



How is Government using AI?

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This review verifies the reproducibility of the exhibits included in the paper “How is Government using AI?”.

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Main findings

- **Every exhibit of the paper has been reproduced accurately.**
- The code was successfully executed on a new computer after:
 1. Opening the R project.
 2. Recovering the environment by running `renv::restore()` and following the prompts.
 3. Open "AI Background Paper Reproducibility.Rmd" and run the code.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded nearly identical results. (Figure 9 continued to have a unique "jitter" pattern.)
- The code takes approximately 22 minutes to run.
- We conducted our reproducibility analysis based on the paper shared by the authors on September 18.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 1 type of data: open.
 - Open data is included in the public reproducibility package.
- **Reproducibility Summary:**
 - **Data:** All data sources are publicly available and 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** 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.
- **Figure 10** Reproduced. Output's top text does not match that of the paper.
- **Figure 11** Reproduced. The figure number at the top does not match that of the paper.
- **Figure 12** Reproduced.
- **Figure 13.1** Reproduced.
- **Figure 13.2** Reproduced.
- **Figure 14** Reproduced.
- **Figure 15** Reproduced.
- **Figure 16** Reproduced.
- **Figure 17** Reproduced. Several of the country labels shifted from where they are in the paper's figure.
- **Figure 18** Reproduced. Heading text does not match that of the paper.
- **Figure 19.1** Reproduced.
- **Figure 19.2** Reproduced.

Results in the Annex

- **Figure A.1** Reproduced.
- **Figure A.2** Reproduced. Public finance and procurement have a different order, but since the numbers are the same this does not affect reproducibility.
- **Figure A.3** Reproduced.
- **Figure A.4** Reproduced.
- **Figure A.5** Reproduced.
- **Figure A.6** Reproduced.

Reproduction Environment

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

- OS: Windows 11 Enterprise
- Processor: INTEL(R) XEON(R) Gold 5218 2.30 GHz (2 processors)
- Memory available: 16.0 GB
- Software version: R 4.6.1