

# Hindered Creativity? The Effects of China's Golden Shield Project on Innovation

## Overview

This README file contains instructions for replicating the results in “Hindered Creativity? The Effects of China's Golden Shield Project on Innovation” by Chuhan Tang. All results referenced in the paper can be replicated by running one file in R: main.R. It launches the estimation of the various specifications used in the paper and produces the figures and tables.

## Data Availability and Provenance Statements

### Statement about Rights

- I certify that the author(s) of the manuscript have legitimate access to and permission to use the data used in this manuscript.

### Summary of Availability

- All data are publicly available.

### Details on each Data Source

| Data.Name                | Data.Files            | Location  | Provided | Citation           |
|--------------------------|-----------------------|-----------|----------|--------------------|
| “City-level Patent Data” | patent_raw.dta        | data/raw/ | TRUE     | Ang et al. (2023)  |
| “China's City Codes”     | China_city_codes.xlsx | data/raw/ | TRUE     | Wang et al. (2021) |

## Computational requirements

### Software Requirements

- The replication package contains one or more programs to install all dependencies and set up the necessary directory structure.
- R 4.3.2
  - dplyr (1.1.4)
  - haven (2.5.4)
  - tidyverse (2.0.0)
  - xtable (1.8.4)
  - readxl (1.4.3)
  - ggplot2 (3.5.2)
  - did (2.1.2)
  - fixest (0.12.1)

- `modelsummary` (2.3.0)
- the file “`libraries.R`” will install all dependencies (latest version), and should be run once prior to running other programs.

## Instructions to Replicators

Running `main.R` replicate all estimations and generate figures and tables. The user needs to set `path0`, the path of the `gsp_innov` folder. Figures and tables are saved in `gsp_innov/output/figures` and `gsp_innov/output/tables`.

### Details

#### Launcher

- `gsp_innov/main.R`: will launch all `.R` files, including `libraries.R`, `dataset.R`, `estimation.R`, `figures.R`, and `tables.R` in `gsp_innov/code` folder.
  - user needs to set `path0`, the path of `gsp_innov` folder

#### Estimation file (in `gsp_innov/code` folder)

- `estimation.R`: contains the code for performing estimations. Called by `main.R`
  - data saved in `gsp_innov/output/RData` folder

#### Figure- or table-generating programs (in `gsp_innov/code` folder)

- These files generate figures and tables. They require the appropriate results generated by `estimation.R` (called `gsp_innov/output/RData`):
  - `figures.R`
    - \* figures 1 and 2, saved in `gsp_innov/output/figures` folder
  - `tables.R`
    - \* tables 1, 2, and 3, saved in `gsp_innov/output/tables` folder

#### Support files (in `gsp_innov/code` folder)

- `libraries.R`: will load all required packages for this project, after installing all uninstalled packages.
- `dataset.R`: will assemble dataset used in the estimation
  - uses raw data files in `gsp_innov/data/raw`
  - saves dataset as file `patent_data.csv` in `gsp_innov/data/transformed`