



World Development Report 2026: Decoding AI

Third Submission: FR_WLD_2026_706

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This review verifies the reproducibility of the exhibits included in the paper “*World Development Report 2026: Decoding AI*”.

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. Chapter 1
 - (a) Updating the working directory and running the R scripts.
 - (b) Setting up a local Stata environment, configuring the ado directory, and updating the project globals. (runtime: 2 minutes)
 2. Chapter 2
 - (a) Updating the working directory and running the R scripts.
 - (b) Setting up a local Stata environment, configuring the ado directory, and updating the project globals. (runtime:)
 3. Chapter 3
 - (a) Changing hardcoded filepaths and running the code (runtime: 2 minutes)
 4. Chapter 4
 - (a) Figures prepared in Excel (no code involved): Fig 4.3.a, 4.9, Fig 4.6.
 - (b) Fig 4.3b: Updating the working directory in the do-file "Chapter 4/2 – Code/Figure 4.3 panel b.do"
 - (c) Figure B4.2.1: Updating the working directory in the do-file "Figure B4.2.1.do", and the R script "Figure B4.2.1.Rmd"
 - (d) Fig 4.7: Updating the working directory of the R script "Chapter 4/2 - Code/Figure_4_7/o3_make_figure_4_7.R"

- (e) Fig B4.3.1: Updating the working directory in the do-file
"Chapter 4/2 - Code/Code_B4.3.1/master_do_file.do"
 - (f) Fig 4.8: Updating directory in the code files in "Chapter 4/2 - Code/Figure 4.8".
 - (g) Fig 4.10a: Updating the working directory in the R script
"Figure_4_10_panel_a/prepare_data.R"
 - (h) Fig 4.12a: Updating the working directory in the do-file
"Figure_4_12_panel_a.do"
5. Chapter 5
 - (a) Setting up a fresh R environment with renv and following the prompts.
 - (b) Adjusting the hardcoded, author-specific absolute file paths (Windows/OneDrive paths pointing to individual authors' machines) in Chapter 5 Full R Reproducibility.Rmd and in Radiologists Replication.do to point to the local copy of the package and running both codes. (runtime: 2 minutes)
 6. Spotlight 3
 - (a) Updating the working directory on line 1 of "TALIS replication.do" and running it. (runtime: 1 minute)
 7. Chapter 6
 - (a) Open .Rproj, opening main.R and running the code (runtime: 2 minutes)
 8. Chapter 7
 - (a) Open the do file Table_7_1, change the path and run.
 - (b) Review Excel figures.
 9. Spotlight 5
 - (a) Updating the working directory in line 20 of the do-file "Figure S_5_1 replication.do", and running it. (runtime: 1 minute)
 10. Chapter 8
 - (a) Opening the R project "Chapter 8 Full R Reproducibility.Rmd".
 - (b) Creating the environment by running renv::init() and renv::install() and following the prompts for both.
 - (c) Edited the code to have one set directory statement that is referenced throughout the code. After this fix, only line 20 needed to be set to the location of the package.
 - (d) Opening the Chapter 8 Full R Reproducibility. Rmd and running the code.
 11. Chapter 9
 - (a) Opening the .Rproj and running the 2 R scripts. (runtime: 2 minutes)
 12. Spotlight 7
 - (a) Opening the R project Spotlight 7.Rproj
 - (b) Restoring the environment by running renv::restore() and following the prompts
 - (c) Opening AI_Agency_Income_Analysis.Rmd and running the code. (runtime: 2 minutes)

- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- We conducted our reproducibility analysis based on the paper shared by the authors by email on August 10th.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 5 types of data: open, accessible (public but not included in the reproducibility package), limited-access, restricted data (available only from the data owners) and forthcoming data.
 - Open data is included in the public reproducibility package.
 - Reviewers used forthcoming/accessible/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:** Some data is restricted and has not been 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

1. Overview

- **Figure O.1** Does not show analysis results.
- **Figure O.2** Reproduced. Linked to Figure 1.4.
- **Table O.1** Does not show analysis results. Linked to Table 2.1.
- **Figure O.3** Reproduced with manual edits. Linked to Figure 7.2 panel a.
- **Figure O.4** Does not show analysis results.
- **Figure O.5** Reproduced with manual edits. Linked to Figure 2.1.
- **Figure O.6** Reproduced with manual edits. Linked to Figure 4.6, panel b.
- **Figure O.7** Reproduced. Linked to Figure 4.2, panel b.
- **Figure O.8** Reproduced with manual edits. Linked to Figure 5.7, panel b.
- **Figure O.9, panel a** Reproduced. Linked to Figure 5.6.
- **Figure O.9, panel b** Reproduced.
- **Table O.2** Does not show analysis results.

- **Map O.1** [Reproduced with manual edits](#). Linked to Figure 7.3.
- **Figure O.10** [Reproduced with manual edits](#). Linked to Figure 7.3.
- **Figure O.11** Does not show analysis results.

2. Chapter 1

- **Figure 1.1** [Reproduced](#). Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 1.2** [Reproduced](#). Figure created by WBES AI Replication Package.
- **Figure 1.3. a** [Reproduced with manual edits](#). The figure was manually created using Excel. Source is included in the README file.
- **Figure 1.3. b** [Reproduced with manual edits](#). The figure was manually created using Excel. Source is included in the README file.
- **Figure 1.4** [Reproduced](#). Figure created by WBES AI Replication Package.
- **Figure 1.5** [Reproduced with manual edits](#). The figure was manually created using Excel. Source is included in the README file.

3. Chapter 2

- **Table 2.1** Does not show analysis results.
- **Figure 2.1** [Reproduced with manual edits](#). Figure was created in Excel. Format and colors differ but this does not jeopardize reproducibility.
- **Figure 2.2** [Reproduced](#). Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 2.3 a** [Reproduced with manual edits](#). Figure was created in Excel. Format and colors differ but this does not jeopardize reproducibility.
- **Figure 2.3 b** [Reproduced with manual edits](#). Figure was created in Excel. Format and colors differ but this does not jeopardize reproducibility.
- **Figure 2.3 c** [Reproduced with manual edits](#). Figure was created in Excel. Format and colors differ but this does not jeopardize reproducibility.
- **Figure 2.4** [Reproduced](#). Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 2.5** [Reproduced](#). Format and colors differ but this does not jeopardize reproducibility.

4. Chapter 3

- **Figure 3.1a** [Reproduced](#). Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 3.1b** [Reproduced](#). Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 3.2a** [Reproduced with manual edits](#). Different format.
- **Figure 3.2b** [Reproduced with manual edits](#). Different format.
- **Figure 3.3** [Reproduced with manual edits](#). Different format.
- **Figure 3.4** Does not show analysis results.

5. Chapter 4

- **Figure 4.1** Does not show analysis results.
- **Figure 4.2 a,b Reproduced.** Format, ordering, and colors differ, but this does not jeopardize reproducibility. Produced by WBES AI Package folder.
- **Figure 4.3 a Reproduced.** Figure prepared in Excel. Format of the final figure differs.
- **Figure 4.3 b Reproduced.** Figure partially prepared in Excel. Format of the final figure differs.
- **Figure B4.2.1 Reproduced.**
- **Figure 4.4 Reproduced** Produced by WBES AI Package folder.
- **Figure 4.5 Reproduced** Produced by WBES AI Package folder.
- **Table 4.1** Does not show analysis results.
- **Figure 4.6 a Reproduced.** Figure prepared in Excel. Format of the final figure differs.
- **Figure 4.6 b Reproduced.** Figure prepared in Excel. Format of the final figure differs.
- **Figure 4.7 Reproduced.**
- **Figure B4.3.1 Reproduced.** Figure partially prepared in Excel. Format of the final figure differs.
- **Figure 4.8 Reproduced.**
- **Figure 4.9 Reproduced.** Figures prepared in Excel. Format of the final figures differ.
- **Figure 4.10a Reproduced.** Figure partially prepared in Excel. Format of the final figure differs.
- **Figure 4.10b Reproduced.** Figure partially prepared in Excel. Format of the final figure differs. The data producing this figure couldn't be run from scratch, but the process is thoroughly documented in the README, and the code producing the data is in the Jupyter classify_firms.ipynb
- **Figure 4.11** Does not show analysis results.
- **Figure 4.12 a Reproduced.** Figure partially prepared in Excel. Format of the final figure differs.
- **Figure 4.12 b Reproduced.** Figure partially prepared in Excel. Format of the final figure differs.
- **Figure 4.13 Reproduced.** Format, ordering, and colors differ, but this does not jeopardize reproducibility. Produced by WBES AI Package folder.

6. Spotlight 2

- **Figure S2.1** Does not show analysis results.

7. Chapter 5

- **Figure 5.1** Does not show analysis results.
- **Figure 5.2 a Reproduced.** Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 5.2 b Reproduced.** Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 5.3 Reproduced.** Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 5.4 (panels a and b) Reproduced.** Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 5.5 Reproduced.** Format and colors differ, but this does not jeopardize reproducibility.
- **Figure B5.2.1 Reproduced.** Format and colors differ, but this does not jeopardize reproducibility.

- **Figure B5.3.1** Does not show analysis results.
- **Figure 5.6 Reproduced.** Format and colors differ, but this does not jeopardize reproducibility.
- **Figure 5.7 a Reproduced.** Format and colors differ but this does not jeopardize reproducibility.
- **Figure 5.7 b Reproduced.** Format and colors differ but this does not jeopardize reproducibility.

8. Spotlight 3

- **Figure S3.1A Reproduced.**
- **Figure S3.1B Reproduced.**

9. Chapter 6

- **Figure 6.1 Reproduced.**
- **Figure 6.2 Reproduced.**
- **Figure 6.3 Reproduced.** Different formats, but this does not jeopardize reproducibility.
- **Figure 6.4 Reproduced.** Different formats, but this does not jeopardize reproducibility.

10. Spotlight 4

- **Figure S4.1 Reproduced.** Different formats, but this does not jeopardize reproducibility.

11. Spotlight 5

- **Figure S5.1 Reproduced.** Different formats, but this does not jeopardize reproducibility.

12. Chapter 7

- **Figure 7.1, panel A Reproduced with manual edits.** All values reproduced. However, in the code, legends include UMC and LMC; in the paper, UMIC and LMIC, and formats are different; this does not jeopardize reproducibility.
- **Figure 7.1, panel B Reproduced with manual edits.** All values reproduced. However, in the code, legends include UMC and LMC; in the paper, UMIC and LMIC, and formats are different; this does not jeopardize reproducibility.
- **Figure 7.2, panel A Reproduced with manual edits.** All values reproduced. However, in the code, legends include UMC and LMC; in the paper, UMIC and LMIC, and formats are different; this does not jeopardize reproducibility.
- **Figure 7.2, panel B Reproduced with manual edits.** All values reproduced. However, in the code, legends include UMC and LMC; in the paper, UMIC and LMIC, and formats are different; this does not jeopardize reproducibility.
- **Table 7.1 Reproduced.**
- **Figure B7.2.1** Does not apply. The exhibit is an not an analytical output.
- **Map 7.1 Reproduced with manual edits.** The map was created using the file Map 7.1.csv, which was created by aggregating the number of data centers by country using restricted data from the report: *Infrastructure Foundations: From Current Assets to Future Growth* (here). Replicators verified this manually and found the numbers matching.

- **Figure 7.3** Reproduced.
- **Figure 7.4** Reproduced.
- **Table 7.2** Does not apply. The exhibit is an not an analytical output.

13. Chapter 8

- **Figure 8.1** Does not apply. The exhibit is an not an analytical output.
- **Figure 8.2** Reproduced. The table or figure includes manual changes from code output in format and colors, but this does not jeopardize reproducibility.
- **Figure 8.3** Reproduced. The table or figure includes manual changes from code output in format and colors, but this does not jeopardize reproducibility.
- **Figure 8.4** Reproduced. The table or figure includes manual changes from code output in format and colors, but this does not jeopardize reproducibility.
- **Figure 8.5** Reproduced. The table or figure includes manual changes from code output in format and colors, but this does not jeopardize reproducibility.
- **Figure B8.1.1** Reproduced. The table or figure includes manual changes from code output in format and colors, but this does not jeopardize reproducibility.
- **Figure B8.2.1** Reproduced. The table or figure includes manual changes from code output in format and colors, but this does not jeopardize reproducibility.
- **Figure B8.3.1** Does not show analysis results.

14. Spotlight 6

- **Figure S6.1** Does not show analysis results.

15. Chapter 8

- **Figure 8.1** Does not apply. The exhibit is an not an analytical output.
- **Figure 8.2** Reproduced. The table or figure includes manual changes from code output.
- **Figure 8.3** Reproduced. The table or figure includes manual changes from code output.
- **Figure 8.4** Reproduced. The table or figure includes manual changes from code output.
- **Figure 8.5** Reproduced. The table or figure includes manual changes from code output.
- **Figure B8.1.1** Reproduced. The table or figure includes manual changes from code output.
- **Figure B8.2.1** Reproduced. The table or figure includes manual changes from code output.
- **Figure B8.3.1** Does not show analysis results.

16. Chapter 9

- **Figure 9.1** Reproduced.
- **Figure 9.2** Does not show analysis results.
- **Figure 9.3** Reproduced with manual edits. The figure was created using Excel.
- **Figure 9.4** Reproduced with manual edits. The figure was created using Excel.

- **Figure 9.5** Reproduced.
- **Figure 9.6** Reproduced with manual edits. The figure was created using Excel.

17. Spotlight 7

- **Table S7.1** Does not show analysis results.
- **Figure S7.1** Does not show analysis results.
- **Figure S7.2** Reproduced.

Reproduction Environment

Paper exhibits were reproduced on computers with the following specifications:

1. Computer 1: Chapters 4 and 5
 - OS: Windows 11 Enterprise
 - Processor: INTEL(R) XEON(R) PLATINUM 8562Y+ 2.80 GHz (2 processors)
 - Memory available: 32.0 GB
 - Software version: Stata 19.5 MP
2. Computer 2: Chapter 1, Spotlight 7, WB AI
 - OS: Windows 11 Enterprise
 - Processor: INTEL(R) XEON(R) PLATINUM 8562Y+ (2.80 GHz) (2 processors)
 - Memory available: 32 GB
 - Software version: Stata 19.5 MP, R 4.5.3
3. Computer 3: Chapters 3, 6, 9
 - OS: Windows 11 Enterprise 25H2
 - Processor: Intel(R) Xeon(R) Gold 6226R CPU @ 2.90GHz (2 processors)
 - Memory available: 16.0 GB
 - Software version: RStudio, R 4.6.1
4. Computer 4: Chapter 8
 - OS: Windows 11 Enterprise
 - Processor: INTEL(R) XEON(R) PLATINUM 8562Y+ 2.80 GHz (2 processors)
 - Memory available: 32.0 GB
 - Software version: Stata 19.5 MP