



## *Quality Matters: Estimating Economic Impacts of Improving Education Quality in the Kingdom of Saudi Arabia.*

*First Submission: RR\_WLD\_2026\_666*

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This review verifies the reproducibility of the exhibits included in the paper “*Quality Matters: Estimating Economic Impacts of Improving Education Quality in the Kingdom of Saudi Arabia.*”.

### **Contents in this review:**

1. Main findings
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### *Main findings*

- **Every exhibit in the main section of the paper and 9 exhibits in the appendix were reproduced accurately**
- The code was successfully executed on a new computer after:
  1. Updating the global directory in "estimation" do file on line 9 and run the file
  2. Updating the global directory in "WB Projection method" R script file on line 3 and run the file
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 3 minutes to run
- We conducted our reproducibility analysis based on the paper shared by the authors
- **Verification Process and Data Handling:**
  - The reproducibility package relies on 1 type of data: open data
  - Open data is 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:** 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**

- **Table 1** Reproduced.

#### **Results in the Annex**

- **Table B1** Reproduced.
- **Table B2** Reproduced.
- **Table B3** Reproduced.
- **Table B4** Reproduced.
- **Table B5** Reproduced. This Table was manually prepared in excel file "gcc\_mena\_ksa\_2025".
- **Table C1** Reproduced. This Table was manually prepared in excel file "gcc\_mena\_ksa\_2025".
- **Table C2** Reproduced. This Table was manually prepared in excel file "gcc\_mena\_ksa\_2025".
- **Table C3** Reproduced. This Table was manually prepared in excel file "gcc\_mena\_ksa\_2025".
- **Table D1** Does not apply.

### *Reproduction Environment*

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

- OS: Windows 11 Enterprise
- Processor: Intel(R) Xeon(R) Gold 5218 CPU @ 2.30GHz (2.30 GHz) (2 processors)
- Memory available: 16 GB
- Software version: Stata 19.5 MP