



Reproducible Research Repository

Human Capital Index Plus (HCI+) 2025

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This review verifies the reproducibility of the exhibits included in the paper “*Human Capital Index Plus (HCI+)*”.

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Main findings

- **Every dataset has been reproduced accurately.**
- The code was successfully executed on a new computer after:
 1. Running *run_HCIPlus.do*
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 10 minutes to run.
- We conducted our reproducibility analysis based on the final data files shared by the authors in the reproducibility package.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 2 types of data: open, and forthcoming data.
 - Open data is included in the public reproducibility package.
 - Reviewers used forthcoming data provided directly by the authors to conduct the reproducibility verification, and this is not included in the public reproducibility package. The data is forthcoming on the Development Data Hub.
 - Reviewers verified that the output data files match what was provided by the authors; results of this verification are documented in the file *comparison_report.csv*.
 - *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 can use this file to verify that the data has not been altered.
- **Reproducibility Summary:**

- **Data:** Some data is not yet publicly available but is expected to be made available through the Development Data Hub in the future.
- **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 files and reproducibility status

HCI Education

- *eys.dta* Reproduced.
- *eys_data.dta* Reproduced.
- *hci_education.dta* Reproduced.
- *hlo.dta* Reproduced.
- *hlo_data.dta* Reproduced.
- *tertiary_18to24.dta* Reproduced.
- *tertiary_18to24_data.dta* Reproduced.

HCI Health and Nutrition

- *asr.dta* Reproduced.
- *asr_data.dta* Reproduced.
- *hci_health_nutrition.dta* Reproduced.
- *mortality_25to65_data.dta* Reproduced.
- *mortality_25to65_epi_data.dta* Reproduced.
- *stunting_WDI.dta* Reproduced.
- *stunting_WDI_data.dta* Reproduced.
- *un_surv_25to55.dta* Reproduced.

HCI On-the-Job Learning

- *final_population_data.dta* Reproduced.
- *hci_on_job_learning.dta* Reproduced.
- *lfp_15to24_modeled.dta* Reproduced.
- *lfp_20to24_data.dta* Reproduced.
- *lfp_20to24_survey.dta* Reproduced.
- *lfp_25to54_data.dta* Reproduced.

- *lfp_25to54_modeled.dta* Reproduced.
- *lfp_25to54_survey.dta* Reproduced.
- *modeled_population_data.dta* Reproduced.
- *unemp_15to24_modeled.dta* Reproduced.
- *unemp_20to24_data.dta* Reproduced.
- *unemp_20to24_survey.dta* Reproduced.
- *unemp_25plus_modeled.dta* Reproduced.
- *unemp_25to54_data.dta* Reproduced.
- *unemp_25to54_survey.dta* Reproduced.
- *wempl_15to24_data.dta* Reproduced.
- *wempl_15to24_modeled.dta* Reproduced.
- *wempl_15to24_survey.dta* Reproduced.
- *wempl_25to54_data.dta* Reproduced.
- *wempl_25to54_modeled.dta* Reproduced.
- *wempl_25to54_survey.dta* Reproduced.
- *workingage_pop_data.dta* Reproduced.

HCI Plus

- *final_hciplus_component_data.csv* Reproduced.
- *final_hciplus_component_data.dta* Reproduced.
- *final_hciplus_component_data.xlsx* Reproduced.
- *hci_plus_index.dta* Reproduced.
- *hci_plus_index.xlsx* Reproduced.

Reproduction Environment

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

- OS: Windows 11 Enterprise
- Processor: Intel(R) Core(TM) i5-1145G7 CPU @ 2.60GHz
- Memory available: 15.7 GB
- Software version: Stata 19.5 MP