Replication materials for “The High Stakes of Bad Exams”
April 2023

This README file explains how to replicate the results in Rossiter, Abreh, Ali, and Sandefur, "The High Stakes of Bad Exams”.

Folder Structure

Programs are designed with the following folder structure in mind:

- An **input** folder where all data files included in this zip archive should be stored. These files are used but never altered.
- An **output** folder where all new data files will be saved.

You should redefine the global macros in the master program to correspond to the location of these folders on your machine.

Data

The paper relies on three sources of data. For the first two sources, we provide anonymised data files to enable replication, in the **input** folder:

1. Original data from our hybrid assessments with students in Ghana. These contain item-level responses and scores for mathematics and English. Datasets include all candidates. Test metadata—item keys, item content and cognitive domains—are included alongside and are required to convert our item references to those of the original WAEC exam scripts (do-files for these conversions are included).
2. Summary statistics of mathematics exam results from Ghana, Nigeria, Sierra Leone, and The Gambia, for 2011-2019. These were obtained from the Ministry of Education or National WAEC Office in each country.

The third source of data can be obtained from the World Bank:

3. World Bank STEPS Survey Data for Ghana (2013). These are downloadable via the following DOI: https://doi.org/10.48529/6m7b-0k59. This dataset includes two data files. Our analysis requires the file “STEP Ghana_working.dta” to be added to the **input** folder.

NB: for those not interested in running their own IRT model, we also include parameters for all items included in the analysis. These are included as “mat_obj_par.dta” and “mat_sub_par.dta” and should be saved into your **output** folder.

Programs

All calculations were done in Stata, version 16. “The High Stakes of Bad Exams Replication Materials.zip” archive contains one set of programs which uses the data inputs described above to replicate all results in the paper.

There is a file “00 master.do” from which all code can be run. Please refer to this file to identify the purpose and outputs of each program. The full set of programs is:

00 master	05 math ctt	10 difficulty adjusted trends
01 english convert to WAEC	06 math irt (objective)	11 WAEC compare
02 math combine	07 math irt (subjective)	12 simulate_gmb_nga
03 math convert to WAEC	08 math distribution	13 domain analysis
04 english ctt	09 decomposition	14 labor returns