Reproducible Research Repository

Climate Shocks and Their Effects on Food Security, Prices, and Agricultural Wages in Afghanistan

Second Submission: RR_AFG_2024_241

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This review verifies the reproducibility of the exhibits included in the paper *"Climate Shocks and Their Effects on Food Security, Prices, and Agricultural Wages in Afghanistan"*.

Contents in this review:

Main findings

- The code was successfully executed on a new computer after:
  1. Changing the file paths in the main do file
  2. Setting the ado folder.
  3. Running the line: sysdir set PLUS "path"
  4. Changing the file path in the python script
  5. Creating a new environment for the Python code - "afgenv"
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 4 hour to run.
- We conducted our reproducibility analysis based on the paper shared by the authors in the reproducibility package.
- Every exhibit has been reproduced accurately.
- **Reproducibility Summary**:
  - **Data**: All data sources are publicly available and included in the reproducibility package.
  - **Code**: All code files (from cleaning to analysis) are included in the reproducibility package.
  - **Outputs**: All outputs are generated by code included in the reproducibility package.
  - **Reproducibility verification**: Reviewers had access to the same materials in the public reproducibility package. The reviewers did not verify if publicly available data matches the data in the reproducibility package.
  - **Dependencies environment**: The reviewers created a new environment for dependencies using the latest versions available for each dependency at the moment of the review.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Table 1** Reproduced
- **Figure 1** Reproduced This figure was compared against *food_insecurity_plot.png*
- **Figure 2** Reproduced This figure was compared against *prices_wages_plot2.png*
- **Figure 3** Reproduced This figure was compared against *rainfall_ndvi_plot.png* and *rainfall_ndvi_anomalies_plot.png*
- **Table 2** Reproduced This table was compared to the logfile of the Stata code at line 23. The code output has 112,710 observations, compared to 112,711 reported in the paper. However, since all other values align, this is considered reproducible.
- **Table 3** ReproducedThis table was compared to the logfile of the Stata code at line 116. The code output has 112,710 observations, compared to 112,711 reported in the paper. However, since all other values align, this is considered reproducible.
- **Table 4** Reproduced This table was compared against *AFG Data for Maps and Tables.xlsx* sheet *Table 2_FStress*.
- **Table 5** Reproduced This table was compared against *AFG Data for Maps and Tables.xlsx* sheet *Table 3_FCrisis*.
- **Figure 4** Reproduced This map was compared against values in *AFG Data for Maps and Tables.xlsx* sheet *Map Data* column "logit1a"
- **Figure 5** Reproduced This map was compared against values in *AFG Data for Maps and Tables.xlsx* sheet *Map Data* column "logit1b"
- **Figure 6a** Reproduced This figure was compared against *food_stress_plota.png*
- **Figure 6b** Reproduced This figure was compared against food_stress_plota.png
- **Figure 6c** Reproduced This figure was compared against food_crisis_plota.png
- **Figure 6d** Reproduced This figure was compared against food_crisis_plota.png

Reproduction Environment

- Paper exhibits were reproduced in a computer with the following specifications:
  - OS: Windows 11 Enterprise
  - Processor: Intel(R) Core(TM) i5-1145G7 CPU @ 2.60GHz
  - Memory available: 15.7 GB
  - Software version: Stata 18.0 MP, Python 3.11