



Measuring Exposure and Vulnerability to International Trade Shocks

Second Submission: RR_WLD_2025_424

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This review verifies the reproducibility of the exhibits included in the paper “*Measuring Exposure and Vulnerability to International Trade Shocks*”.

Contents in this review:

1. Main findings
2. List of exhibits and reproducibility status
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Main findings

- **Every exhibit has been reproduced accurately.**
- The code was successfully executed on a new computer after:
 - Adjusting the file paths in the main .do files.
 - Recovering the environment for the .ipynb file.
 - Running the codes in the order specified in the README file.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 5 hours to run.
- We conducted our reproducibility analysis based on the paper shared by the authors via OneDrive on October 2, 2025.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 2 types of data: open and accessible data (publicly available, but does not allow redistribution).
 - Open data is included in the public reproducibility package.
 - Reviewers used restricted data provided directly by the authors to conduct the reproducibility verification, and one dataset is not included in the public reproducibility package. However, intermediate data is provided, and the final results in the paper can be reproduced with the materials provided.

- *data_hash_report.csv* lists the SHA256 hashes of all files in the Data folder to support data integrity checks. Users who acquire the accessible and restricted data can use this file to verify that the data has not been altered.
- **Reproducibility Summary:**
 - **Data:** All data sources are publicly available, but not all are 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.
 - **Dependencies environment:** The reviewers created a new environment using the latest versions of dependencies available at the moment of the review.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Figure 1** Does not apply. The exhibit does not show analysis results.
- **Table 1** Reproduced
- **Table 2** Reproduced
- **Table 3** Does not apply. The exhibit does not show analysis results.
- **Figure 2** Reproduced with manual edits. The code exports an Excel file named Figure 2-6.xlsx, which was then used by the authors to create the figures in Excel. The final file containing the figures is included in the package as Figure 2-6 with graphs.xlsx. The underlying data produced by the code match exactly the data used to generate the figure, and the produced figure matches the figure in the paper. This figure is therefore considered **fully reproducible**.
- **Figure 3** Reproduced with manual edits. The code exports an Excel file named Figure 2-6.xlsx, which was then used by the authors to create the figures in Excel. The final file containing the figures is included in the package as Figure 2-6 with graphs.xlsx. The underlying data produced by the code match exactly the data used to generate the figure, and the produced figure matches the figure in the paper. This figure is therefore considered **fully reproducible**.
- **Figure 4** Reproduced with manual edits. The code exports an Excel file named Figure 2-6.xlsx, which was then used by the authors to create the figures in Excel. The final file containing the figures is included in the package as Figure 2-6 with graphs.xlsx. The underlying data produced by the code match exactly the data used to generate the figure, and the produced figure matches the figure in the paper. This figure is therefore considered **fully reproducible**.
- **Figure 5** Reproduced with manual edits. The code exports an Excel file named Figure 2-6.xlsx, which was then used by the authors to create the figures in Excel. The final file containing the figures is included in the package as Figure 2-6 with graphs.xlsx. The underlying data produced by the code match exactly the data used to generate the figure, and the produced figure matches the figure in the paper. This figure is therefore considered **fully reproducible**.

Results in the Annex

- **Figure 6** Reproduced with manual edits. The code exports an Excel file named Figure 2-6.xlsx, which was then used by the authors to create the figures in Excel. The final file containing the figures is included in the package as Figure 2-6 with graphs.xlsx. The underlying data produced by the code match exactly the data used to generate the figure, and the produced figure matches the figure in the paper. This figure is therefore considered **fully reproducible**.
- **Table 4** Does not apply. The exhibit does not show analysis results.

Reproduction Environment

Paper exhibits were reproduced on a computer with the following specifications:

- OS: Windows 11 Enterprise, version 23H2
- Processor: Intel(R) Xeon(R) Platinum 8562Y+ 2.80 GHz (2 processors)
- Memory available: 128 GB
- Software version:
 - Stata 18.0 MP-Parallel Edition
 - Python 3.11.4