



Digital Technology, Gender, and Structural Transformation: Evidence from the Mashreq

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This review verifies the reproducibility of the exhibits included in the paper “*Digital Technology, Gender, and Structural Transformation: Evidence from the Mashreq*”.

Contents in this review:

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

Main findings

- **Every exhibit in the paper reproduces and was virtually verified following Virtual Reproducibility Verification Protocols.**
- As the package relies on restricted data, the replicators did not have direct access to it. The verification was therefore conducted by running the code on the authors’ computer on February 11, 2026. The process was executed in a clean environment, including the creation of an ado folder to manage dependencies. The verification steps were as follows:
 1. The authors updated the file paths and executed the full workflow in Master.do.
 2. The authors then shared the outputs generated from two consecutive runs.
 3. The replicators checked whether the outputs from both runs matched and then verified each output against the exhibits in the paper.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 10 minutes to run.
- We conducted our reproducibility analysis based on the paper shared by the authors by email on February 11th, 2026.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 1 type of data: restricted data (available only from the data owners).

- Reviewers used 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 forthcoming/accessible/limited-access/restricted data can use this file to verify that the data has not been altered.
- **Reproducibility Summary:**
 - **Data:** All data sources are restricted and not 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

- **Table 1** Does not show analysis.
- **Table 2** Reproduced.
- **Figure 1** Reproduced.
- **Table 3** Reproduced.
- **Table 4** Reproduced. Difference values were manually verified.
- **Table 5** Reproduced.
- **Table 6** Reproduced. Difference values were manually verified.
- **Figure 2** Reproduced.
- **Table 7** Reproduced.
- **Table 8** Reproduced. Difference values were manually verified.
- **Figure 3** Reproduced.
- **Figure 4** Reproduced.
- **Table 9** Reproduced.

- **Table 10** Reproduced. Difference values were manually verified.
- **Table 11** Reproduced.
- **Table 12** Reproduced. Difference values were manually verified.
- **Table 13** Reproduced.
- **Table 14** Reproduced. Difference values were manually verified.
- **Table 15** Reproduced.

Reproduction Environment

Paper exhibits were reproduced on 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