

README for the Reproducibility Package for the *Women, Business and the Law* 2024 Report

This ReadMe file is created to guide future readers through the package and how to proceed with replication of the *Women, Business and the Law* (WBL) 2024 Report.

Data Availability Statement/Data Sources

In this reproducibility package, we used the following data sources in “DataWork/Data/Raw” folder:

- **WBL 2.0 Data for 2024:** WBL 2.0 data encompasses the team’s newly revised questions assessing legal frameworks, supportive frameworks, and expert opinions. They cover the timeframe of WBL’s 2024 coding cycle (calendar year 2023). The sources of the data come from responses collected from expert surveys, verified by WBL analysts, and recorded in the Data Management System (DMS), a software platform that the team uses to code answers to survey questions based on experts’ responses. The files in the folder are:
 - “WBL2024_RAW_Data.xlsx”. The raw data is extracted from DMS portal. This file is included in the reproducibility package.
 - “WBL2024_ExpertOpinion_EOLevel_ToPublish.dta”. This dataset is published on WBL’s website and can be accessed [here](#) (Click on “Expert opinions by respondent”). The dataset is processed directly in Stata, removing personal information identifiers after downloaded from NGsurvey, a software platform used for survey design and accessible to the WBL team only. This file is included in the reproducibility package.
- **WBL 1.0 Data for 2024:** This data includes the set of 8 WBL indicators and used to produce output for the WBL 1.0 and WBL 2.0 comparisons. The dataset is extracted from DMS portal. The file in the folder is:
 - “WBL2024_RAW_Data_LegalFrameworks_1_0.xlsx”. This file is included in the reproducibility package.
- **WBL 1971 – 2024 Reforms Database on 1.0 Data:** a [publicly available dataset](#) denoting the reforms that WBL has documented for its 8 indicators. Data were accessed on October 29, 2024. The dataset is processed directly in Stata with no assembly in Excel. The file in the folder is:
 - “WBL-1971-2024-Reforms_Database.xlsx”. This file is included in the reproducibility package.

- **WBL 1.0 Data for 1971 – 2024 (Panel Data):** a [publicly available dataset](#) on WBL’s website, covering WBL 1.0 data over time with annual data for 190 economies during the period from 1971 to 2024 (calendar years 1970 to 2023). The dataset is processed directly in Stata with no assembly in Excel. Data were accessed on November 7, 2024. The file in the folder is:
 - *“WBL1-0-1971-2024.dta”*. This file is included in the reproducibility package.
- **WBL 2024 Data Revisions:** a [publicly available dataset](#) on WBL’s website, a document that explains the revisions made to the data published with the WBL 2023 report. The dataset is processed directly in Stata with no assembly in Excel. The revisions took place between the publication of the WBL 2023 report and the publication of the WBL 2024 report. They are part of the routine data updating process, and result from new information obtained, clarification of answers or consistency checks by the team during the WBL 2024 data collection cycle that have implications for previous years' data. All changes to the data are backed up by relevant legal basis and have undergone an internal review and clearance process as prescribed in the WBL Manual and Guide. This dataset serves as a reference point of what the data were recorded in WBL 2023’s report. Data were accessed on January 29, 2025.
 - *“WBL2024-Data-revisions-web.xlsx”*. This file is included in the reproducibility package.
- **Data on Job Restrictions:** This is a dataset extracted from DMS and reflected the categories of industry-specific restrictions that women face when performing certain jobs. Data were accessed on October 30, 2024. The file in the folder is:
 - *“WBL2024_Job_Restrictions_Data.xlsx”*. This file is included in the reproducibility package.

Furthermore, we used the following datasets from external sources and stored them in “DataWork/Data/Map”

- The official World Bank country boundaries shapefile to make world maps is used to present a distribution of WBL indexes. Data can be accessed [here](#) and are stored in the folder of “DataWork/Data/Map”.

Folder Structure

- **Reproducibility package_shared/Code:** This folder includes all the Stata do-files and R Scripts used in the data process and reflects each key step in the project. The do-files are listed below:

- **[WBL2024_Report_DataCreation.do]**: This file creates the clean datasets and saves them in “DataWork/Data/Final” subfolder. The created clean datasets are:
 - “WBL2024_LEGAL_PROCESS_EO_Index.dta”,
 - “WBL2024_LEGAL_PROCESS_EO_Index.xlsx”,
 - “WBL2024_LEGAL_PROCESS_EOIndex_ForComparisons.dta”,
 - “WBL2024_LEGAL_PROCESS_EOIndex_ForComparisons.xlsx”.

Note: The files ending with “*_ForComparisons” include dataset of N=164 economies that have Expert Opinions’ survey data available and are created to be used in producing Chapter 3 Figures on this subset of economies.
 - **[WBL2024_Report_ES_Chapter1.do]**: This file creates all the figures and tables included in the Executive Summary and Chapter 1 of the WBL 2024 report, except for Figures ES.6, ES.7, ES.8, which will be created in the R script.
 - **[WBL2024_Report_Chapter2.do]**: This file creates all the figures and tables included in Chapter 2 of the WBL 2024 report.
 - **[WBL2024_Report_Chapter3.do]**: This file creates all the figures and tables included in Chapter 3 of the WBL 2024 report, except for Figure 3.5, 3.17, and 3.18, which will be created in the R script.
 - **[WBL2024_Report_ES_Chapter3.R]**: This R script creates Figure ES.6 (the same as Figure 3.5), Figure ES.7 (the same as Figure 3.17), and Figure ES.8 (the same as Figure 3.18).
 - **[ado]**: This subfolder stores all the packages for the scripts to function well.
- **Reproducibility package_shared/DataWork**: This folder includes the raw and created datasets in the following subfolders:
 - **DataWork/Data/Raw**: This folder includes all the raw data sources that this report relies on. The raw data sources, as elaborated in the previous section on Data Availability Statement/Data Sources, encompass 1) WBL 2.0 Raw Data for Legal and Supportive Frameworks 2024, 2) WBL 2.0 Raw Data for Expert Opinions 2024, 3) WBL 1.0 Raw Data for Legal Frameworks 2024, 4) WBL 1971-2024 Reform Database on 1.0 Data, 5) WBL 1.0 Data for 1971-2024 (Panel Data), 6) Data Revisions file reflecting the revisions made to the data published with the WBL 2023 report, 7) Data on job restrictions in WBL 2024
 - **DataWork/Data/Map**: This folder stores the official World Bank country boundary shapefiles and the dta files to make maps.

- **DataWork/Data/Final:** This folder stores processed data files to make graphs. It stores four data sets cleaned by **[WBL2024_Report_DataCreation.do]**, two of which are in dta and two in xlsx forms. It also contains a dta file named “map_wb.dta” that combines shapefiles to create the world map together with WBL indicators for legal frameworks, supportive frameworks, and expert opinions.
- **Reproducibility package_shared/Outputs:** This folder includes all the figures and tables included in the manuscript (i.e. WBL 2024 report) that are created in the do-files. The outputs are saved in different subfolders based on their chapter in the manuscript:
 - **Outputs/ExecutiveSummary:** This folder contains all tables and figures in the Executive Summary of the WBL 2024 Report.
 - **Outputs/Chapter1:** This folder contains all tables and figures in Chapter 1 of the WBL 2024 Report.
 - **Outputs/Chapter2:** This folder contains all tables and figures in Chapter 2 of the WBL 2024 Report.
 - **Outputs/Chapter3:** This folder contains all tables and figures in Chapter 3 of the WBL 2024 Report.

Note: The section titled “Directories of Tables and Figures” in this README file provides a comprehensive list of the graphs, the programming tools to create them, and the corresponding scripts.

- **Reproducibility package_shared/Docs:** This folder includes the manuscript and the excel file for the directories of the outputs:
 - **“WBL2024_EnglishFullReport.pdf”:** This is the WBL 2024 report English version which can be access [here](#)
 - **“WBL 2024 Report_FiguresTables.xlsx”:** This provides a comprehensive list of the graphs, the programming tools to create them, and the corresponding scripts. It is the same as the table under the section titled “Directories of Tables and Figures” in this README file.

Reproduction Instructions

The materials included in the reproducibility package allow users to reproduce all exhibits. Users can reproduce the results by following these steps:

1. Setting the username and the global paths in lines 18 -19 of “main.do”
2. Run main do-file sequentially, and switch from 0 to 1 to run the following do-files in lines 57-60 of “main.do”: “WBL 2024_Report_DataCreation.do”,

“WBL2024_Report_ES_Chapter1.do”, “WBL2024_Report_Chapter2.do”,
 “WBL2024_Report_Chapter3.do”

3. Run the R Script “WBL2024_Report_ES_Chapter3.R” to produce the remaining graphs

Notes on Data

Due to the rounding differences between Excel and Stata, there exist minute differences with the following list of figures:

Figures	Stata Outputs	Excel Outputs
Figure 3.6 (a) – By Region	Percentage of decrease for Sub-Saharan Africa is 22.5%	Percentage of decrease for Sub-Saharan African is 22.4%
Figure 3.14	Average of Assets is 81.2	Average of Assets is 81.3
Figure 3.16	Both WBL 2.0 legal and expert opinions scores for Assets are 81.2	Both WBL 2.0 legal and expert opinions scores for Assets are 81.3

Directories of Tables and Figures

Output Type	Chapter	Number in the Report	Programming	Script
Figure	Executive Summary	Figure ES.1	Not Codable	NA
Table	Executive Summary	Table ES.1	Not Codable	NA
Figure	Executive Summary	Figure ES.2	Stata	WBL2024_Report_ES_Chapter1.do
Figure	Executive Summary	Figure ES.3	Stata	WBL2024_Report_ES_Chapter1.do
Figure	Executive Summary	Figure ES.4	Stata	WBL2024_Report_ES_Chapter1.do
Figure	Executive Summary	Figure ES.5	Stata	WBL2024_Report_ES_Chapter1.do
Figure	Executive Summary	Figure ES.6	R	WBL2024_Report_ES_Chapter3.R
Figure	Executive Summary	Figure ES.7	R	WBL2024_Report_ES_Chapter3.R
Figure	Executive Summary	Figure ES.8	R	WBL2024_Report_ES_Chapter3.R
Figure	Executive Summary	Figure ES.9	Stata	WBL2024_Report_ES_Chapter1.do
Figure	Executive Summary	Figure ES.10	Not Codable	NA
Table	Executive Summary	Table ES.A.1	Not Codable	NA
Table	Executive Summary	Table ES.B.1, Annex ES.B	Stata	WBL2024_Report_ES_Chapter1.do
Table	Chapter 1	Table 1.1	Stata	WBL2024_Report_ES_Chapter1.do
Figure	Chapter 1	Figure 1.1	Stata	WBL2024_Report_ES_Chapter1.do
Figure	Chapter 1	Figure 1.2	Stata	WBL2024_Report_ES_Chapter1.do
Figure	Chapter 1	Figure 1.3	Stata	WBL2024_Report_ES_Chapter1.do
Table	Chapter 1	Table 1.2	Stata	WBL2024_Report_ES_Chapter1.do

Figure	Chapter 1	Figure 1.4	Not Codable	NA
Table	Chapter 1	Table 1.3	Stata	WBL2024_Report_ES_Chapter1.do
Figure	Chapter 2	Figure 2.1	Not Codable	NA
Table	Chapter 2	Table 2.1	Not Codable	NA
Figure	Chapter 2	Figure 2.2	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.3	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.4	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.5	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.6	Stata	WBL2024_Report_Chapter2.do
Table	Chapter 2	Table 2.2	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.7	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.8	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.9	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.10	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.11	Stata	WBL2024_Report_Chapter2.do
Table	Chapter 2	Table 2.3	Not Codable	NA
Figure	Chapter 2	Figure 2.12	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 3	Figure 2.13	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 4	Figure 2.14	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 5	Figure 2.15	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 6	Figure 2.16	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 7	Figure 2.17	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 8	Figure 2.18	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 9	Figure 2.19	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 10	Figure 2.20	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 11	Figure 2.21	Stata	WBL2024_Report_Chapter2.do
Table	Chapter 12	Table 2.4	Stata	WBL2024_Report_Chapter2.do
Figure	Chapter 2	Figure 2.22	Not Codable	NA
Table	Chapter 2	Annex 2A - Table 2A.1	Not Codable	NA
Figure	Chapter 3	Figure 3.1	Not Codable	NA
Map	Chapter 3	Map 3.1	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.2	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.3	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.4	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.5	R	WBL2024_Report_ES_Chapter3.R
Figure	Chapter 3	Figure 3.6	Stata	WBL2024_Report_Chapter3.do
Map	Chapter 3	Map 3.2	Stata	WBL2024_Report_Chapter3.do

Figure	Chapter 3	Figure 3.7	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.8	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.9	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.10	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.11	Stata	WBL2024_Report_Chapter3.do
Map	Chapter 3	Map 3.3	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.12	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.13	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.14	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.15	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.16	Stata	WBL2024_Report_Chapter3.do
Figure	Chapter 3	Figure 3.17	R	WBL2024_Report_ES_Chapter3.R
Figure	Chapter 3	Figure 3.18	R	WBL2024_Report_ES_Chapter3.R
Figure	Chapter 3	Figure 3.19	Stata	WBL2024_Report_Chapter3.do
Table	Chapter 3	Annex 3A	Stata	WBL2024_Report_Chapter3.do