



Human Capital Expenditure and Its Effectiveness on Multi-Programme Coverage: A Policy Prioritization Investigation

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Kunal Singh, Mahin Tariq
reproducibility@worldbank.org

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This review verifies the reproducibility of the exhibits included in the paper "*Human Capital Expenditure and Its Effectiveness on Multi-Programme Coverage: A Policy Prioritization Investigation*".

Contents in this review:

1. Main findings
2. List of exhibits and reproducibility status
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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. Creating and activating a new environment in python 3.10
 2. Running the "main.py"
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 30 minutes to run.
- We conducted our reproducibility analysis based on the paper shared by the authors over email on May 19th.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 1 type of data: open
 - Open data is included in the package
 - *data_hash_report.csv* lists the SHA256 hashes of all files in the Data folder to support data integrity checks.
- **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** Does not apply Sourced from Guerrero and Castañeda (2024, Figure 4.3, p. 126).
- **Figure 9** Reproduced.
- **Figure 10** Reproduced.
- **Figure 11** Reproduced.
- **Figure 12** Reproduced.
- **Figure 13** Reproduced.
- **Figure 14** Reproduced.
- **Figure 15a** Reproduced.
- **Figure 15b** Reproduced.
- **Figure 16a** Reproduced.
- **Figure 16b** Reproduced.
- **Figure 17** Reproduced.
- **Figure 18** Reproduced.
- **Table 1** Does not show analysis results

Results in the Annex

- **Table C1** Does not show analysis results
- **Table C2** Does not show analysis results
- **Table C3** Does not show analysis results
- **Table C4** Does not show analysis results
- **Table C5** Does not show analysis results

Reproduction Environment

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

- OS: Windows 11 Enterprise
- Processor: INTEL(R) XEON(R) PLATINUM 8562Y+ 2.80 GHz (2 processors)
- Memory available: 32.0 GB
- Software version: Python 3.10