



Does Informal Competition Reduce Firm-Provided Worker Training Among Formal Manufacturing SMEs In Sub-Saharan Africa?

First Submission: RR_AFR_2026_645

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This review verifies the reproducibility of the exhibits included in the paper “*Does Informal Competition Reduce Firm-Provided Worker Training Among Formal Manufacturing Smes In Sub-Saharan Africa?*”.

Contents in this review:

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

Main findings

- **Every exhibit of the paper has been reproduced accurately.**
- The code was successfully executed on a new computer after:
 1. Updating the working directory of the do-file "DGE_p_Data-construction.do", and running it.
 2. Updating the working directory of the do-file "Basic_Data-construction.do", and running it.
 3. Updating the working directory of the do-file "P96_Data-Preparation_5-5-2026.do", and running it.
 4. To reproduce Figure 5:
 - Opening the R project "Training.Rproj"
 - Restoring the environment by running `renv::restore()` and following the prompts.
 - Opening the "R-Script_Placebo-Test1.R" and running the code.
 5. Updating the working directory of the do-file "P96_Inf-Training_5-5-2026_Replication.do", and running it.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 20 minutes to run.
- We conducted our reproducibility analysis based on the paper shared by the authors in the reproducibility package.
- **Verification Process and Data Handling:**

- The reproducibility package relies on 3 types of data: open, accesible, and restricted.
- Open data is included in the public reproducibility package.
- Reviewers requested restricted and accesible 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:** 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

- **Figure 1 Reproduced.** Verified against Figure 1.png.
- **Figure 2a Reproduced.** Verified against Figure 2a.png. Minor formatting differences.
- **Figure 2b Reproduced.** Verified against Figure 2b.png. Minor formatting differences.
- **Figure 2c Reproduced.** Verified against Figure 2c.png. Minor formatting differences.
- **Figure 2d Reproduced.** Verified against Figure 2d.png. Minor formatting differences.
- **Figure 3a Reproduced.** Verified against Figure 3a.png. Minor formatting differences.
- **Figure 3b Reproduced.** Verified against Figure 3b.png. Minor formatting differences.
- **Figure 4a Reproduced.** Verified against Figure 4a.png. Minor formatting differences.
- **Figure 4b Reproduced.** Verified against Figure 4b.png. Minor formatting differences.
- **Figure 5 Reproduced.** Verified against Figure 5.png.
- **Table 1 Reproduced.** Verified against sheet "table 1" of Excel file Informal-train.xls.
- **Table 2 Reproduced.** Verified against sheet "table 2" of Excel file Informal-train.xls.
- **Table 3 Reproduced.** Verified against sheet "table 3_Panel A" and "table 3_Panel B" of Excel file Informal-train.xls. F-statistic were verified against "Table 3_F-stat.xlsx."

- **Table 4 Reproduced.** Verified against sheet "table 4_Panel A" and "table 4_Panel B" of Excel file Informal-train.xls. F-statistic and Hansen J statistics were verified against "Table 4_F-stat-Hansen.xlsx."
- **Table 5 Reproduced.** Verified against "table 5". Minor differences in row order.
- **Table 6 Reproduced.** Verified against "table 6". Minor differences in row order.

Results in the Annex

- **Table A1 Reproduced.** Verified against Table_A1_Final.docx.
- **Table A2** Does not show analysis results.
- **Table A3 Reproduced.** Verified against Table_A3_Summary_Statistics.docx.
- **Table A4 Reproduced.** Verified against sheet "table A4" of Excel file Informal-train.xls. All numbers are the same, except the last column of the Constant row. See screenshot below.
- **Table A5 Reproduced.** Verified against sheet "table A5" of Excel file Informal-train.xls.
- **Table A6 Reproduced.** Verified against sheet "table A6" of Excel file Informal-train.xls.
- **Table A7 Reproduced.** Verified against sheet "table A7" of Excel file Informal-train.xls. Minor differences in row order.
- **Table A8 Reproduced.** Verified against sheet "table A8" of Excel file Informal-train.xls. Minor differences in row order.
- **Table A9 Reproduced.** Verified against sheet "table A9" of Excel file Informal-train.xls.

Reproduction Environment

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

- OS: Windows 11 Enterprise
- Processor: Intel(R) Xeon(R) Gold 6226R CPU @ 2.90GHz
- Memory available: 32.0 GB
- Software version: Stata 19.5 MP, R 4.5.1