



Learning when schools shutdown: impacts of H1N1 outbreak on learning loss and learning gaps

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This review verifies the reproducibility of the exhibits included in the paper “*Learning when schools shutdown: impacts of H1N1 outbreak on learning loss and learning gaps*”.

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Main findings

- The code was successfully executed on a new computer after:
 1. Changing the file path in the main do file.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 7 hours to run.
- We conducted our reproducibility analysis based on the paper shared by the authors via email on April 24.
- In our attempt to replicate the study, all exhibits are considered to have been reproduced accurately. However, we observed minor discrepancies in two exhibits when comparing results between the original authors and our verification process. These discrepancies might be partially attributed to differences in the operating systems used; the original study was conducted on Windows 11 using Stata 18, whereas the replication was performed on Windows 10 with the same version of Stata. Despite these differences, the discrepancies observed are minimal and have been thoroughly noted. These are considered to be minor and do not jeopardize reproducibility.
- **Reproducibility Summary:**
 - **Data:** All data sources are publicly available and included in the package.
 - **Code:** All code files, from cleaning to analysis, are included in the package.
 - **Outputs:** All outputs are generated by code included in the reproducibility package.
 - **Reproducibility verification:** Reviewers had access to the same materials in the public package.

*List of exhibits and reproducibility status***Results in the Main Section of the Paper**

- **Table 1** Reproduced
- **Table 2** Reproduced
- **Figure 1a** Reproduced
- **Figure 1b** Reproduced
- **Table 3** Reproduced with small differences Minor discrepancies exist between the 8th column Estimate of ATT. The value in the paper shows 9.26, while the code-produced output is 9.16. However, this difference is sufficiently small for the output to be considered as reproducible.
- **Figure 2a** Reproduced
- **Figure 2b** Reproduced
- **Table 4** Reproduced
- **Table 5** Reproduced

Results in the Annex

- **Table A1** Reproduced
- **Table A2** Reproduced
- **Table A3** Reproduced
- **Table A4** Reproduced
- **Table A5** Reproduced
- **Table A6** Reproduced
- **Table A7** Reproduced
- **Table A8** Reproduced
- **Table A9** Reproduced
- **Table A10** Reproduced
- **Table A11** Reproduced
- **Table A12** Reproduced
- **Table A13** Reproduced
- **Figure A1** Reproduced
- **Figure A2a** Reproduced

- **Figure A2b** Reproduced
- **Figure A3a** Reproduced
- **Figure A3b** Reproduced
- **Figure A3c** Reproduced
- **Figure A4a** Reproduced
- **Figure A4b** Reproduced with small differences – There are slight variations between the graph in the paper. Notable discrepancies include values such as 184.37 in the paper versus 184.41 in the code and 185.23 in the paper versus 184.96 in the code. As these differences are minimal, we consider the figure to be reproducible.

Reproduction Environment

- Paper exhibits were reproduced in a computer with the following specifications:
 - OS: Windows 10 Enterprise
 - Processor: Intel(R) Core(TM) i5-1145G7 CPU @ 2.60GHz
 - Memory available: 15.7 GB
 - Software version: Stata version 18