Reproducibility Package: Women's Economic Empowerment in Bangladesh: An Evidence-Guided Toolkit for More Inclusive Policies

Contents

(1) Overview

This package fully reproduces all output of the report *Women's Economic Empowerment in Bangladesh: An Evidence-Guided Toolkit for More Inclusive Policies*. The package consists of this ReadMe file, the main script "master.do", a folder for cleaning the data for each data source (containing all cleaning code and data), and a folder for each Part of the report (containing all output and the code to produce the output).

(2) Data Availability

(2.1) Data Sources

1. **Labor Force Survey (LFS) 2005, 2010, 2013, 2015, 2016, 2022**
    a. **Availability**: Not publicly available. World Bank staff can access the data through the datalibweb data system.
    b. **Source**: World Bank datalibweb data system, instructions available at *https://datalibweb2.worldbank.org/home* on the World Bank Group intranet.

c. **URL**: N/A
d. **Access year**: 2024

2. **Household Income and Expenditure Survey (HIES) 2022**
    a. **Availability**: Not publicly available. World Bank staff can access the data through the datalibweb data system.
    b. **Source**: World Bank datalibweb data system, instructions available at *https://datalibweb2.worldbank.org/home* on the World Bank Group intranet.
    c. **URL**: N/A
    d. **Access year**: 2024
3. **Bangladesh Integrated Household Survey (BIHS) 2018**
    a. **Availability**: Publicly available.
    b. **Source**: International Food Policy Research Institute (IFPRI)
    c. **URL**: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/NXKLZJ
        i. The following datasets are used in this report:
            1. Weights dataset:
                a. 158_BIHS sampling weights_r3.dta
            2. Male Survey datasets:
                a. 010_bihs_r3_male_mod_b1.dta
                b. 017_bihs_r3_male_mod_e.dta
                c. 020_bihs_r3_male_mod_g.dta
                d. 043_bihs_r3_male_mod_k1.dta
                e. 050_bihs_r3_male_mod_k3.dta
        ii. To download these datasets, search for these datasets using the search feature and download the Stata format (.dta) files.
    d. **Access year**: 2024
4. **Time Use Survey (TUS) 2021**
    a. **Availability**: Not publicly available.
    b. **Source**: Bangladesh Bureau of Statistics (BBS) and UN Women Bangladesh
    c. **URL**: N/A
    d. **Access year**: 2024
5. **Findex 2017, 2021**:
    a. **Availability**: Publicly available.
    b. **Source**: World Bank
    c. **URL**:
        i. 2017: https://doi.org/10.48529/d3cf-fj47
        ii. 2021: https://doi.org/10.48529/jq97-aj70

iii. Download the Stata format (.dta) files for both years.

d. **Access year**: 2024

6. **Demographic and Health Survey (DHS) 2022:**
    a. **Availability**: Publicly available.
    b. **Source**: United States Agency for International Development (USAID)
    c. **URL**: https://dhsprogram.com/data/dataset/Bangladesh_Standard-DHS_2022.cfm?flag=1
        i. Download the "BDIR81FL.dta" dataset
    d. **Access year**: 2024
7. **Multiple Indicator Cluster Survey (MICS) 2019**
    a. **Availability**: Publicly available.
    b. **Source**: Bangladesh Bureau of Statistics (BBS) and UNICEF
    c. **URL**: https://mics.unicef.org/surveys
        i. Navigate to the Bangladesh-specific datasets page using the search/filter feature.
        ii. Download the 2019 (MICS 6) datasets
        iii. Dataset used in the report: **"**wm.sav"
    d. **Access year**: 2024
8. **Bangladesh Individual Consumption Study (BICS):**
    a. **Availability:** Not publicly available.
    b. **Source:** World Bank
    c. URL: N/A
    d. **Access year:** 2025
9. **World Values Survey (WVS) 2018:**
    a. **Availability**: Publicly available.
    b. **Source**: World Values Survey Association (WVSA) and UNDP
    c. **URL**:
        i. **WVS microdata (WVSA):**
            1. https://doi.org/10.14281/18241.24
            2. Navigate to the Bangladesh-specific datasets page using the search/filter feature.
            3. Download the dataset "WVS Wave 7 Bangladesh Stata v5.1"
        ii. **Gender Social Norms Index (GSNI) data (UNDP):** https://hdr.undp.org/sites/default/files/publications/additional-files/2023-06/GSNI2023_AnnexTables2.xlsx (available at https://hdr.undp.org/content/2023-gender-social-norms-index-gsni#/indicies/GSNI)
    d. **Access year**: 2024

10. **Dhaka Low-Income Area Gender, Inclusion, and Poverty (DIGNITY) 2018**
    a. **Availability**: Publicly available.
    b. **Source**: World Bank
    c. **URL**: https://doi.org/10.48529/gare-az26
        i. Download the zip file with the datasets in Stata format (.dta). Extract it.
        ii. The following Stata datasets are used in this report:
            1. hh_sec_02.dta
            2. ind_sec_02a.dta
            3. ind_sec_02b.dta
            4. ind_sec_06.dta
            5. weight.dta
    d. **Access year**: 2024
11. **World Bank Enterprise Survey (WBES) 2013, 2022**
    a. **Availability**: Publicly available.
    b. **Source**: World Bank
    c. **URL**:
        i. 2013: https://microdata.worldbank.org/index.php/catalog/1929
            1. Navigate to the World Bank Enterprise Survey (WBES) website and search for and download "Bangladesh-2013-full-data.dta"
        ii. 2022: https://microdata.worldbank.org/index.php/catalog/6497
            1. Navigate to the World Bank Enterprise Survey (WBES) website and search for and download "Bangladesh-2022-full-data.dta"
    d. **Access year**: 2024
12. **World Development Indicators (WDI)**
    a. **Availability**: Publicly available.
    b. **Source**: World Bank and International Labor Organization (ILO).
    c. **URL**: https://datatopics.worldbank.org/world-development-indicators.
    d. **Access year**: 2025
    e. **Indicators** (all accessed on July 25, 2025):
        i. SP.POP.TOTL
        ii. SP.POP.TOTL.FE.IN
        iii. SP.POP.TOTL.MA.IN
        iv. SL.TLF.ACTI.FE.ZS
        v. SL.TLF.ACTI.MA.ZS
    f. **Countries / Country Groups**: Afghanistan, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Maldives, Nepal, Pakistan, Sri Lanka, Thailand, Viet Nam, Lower- Middle Income country group, Upper-Middle Income country group.

g. **Year of data (for all indicators and countries / country groups)**: 2022

13. **Mapped in Bangladesh (MiB)**
    a. **Availability**: Not publicly available.
    b. **Source**: BRAC University, Dhaka, Bangladesh
    c. **URL**: N/A
    d. **Access year**: 2023
14. **Expert Survey conducted by the authors**
    a. **Availability**: Publicly available.
    b. **Source**: World Bank
    c. **URL**: https://microdata.worldbank.org/index.php/catalog/8028
        i. download the delimited format (.csv) file.
    d. **Access year**: 2025

Additional notes on data sources and availability:

- The raw dataset *bsic_2009_2020.csv* provided in the LFS raw data folder (Cleaning Code and Data\data\LFS\raw\) is a concordance between the BSIC 2009 industry codes and the BSIC 2020 industry codes. This dataset was constructed by the authors using the concordance table in Annexure II of the official BSIC 2020 report, available here: https://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/745673c8_c7ed_49bc_a4e2_e7b05fe7a9d4/2021-06-08-08-39-6be22d0db12b4087042cca9e0ff9222e.pdf.
- Figure 1.7 in the report uses LFS and HIES and is not reproduced by this reproducibility package. This is because the data that estimates wealth quintiles using survey-to-survey imputation is not publicly available.

(2.2) Statement about Rights

- We certify that the author(s) of the manuscript have legitimate access to and permission to use the data used in this manuscript.

(3) Instructions for Replicators

- Ensure all required software and dependencies are installed as listed in the Requirements section.

- Update the user path in the following do-files:
    - master.do (line 34)
- The master.do file installs the necessary user-written Stata packages.
- Running analyses for the whole report:
    - Execute the master analysis script (master.do) that sequentially runs the cleaning code for all Parts, following the do-files for each Part's figures and tables.
    - This will regenerate all output (figures, tables, in-text numerical citations) into the Part-specific output folders.
- Running analyses for a single Part of the report:
    - Use the mapping provided in Table 1 below to identify the datasets used in a Part to produce figures/tables.
    - Run the cleaning do-files for the required datasets first (in *..\Cleaning Code and Data\code\)*
    - Then run the do-files in the code folder in the folder for the relevant Part (e.g. for Part 1, run the code in *../Part 1/code/*)
    - This will regenerate all output (figures, tables, in-text numerical citations) into the Part-specific output folders.

Table 1: Mapping of datasets used in each Part of the report.

Part	**Datasets used**
Executive Summary	LFS 2022 HIES 2022
Part 1	LFS 2022 HIES 2022 TUS 2021 WDI
Part 2	LFS 2022 HIES 2022 BIHS 2018 MiB
Part 3	HIES 2022 BIHS 2018 TUS 2021 WVS 2018 MICS 2019 Findex 2021 DIGNITY 2018 BICS 2024

Appendix A	LFS 2022 HIES 2022 Findex 2021 BIHS 2018 TUS 2021 WVS 2018
Appendix B	LFS 2005 LFS 2010 LFS 2013 LFS 2015 LFS 2016 LFS 2022 HIES 2022 Experts Survey

(4) List of Exhibits

Table 2: List of Exhibits

Figure/Table number	Figure/Table file name	Folder	Code	Data	Data is Public
Executive Summary					
Fig ES.1	Fig_ES1.png	Executive Summary/ output/	figure_LFS_ES.do	LFS 2022	No
Fig ES.2	Fig_ES2.png	Executive Summary/ output/	figure_LFS_ES.do	LFS 2022	No
Fig ES.3	Fig_ES3_PanelA.png Fig_ES3_PanelB.png	Executive Summary/ output/	figure_LFS_ES.do	LFS 2022	No
Fig ES.4, Panel A	Fig_ES4_PanelA.png	Executive Summary/ output/	figure_LFS_ES.do	LFS 2022	No
Fig ES.4, Panel B	Fig_ES4_PanelB.png	Executive Summary/ output/	figures_ES4_PanelB_HIES.do	HIES 2022	No

Fig ES.5	Fig_ES5.png	Executive Summary/ output/	figure_LFS_ES.do	LFS 2022	No
Fig ES.6	Fig_ES6.png	Executive Summary/ output/	figure_ES6_hies.do	HIES 2022	No
Table ES.1	Not produced by code.				
Part 1					
Fig 1.1	Fig_1_1.png	Part1/output/	figure_1_1_WDI.do	WDI	Yes
Fig 1.2	Fig_1_2.png	Part1/output/	figure_LFS_part1.do	LFS 2022	No
Fig 1.3	Fig_1_3.png	Part1/output/	figure_LFS_part1.do	LFS 2022	No
Fig 1.4	Fig_1_4.png	Part1/output/	figure_LFS_part1.do	LFS 2022	No
Fig 1.5	Fig_1_5_PanelA.png, Fig_1_5_PanelB.png, Fig_1_5_PanelC.png, Fig_1_5_PanelD.png, Fig_1_5_PanelE.png, Fig_1_5_PanelF.png	Part1/output/	figure_LFS_part1.do	LFS 2022	No
Fig 1.6	Fig_1_6_PanelA.png, Fig_1_6_PanelB.png, Fig_1_6_PanelC.png	Part1/output/	figure_1_6_HIES.do	HIES 2022	No
Fig 1.7	Cannot be reproduced as data is not public				
Fig 1.8	Fig_1_8_PanelA.png, Fig_1_8_PanelB.png, Fig_1_8_PanelC.png,	Part1/ output/	figure_LFS_part1.do	LFS 2022	No

	Fig_1_8_PanelD.png				
Fig 1.9	Fig_1_9.png	Part1/ output/	figure_1_9_TUS.do	TUS 2021	No
Part 2					
Fig 2.1	Fig_2_1.png	Part2/output/	figure_LFS_part2.do	LFS 2022	No
Fig 2.2	Fig_2_2_PanelA.png, Fig_2_2_PanelB.png	Part2/output/	figure_2_2_BIHS.do	BIHS 2018	Yes
Fig 2.3	Fig_2_3_PanelA.png, Fig_2_3_PanelB.png	Part2/output/	figure_LFS_part2.do	LFS 2022	No
Fig 2.4	Fig_2_4_PanelA.png, Fig_2_4_PanelB.png	Part2/output/	figure_LFS_part2.do	LFS 2022	No
Fig 2.5	Fig_2_5.png	Part2/output/	figure_2_5_HIES.do	HIES 2022	No
Fig 2.6	Fig_2_6.png	Part2/output/	figure_LFS_part2.do	LFS 2022	No
Fig 2.7	Fig_2_7_PanelA.png, Fig_2_7_PanelB.png, Fig_2_7_PanelC.png	Part2/output/	figure_LFS_part2.do	LFS 2022	No
Part 3					
Tables 3.1-3.9	Not produced by code.				
Fig 3.1	Fig_3_1.png	Part3/output/	figure_3_1_BIHS.do	BIHS 2018	Yes
Fig 3.2	Fig_3_2_PanelA.png, Fig_3_2_PanelB.png	Part3/output/	figure_3_2_HIES.do	HIES 2022	No
Fig 3.3	Fig_3_3.png	Part3/output/	figure_3_3_TUS.do	TUS 2021	No

Fig 3.4, Panel A	Fig_3_4_PanelA.png	Part3/output/	figure_3_4_PanelA_MICS.do	MICS 2019	Yes
Fig 3.4, Panel B	Fig_3_4_PanelB.png	Part3/output/	figure_3_4_PanelB_Findex.do	Findex 2021	Yes
Fig 3.5, Panel A	Fig_3_5_PanelA.png	Part3/output/	figure_3_5_HIES.do	HIES 2022	No
Fig 3.5, Panel B	Fig_3_5_PanelB.png	Part3/output/	figure_3_5_DIGNITY.do	DIGNITY 2018	Yes
Appendix A					
Table A1	Table_A1_LFS_1.docx Table_A1_LFS_2.docx Table_A1_LFS_3.docx	AppendixA/output/	table_A1_LFS.do	LFS 2022	No
Table A1	Table_A1_HIES_1.docx Table_A1_HIES_2.docx	AppendixA/output/	table_A1_HIES.do	HIES 2022	No
Table A2	Table_A2_Findex.docx	AppendixA/output/	table_A2_Findex.do	Findex 2021	Yes
Table A3	Table_A3_BIHS_1.docx Table_A3_BIHS_2.docx Table_A3_BIHS_3.docx	AppendixA/output/	table_A3_BIHS.do	BIHS 2018	Yes
Table A4	Table_A4_TUS_1.docx table_A4_TUS_2.docx	AppendixA/output/	table_A4_TUS.do	TUS 2021	No
Table A5	Table_A5_WVS.docx	AppendixA/output/	table_A5_WVS.do	WVS 2018	Yes
Appendix B					
Table B1	Not produced by code.				
Table B2*	Table_B2.csv	AppendixB/output/	table_B2_B3_HIES.do	HIES 2022	No
Table B3	Table_B3_1.csv Table_B3_2.csv	AppendixB/output/	table_B2_B3_HIES.do	HIES 2022	No

Table B4	Table_B4.rtf	AppendixB /output/	table_B4_experts_ survey	Expert Survey (conducted by the authors)	Yes (provided in reproducibility package)
Fig B1	Fig_B1_PanelA.png, Fig_B1_PanelB.png	AppendixB /output/	figure_LFS_appB.do	LFS 2005-2022	No
Fig B2	Fig_B2_PanelA.Png, Fig_B2_PanelB.Png, Fig_B2_PanelC.png	AppendixB /output/	figure_LFS_appB.do	LFS 2005-2022	No
Table B5	Not produced by code.				
Fig B3	Fig_B3_PanelA.png, Fig_B3_PanelB.png	AppendixB /output/	figure_LFS_appB.do	LFS 2022	No
Fig B4	Fig_B4_PanelA.png, Fig_B4_PanelB.png	AppendixB /output/	figure_LFS_appB.do	LFS 2022	No
Fig B5	Fig_B5_PanelA.png, Fig_B5_PanelB.png	AppendixB /output/	figure_LFS_appB.do	LFS 2022	No

*** Notes**:

- The output file (*Table_B2.csv*) produced by the script *table_B2_B3_HIES.do* contains the full output of the Oaxaca decomposition. Table B2 in Appendix B in the report was constructed manually using the data in the output of the decomposition analysis. In particular,
    - The "Gender Gap" column in Table B2 corresponds to the row "difference" in *Table_B2.csv*.
    - The "Explained by Endowments" column in Table B2 is calculated as the value in the "explained" row divided by the value in the "difference" row, *if* both the values are statistically significant (as indicated by the stars).

(5) Requirements

(5.1) Computational Requirements

All output was generated on a laptop with the following:

- Memory: 32 GB RAM
- Storage Required: 180 GB free disk space

(5.2) Software Requirements

All output was generated using Stata 18. The following user-written packages (installed in the master.do) are used in the reproducibility package:

- dummieslab
- estout
- grc1leg2
- labsumm
- missings
- oaxaca
- quantiles
- unique
- wbopendata
- winsor2.

(6) Folder Structure

ROOT_FOLDER/
|
|--Cleaning Code and Data/
| |--_log_files/
| |--code/
| | |--cleaning_BIHS.do
| | |--cleaning_DHS.do
| | |--cleaning_DIGNITY.do
| | |--...
| |--data/
| | |--BIHS/
| | | |--clean
| | | |--raw
| | |--DHS/
| | |--DIGNITY/
| | |--...
|--Part1/
| |--_log_files/
| |--code/
| | |--figure1.do
| | |--figure2.do
| | |--...
| |--output/
| | |--figure1.png
| | |--figure2.png
| | |--...
| | |--svg_format
| | | |--figure1.svg
| | | |--figure2.svg
| | | |--...
|--Part1/
|--Part2/
|--Part3/
|--Executive Summary/
|--AppendixA/
|--AppendixB/
|--ReadMe.pdf