicators

- **(1) Assessment of reproducibility**
  - Running the code and uncovering coding errors
- **(2) Sensitivity analysis and improvement to the analysis**
  - For instance, adding control variables or changing inference method
- **(3) More involved changes to the analysis**
  - For instance, adding to the sample
- **(4) Providing the institute with a short report**
  - Similar to a referee report (part A to be sent to original authors and part B to the institute)

Instructions given to replicators

- **What are sensible robustness checks?**
  - Set of possible specifications is very large
    - » Possibility of adding variables to the analysis
- **What should replicators focus on:**
  - Identify the main or preferred specification and main results
    - » Not always described by the original authors
    - » Different replicators may focus on different results depending on data availability or skills (similar to a referee report)

Instructions given to replicators

- **Using same sample: Examples of robustness checks:**
  - Coding of dep var, main indep variable and controls
  - Weight
  - Standard errors
  - Outliers
  - Choice of parameters
  - Compare PAP to non-PAP
  - Etc.

Instructions given to replicators

- **Changing sample: Examples of robustness checks:**
  - Look at the raw data and check data restrictions made (e.g., dropping individuals outside and age range)
  - Do the restrictions make sense? Are the results robust to changing those restrictions?

- **Adding new variables: Examples of robustness checks:**
  - Adding key missing control variables

Following steps

- **(1) Original authors are then invited to provide an answer to the replicator(s)**
- **(2) Replicator(s) are provided with the answer of the original authors and may change their report**
  - If report is changed, then repeat #1
- **(3) Report(s) and answer are posted online along with the codes/programs of the replicator(s)**

Which studies will be replicated?

- List here: https://i4replication.org/reports.html

Incentives for Replicators

- **Help with publication and dissemination of their replication**
  - Put in contact with other replicator(s) replicating same study
  - Special issue at selected journals
  - Submit session proposals to conferences including AEA P&P
  - Replicators are automatically coauthors for meta-paper

Proprietary data

- **Most studies include multiple data types:**
  - Prepare a file with the name of the data set and how it can be accessed
    - » Data editors already do part of this work
  - This information will then be shared with the editorial board
  - Role of editors is to identify potential replicators who have access to the data and have excellent knowledge of the literature

- **Collaboration with *cascad*:** https://www.cascad.tech/

Platform and Guidelines for Replications

- Social Science Reproduction Platform
  - https://www.socialsciencereproduction.org/

- Guide for Accelerating Computational Reproducibility in the Social Sciences (ACRe): https://bitss.github.io/ACRE/

- Template (word document) for replicators

Survey of Editors (https://i4replication.org/publishing.html)

Discipline	Journal	Editor	Q1 - Code	Q2 - Code	Long Answer
Economics	Journal of Economics	John Doe	Yes	No	In fact, this journal does not regularly publish commentary about prior publications... Read more
Finance	Finance Journal	Jane Doe	No	No	We do not have a policy favoring or opposing comments/replications of papers published in ... or elsewhere... Read more
Political Science	Journal of political science and review of politics	Jane Doe II	Yes	No	Yes we publish comments. These are typically short pieces (3-5 pages) that highlight a specific issue... Read more

Conclusion

- Currently looking for replicators
  - Contact us if you or someone in your network is interested
  - Website includes list of studies with information on data availability

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