



International Activity and Female Labor Participation: New Evidence for Services Firms in Developing Countries

First Submission: RR_WLD_2025_407

Ankriti Singh

reproducibility@worldbank.org

August 27, 2025

This review verifies the reproducibility of the exhibits included in the paper “*International Activity and Female Labor Participation: New Evidence for Services Firms in Developing Countries*”.

Contents in this review:

1. Main findings
2. List of exhibits and reproducibility status
3. Reproduction Environment

Main findings

- **Every exhibit has been reproduced accurately.**
- The code was successfully executed on a new computer after:
 1. Updating the working directory.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 2 hours to run.
- We conducted our reproducibility analysis based on the paper shared by the authors in the package.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 3 types of data: open, limited-access (available after creating an account), and restricted data (available only from the authors).
 - * Open data is included in the public reproducibility package.
 - * Reviewers verified whether the limited-access data matches what was provided by the authors; results of this verification are documented in the file *comparison_report.csv*. The differences are due to periodic updates or other changes in the underlying databases.
 - * Reviewers used the restricted data provided directly by the authors to conduct the reproducibility verification, and this is not included in the public reproducibility package.
 - * *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/restricted data can use this file to verify that the data has not been altered.

- **Reproducibility Summary:**

- **Data:** Some data is restricted and has not been included in the reproducibility package. For more details, please refer to the README file.
- **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

- **Table 1** Reproduced.
- **Table 2** Reproduced.
- **Table 3** Reproduced.
- **Table 4** Reproduced.
- **Table 5** Reproduced.
- **Table 6** Reproduced.
- **Figure 1** Reproduced.
- **Figure 2** Reproduced.
- **Figure 3** Reproduced.
- **Figure 4** Reproduced.
- **Figure 5** Reproduced.
- **Figure 6** Reproduced.
- **Figure 7** Reproduced.
- **Figure 8** Reproduced.
- **Figure 9** Reproduced.

Results in the Annex

For the Appendix, we did not review every exhibit. Instead, we randomly selected 10 exhibits from the remaining datasets to assess the appendix. Our review was based on those 10 exhibits. Since they were chosen randomly, we are operating under the assumption that if all randomly selected exhibits are reproducible, then the rest should be as well. The seed used to generate the random selection was 135016, the Stata version used was 18 MP, and the exhibits selected were: Figure 4.2, 4.3, 4.6, 4.7, Table 5.1, 5.3, 6.1, 6.2, 6.4, and 6.5.

- **Figure 4.2** Reproduced.
- **Figure 4.3** Reproduced.
- **Figure 4.6** Reproduced.
- **Figure 4.7** Reproduced.
- **Table 5.1** Reproduced.
- **Table 5.3** Reproduced.
- **Table 6.1** Reproduced.
- **Table 6.2** Reproduced.
- **Table 6.4** Reproduced.
- **Table 6.5** Reproduced.

Reproduction Environment

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

- OS: Windows 11 Enterprise
- Processor: INTEL(R) XEON(R) PLATINUM 8562Y+ 2.80 GHz (4 processors)
- Memory available: 32.0 GB
- Software version: Stata 18.0 MP