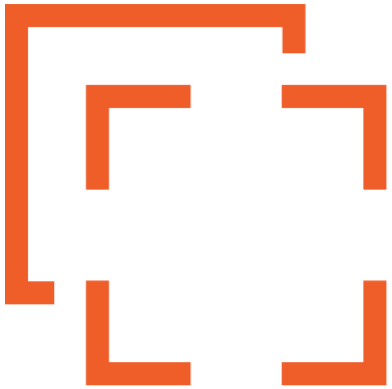

INSTITUTE for REPLICATION

Pre-Games Meeting

Lenka Fiala

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Objectives

- **Have fun!**

- **Create Replication Report**
  - Discover if papers are ***reproducible***
  - Inspect programming scripts for ***errors***
  - Compare manuscript's ***consistency*** with code and data
  - Test ***robustness*** of *main* results
  - ***Direct replication*** using new data (optional)

Examples: https://ideas.repec.org/s/zbw/i4rdps.html

Pre-Games

- **Look at I4R's Replication Report Template: https://osf.io/8dkxc/**
- **Team Assignment and Paper Selection**
  - Pick a paper by the 11th
- **Read Paper *and* Check Replication Folder**
  - Avoids issues at Games: unavailable data/code, odd software or hardware requirements, *etc.*
- **Develop Gameplan for Robustness, Recoding or New Data**
  - **Pre-Analysis Plan (PAP): optional but recommended**

During the Games

- Try to maximize the output ***during*** the Games
  - ***Great Opportunity!***
    - » It is (unfortunately) rare to work with multiple collaborators for 8 hours straight with no distraction (*e.g.,* social media)

- **Divide and Conquer!** Assign Reproducers, Writers, Robustness Checkers

- It is most fun proposing **robustness checks** during the games
  - That is, ***not*** reading the paper or reproducing original tables for the first time

After the Games

- **Finish writing your report!**
  - Template here: https://osf.io/8dkxc/ (Version 3 in either Word or LaTeX)
  - Please mention the method (or research design) employed by the paper somewhere
  - Please do **not** show the reproduction of the original tables
    - » we can't use it and it takes up space and your time ☺
- **Coefficients, standard errors, p-values are all to 3 digits.**
- **Send us your programs/codes**
- **Shared with Original Authors**

Key Elements of Replication Reports

1.Reproducibility Table

2.Robustness Checks

KEY ELEMENT: Reproducibility Table

	Fully	Partial	No
Raw data provided		x	
Cleaning code provided	x		
Analysis data provided	x		
Analysis code provided	x		
Reproducible from raw data		x	
Reproducible from analysis data	x		

- **Highly recommended to fill this in *before* the replication games**
- Filling out this table is a minimum requirement for any report sent to I4R
- If results are **not** reproducible, it is often difficult to perform robustness checks
- This is **instead** of reproducing the original tables in your report
  - We don't want to see the strict reproductions ☺

KEY ELEMENT: Robustness Checks (AKA Sensitivity Analyses)

- Changing the **controls** used in the main model
- Changing the **sample** over which the main model is defined
- **Correcting coding discrepancies/errors**
- Changing the **definition** of a main variable
- Changing estimators on **coefficients** and **marginal effects**
- Changing estimators on **standard errors**

The point isn't to "break" the original paper or cherry-pick results which change statistical significance. Try to be "fair". [Story about London Replicators]

KEY ELEMENT: Robustness Checks (AKA Sensitivity Analyses)

- *Primarily* test **main** models of papers

- Need to compare **original statistics** with **your** statistics
  - Coefficients, Standard Errors, P-values; **all to 3 digits**

- We (I4R) can only use *"valid"* robustness checks
  - Cannot use heterogeneity analyses
  - Cannot use research extensions

KEY ELEMENT: Excel File for Robustness Checks

- **We made packages for you to do this!**
  - https://osf.io/8dkxc/files/
  - R (package) and Stata (ado): https://osf.io/b4z65

- **Need associated Excel files with your final report**

EXAMPLE 1: Robustness Checks

Table 2: Directed Effects of Health Shocks on Health Spending

	Original		Fixed controls		Winsorized DV		Exc. wealthiest 10%	
	(1) Panel A	(2) Panel B	(3) Panel A	(4) Panel B	(5) Panel A	(6) Panel B	(7) Panel A	(8) Panel B
Post X Treatment	530.49	411.86	525.90	412.72	27.67	33.29	375.65	310.99
	(90.29)	(61.90)	(89.26)	(62.03)	(4.99)	(3.98)	(67.54)	(38.62)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Baseline mean	151.8	154.3	151.8	158.2	61.2	64.2	127.5	123.4
Observations	23015	43925	23015	43925	23015	43925	20661	39441
No. of events	249	465	249	476	249	476	215	417
Adj. R^2	0.049	0.044	0.049	0.044	0.273	0.307	0.070	0.066

Notes: The first two columns reproduce the results in Panels A (using shocks from the first half of the sample) and B (using all shocks) of Column (2) in Table 1 of the paper respectively. Successive pairs of columns show results from the following three alterations to the original model: 1) Aligning control variables with those mentioned in the text, 2) Winsorizing the outcome variable with respect to the 90^{th} percentile with corrected controls, and 3) Excluding wealthiest 10% of the sample with corrected controls. Standard errors are reported in parentheses and the p-values are reported in brackets.

Table notes should contain:

- What table in the ***original manuscript*** these estimates correspond to
- Coefficient(s) which are important should be highlighted
- How the columns are different from one another.

EXAMPLE 2: Robustness Checks

Table 2: Replicated Table 3- Finance and sector-level carbon emissions

	CO_2 emissions/GDP		
	OLS	2SLS	GMM
	(1)	(2)	(3)
Financial development × CO2 intensity	-0.0003	0.0050	0.0001
	(0.0003)	(0.0067)	(.)
	[0.3509]	[0.4555]	[.]
Equity share × CO2 intensity	-0.0044**	-0.0185**	-0.0013
	(0.0019)	(0.0092)	(.)
	[0.0195]	[0.0442]	[.]
Sector share	0.0229***	0.0193***	0.0037
	(0.0061)	(0.0063)	(.)
	[0.0002]	[0.0022]	[.]
Country × Sector FE	Yes	Yes	Yes
Country × Year FE	Yes	Yes	Yes
Sector × Year FE	Yes	Yes	Yes
R-squared	0.93	0.90	
No. Observations	7,540	6,804	6,721
First-stage F-statistic for financial size		4.203	
First-stage F-statistic for financial structure		22.432	

Notes: All regressions have the same controls as Table 3 from De Haas and Popov (2023) correcting for (1) heteroskedasticity and (2) recognizing endogenous variables in the GMM estimate reposted in column (3). P-values are reported in brackets * significant at 10% ** significant at 5% *** significant at 1%.

Table notes should contain:

- Coefficient(s) which are important should be highlighted
- Please compare the original statistics where available (perhaps, with another column)
- Describe any output which isn't clear (such as column (3) here)

We Are Here to Help!

- **Do not hesitate to ask us questions before, during and after the Games!**

- We will share our ***Opening Ceremony*** Zoom link to all participants closer to Games
  - no budget for flames, flags, gold, silver, bronze, or goofy mascots

- **Virtual teams: there will be team-specific breakout rooms made on the *Opening Ceremony* Zoom**

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