Reproducible Research Repository

Business Ready 2024

Fourth Submission: FR_WLD_2024_155
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This review verifies the reproducibility of the datasets and exhibits included in the flagship report *"Business Ready 2024"*.

Contents in this review:

1. Main findings

2. List of results and reproducibility status

3. Reproduction Environment

Main findings

- The code was successfully executed on a new computer after:

  1. Modifying the global path in line 86 of *03_Code/00_Master.do*.

  2. Modifying the global path in line 26 of *B-READY_Analytics_Reproducibility_Package/code/00_Master.do*

- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.

- The code takes approximately 1 hour to run.

- We conducted our reproducibility analysis of the resulting datasets based on the Excel files of the folder *04_Output/04_Score*, shared by the authors via OneDrive on September 18, 2024.

- We conducted our reproducibility analysis of the report exhibits based on the report in the folder *B-READY_Analytics_Reproducibility_Package/manuscript*, shared by the authors via OneDrive on September 24, 2024.

- All resulting datasets reproduced accurately.

- All report exhibits reproduced accurately.

- **Reproducibility Summary**:

  - **Data**: Some data is restricted and has not been included in the reproducibility package. For more details, please refer to the README file.

  - **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.

– **Reproducibility verification**: Reviewers used data provided directly by the authors to conduct the reproducibility verification; some of these are not included in the public reproducibility package. The reviewers did not verify if publicly available data matches the data provided by the authors.

– **Dependencies environment**: The reviewers created a new environment for dependencies using the latest versions available for each dependency at the moment of the review.

List of results and reproducibility status

Datasets

This list includes all datasets saved in the folder *04_Output/04_Score*.

- **BE_Score.xlsx** Reproduced.

- **BI_Score.xlsx** Reproduced.

- **BL_Score.xlsx** Reproduced.

- **DR_Score.xlsx** Reproduced.

- **FS_Score.xlsx** Reproduced.

- **IT_Score.xlsx** Reproduced.

- **Labor_Score.xlsx** Reproduced.

- **MC_Score.xlsx** Reproduced.

- **Taxation_Score.xlsx** Reproduced.

- **US_Score.xlsx** Reproduced.

Results in the Executive Summary

- **Figure ES.1** Does not apply: the exhibit does not show data analysis results.

- **Figure ES.2** Does not apply: the exhibit does not show data analysis results.

- **Figure ES.3** Does not apply: the exhibit does not show data analysis results.

- **Table ES.1** Reproduced. The exhibit was compared against *table4.tex*.

- **Figure ES.4 - a** Reproduced. The exhibit was compared against *BReady_economies_number_P1_20240919.PNG*.

- **Figure ES.4 - b** Reproduced. The exhibit was compared against *BReady_economies_number_P2_20240919.PNG*.

- **Figure ES.4 - c** Reproduced. The exhibit was compared against *BReady_economies_number_P3_20240919.PNG*.

- **Table ES.2** Reproduced. The exhibit was compared against the columns with the name prefix *overall* in *BReady_Aggregate_20240919.dta*

- **Figure ES.5** Reproduced. The exhibit was compared against *histogram_topics_v2.png*.

- **Figure ES.6 - a** Reproduced. The exhibit was compared against *BReady_GDP_Pillar_1_20240919.PNG*.

- **Figure ES.6 - b** Reproduced. The exhibit was compared against *BReady_GDP_Pillar_2_20240919.PNG*.

- **Figure ES.6 - c** Reproduced. The exhibit was compared against *BReady_GDP_Pillar_3_20240919.PNG*.

- **Figure ES.7** Does not apply: the exhibit does not show data analysis results.

- **Figure ES.8** Reproduced. The exhibit was compared against *dist_p1_p2_p3_20240919.png*.

- **Figure ES.9** Reproduced. The exhibit was compared against *fig3_3_20240919.PNG*.

- **Figure ES.10** Reproduced. The exhibit was compared against *BReady_Average_P1_P2_20240919.PNG*.

- **Figure ES.11 - a** Reproduced. The exhibit was compared against *es_11a.png*.

- **Figure ES.11 - b** Reproduced. The exhibit was compared against *es_11b.png*.

- **Figure ES.11 - c** Reproduced. The exhibit was compared against *GAPS_pillar12.png*.

- **Figure ES.12** Reproduced. The exhibit was compared against *pillar12_7Groups_2.png*.

- **Figure ES.13** Reproduced. The exhibit was compared against *BReady_P1_P2_Average_pillar_3_20240919.PNG*.

- **Figure ES.14** Reproduced. The exhibit was compared against *spider3.png*.

- **Figure ES.15** Reproduced. The exhibit was compared against *boxplot_topic.png*

- **Figure ES.16** Reproduced. The exhibit was compared against *BReady_Average_Topic_score_Correlogram_20240919.PNG*.

Results in the section: Introduction

- **Figure 1.1** Does not apply: the exhibit does not show data analysis results.

- **Figure 1.2** Does not apply: the exhibit does not show data analysis results.

- **Figure 1.3** Does not apply: the exhibit does not show data analysis results.

- **Figure 1.4** Does not apply: the exhibit does not show data analysis results.

- **Figure 1.5** Does not apply: the exhibit does not show data analysis results.

Results in the section: B-READY 2024 Data and Summary Results

- **Table 2.1** Reproduced. Pillar 1, 2, and 3 results were compared against columns *Pillar_1*, *Pillar_2*, and *Pillar_3* of *BReady_Aggregate_20240919.dta*.

- **Figure 2.1 - a** Reproduced. The exhibit was compared against *BReady_economies_number_P1_20240919.PNG*.

- **Figure 2.1 - b** Reproduced. The exhibit was compared against *BReady_economies_number_P2_20240919.PNG*.

- **Figure 2.1 - c** Reproduced. The exhibit was compared against *BReady_economies_number_P3_20240919.PNG*.

- **Table 2.2** Reproduced. The exhibit was compared against the columns with the name prefix *overall* in *BReady_Aggregate_20240919.dta*

- **Figure 2.2** Reproduced. The exhibit was compared against *histogram_topics_v2.png*

- **Figure 2.3 - a** Reproduced. The exhibit was compared against *BReady_GDP_Pillar_1_20240919.PNG*.

- **Figure 2.3 - b** Reproduced. The exhibit was compared against *BReady_GDP_Pillar_2_20240919.PNG*.

- **Figure 2.3 - c** Reproduced. The exhibit was compared against *BReady_GDP_Pillar_3_20240919.PNG*.

- **Figure 2.4 - a** Reproduced. The exhibit was compared against *BReady_fdi_Pillar_1_20240919.PNG*.

- **Figure 2.4 - b** Reproduced. The exhibit was compared against *BReady_fdi_Pillar_2_20240919.PNG*.

- **Figure 2.4 - c** Reproduced. The exhibit was compared against *BReady_fdi_Pillar_3_20240919.PNG*.

- **Figure 2.5** Does not apply: the exhibit does not show data analysis results.

- **Figure B2.1.1 - a** Reproduced. The exhibit was compared against *BReady_FF_SB_P1_20240919.PNG*.

- **Figure B2.1.1 - b** Reproduced. The exhibit was compared against *BReady_FF_SB_P2_20240919.PNG*.

- **Figure 2.6 - a** Reproduced. The exhibit was compared against *BReady_Average_DB_Pillar_1_20240919.PNG*

- **Figure 2.6 - b** Reproduced. The exhibit was compared against *BReady_Average_DB_Pillar_2_20240919.PNG*

- **Figure 2.6 - c** Reproduced. The exhibit was compared against *BReady_Average_DB_Pillar_3_20240919.PNG*

Results in the section: B-READY Pillar Results

- **Table 3.1** Reproduced. The exhibit was compared against *table4.tex*.

- **Figure 3.1 - a** Reproduced. The exhibit was compared against *BReady_P1_avg_20240919.PNG*.

- **Figure 3.1 - b** Reproduced. The exhibit was compared against *BReady_P2_avg_20240919.PNG*.

- **Figure 3.1 - c** Reproduced. The exhibit was compared against *BReady_P3_avg_20240919.PNG*.

- **Figure 3.2** Reproduced. The exhibit was compared against *dist_p1_p2_p3_20240919.png*.

- **Figure 3.3** Reproduced. The exhibit was compared against *fig3_3_20240919.PNG*.

- **Figure 3.4 - a - 1** Reproduced. The exhibit was compared against *dispersion_overall_P1_regions.png*

- **Figure 3.4 - a - 2** Reproduced. The exhibit was compared against *dispersion_overall_P1_income.png*.

- **Figure 3.4 - b - 1** Reproduced. The exhibit was compared against *dispersion_overall_P2_regions.png*.

- **Figure 3.4 - b - 2** Reproduced. The exhibit was compared against *dispersion_overall_P2_income.png*.

- **Figure 3.4 - c - 1** Reproduced. The exhibit was compared against *dispersion_overall_P3_regions.png*.

- **Figure 3.4 - c - 2** Reproduced. The exhibit was compared against *dispersion_P3_income.png*.

- **Figure 3.5** Reproduced. The exhibit was compared against *BReady_Average_P1_P2_20240919.PNG*

- **Figure 3.6 - a** Reproduced. The exhibit was compared against *es_11a.png*.

- **Figure 3.6 - b** Reproduced. The exhibit was compared against *es_11b.png*.

- **Figure 3.6 - c** Reproduced. The exhibit was compared against *GAPS_pillar12.png*.

- **Figure 3.7** Reproduced. The exhibit was compared against *pillar12_7Groups_2.png*.

- **Figure 3.8** Reproduced. The exhibit was compared against *BReady_P1_P2_Average_pillar_3_20240919.PNG*.

Results in the section: B-READY Topic Results

- **Table 4.1** Does not apply: the exhibit does not show data analysis results.

- **Table 4.2** Does not apply: the exhibit does not show data analysis results.

- **Table 4.3** Does not apply: the exhibit does not show data analysis results.

- **Table 4.4** Does not apply: the exhibit does not show data analysis results.

- **Table 4.5** Does not apply: the exhibit does not show data analysis results.

- **Table 4.6** Does not apply: the exhibit does not show data analysis results.

- **Table 4.7** Does not apply: the exhibit does not show data analysis results.

- **Table 4.8** Does not apply: the exhibit does not show data analysis results.

- **Table 4.9** Does not apply: the exhibit does not show data analysis results.

- **Table 4.10** Does not apply: the exhibit does not show data analysis results.

- **Table 4.11** Reproduced. The exhibit was compared against *table1.tex*.

- **Figure 4.1** Reproduced. The exhibit was compared against *boxplot_topic.png*

- **Figure 4.2** Reproduced. The exhibit was compared against *spider3.png*.

- **Figure 4.3** Reproduced. The exhibit was compared against *BReady_Average_Topic_score_Correlogram_20240919.PNG.*

- **Figure 4.4 - a** Reproduced. The exhibit was compared against *topic_Business Entry_overall_20240919.PNG.*

- **Figure 4.4 - b** Reproduced. The exhibit was compared against *topic_Business Location_overall_20240919.PNG.*

- **Figure 4.4 - c** Reproduced. The exhibit was compared against *topic_Utility Services_overall_20240919.PNG.*

- **Figure 4.4 - d** Reproduced. The exhibit was compared against *topic_Labor_overall_20240919.PNG.*

- **Figure 4.4 - e** Reproduced. The exhibit was compared against *topic_Financial Services_overall_20240919.PNG.*

- **Figure 4.4 - f** Reproduced. The exhibit was compared against *topic_International Trade_overall_20240919.PNG.*

- **Figure 4.4 - g** Reproduced. The exhibit was compared against *topic_Taxation_overall_20240919.PNG.*

- **Figure 4.4 - h** Reproduced. The exhibit was compared against *topic_Dispute Resolution_overall_20240919.PNG.*

- **Figure 4.4 - i** Reproduced. The exhibit was compared against *topic_Market Competition_overall_20240919.PNG.*

- **Figure 4.4 - j** Reproduced. The exhibit was compared against *topic_Business Insolvency_overall_20240919.PNG.*

- **Figure 4.5 - a** Reproduced. The exhibit was compared against *dispersion_Business Entry_regions.png.*

- **Figure 4.5 - b** Reproduced. The exhibit was compared against *dispersion_Business Location_regions.png.*

- **Figure 4.5 - c** Reproduced. The exhibit was compared against *dispersion_Utility Services_regions.png.*

- **Figure 4.5 - d** Reproduced. The exhibit was compared against *dispersion_Labor_regions.png.*

- **Figure 4.5 - e** Reproduced. The exhibit was compared against *dispersion_Financial Services_regions.png.*

- **Figure 4.5 - f** Reproduced. The exhibit was compared against *dispersion_International Trade_regions.png.*

- **Figure 4.5 - g** Reproduced. The exhibit was compared against *dispersion_Taxation_regions.png.*

- **Figure 4.5 - h** Reproduced. The exhibit was compared against *dispersion_Dispute Resolution_regions.png.*

- **Figure 4.5 - i** Reproduced. The exhibit was compared against *dispersion_Market Competition_regions.png.*

- **Figure 4.5 - j** Reproduced. The exhibit was compared against *dispersion_Business_Insolvency_regions.png.*

- **Figure 4.6 - a** Reproduced. The exhibit was compared against *dispersion_Business Entry_income.png.*

- **Figure 4.6 - b** Reproduced. The exhibit was compared against *dispersion_Business Location_income.png.*

- **Figure 4.6 - c** Reproduced. The exhibit was compared against *dispersion_Utility Services_income.png.*

- **Figure 4.6 - d** Reproduced. The exhibit was compared against *dispersion_Labor_income.png.*

- **Figure 4.6 - e** Reproduced. The exhibit was compared against *dispersion_Financial Services_income.png.*

- **Figure 4.6 - f** Reproduced. The exhibit was compared against *dispersion_International Trade_income.png.*

- **Figure 4.6 - g** Reproduced. The exhibit was compared against *dispersion_Taxation_income.png.*

- **Figure 4.6 - h** Reproduced. The exhibit was compared against *dispersion_Dispute Resolution_income.png*.

- **Figure 4.6 - i** Reproduced. The exhibit was compared against *dispersion_Market Competition_income.png*.

- **Figure 4.6 - j** Reproduced. The exhibit was compared against *dispersion_Business_Insolvency_income.png*.

- **Figure 4.7 - a** Reproduced. The exhibit was compared against *Average_Topic_score_Pillar_1_20240919.PNG*.

- **Figure 4.7 - b** Reproduced. The exhibit was compared against *Average_Topic_score_Pillar_2_20240919.PNG*.

- **Figure 4.7 - c** Reproduced. The exhibit was compared against *Average_Topic_score_Pillar_3_20240919.PNG*.

- **Table 4.12** Does not apply: the exhibit does not show data analysis results.

- **Table 4.13** Does not apply: the exhibit does not show data analysis results.

- **Table 4.14** Does not apply: the exhibit does not show data analysis results.

Results in section: Lessons Learned and What Is Next

No exhibits are included in this section.

Results in the Appendix

- **Table A.1** Reproduced. The exhibit was compared against *table_9_BE_annex.tex*.

- **Table A.2** Reproduced. The exhibit was compared against *table_9_BL_annex.tex*.

- **Table A.3** Reproduced. The exhibit was compared against *table_9_US_annex.tex*.

- **Table A.4** Reproduced. The exhibit was compared against *table_9_L_annex.tex*.

- **Table A.5** Reproduced. The exhibit was compared against *table_9_FS_annex.tex*.

- **Table A.6** Reproduced. The exhibit was compared against *table_9_IT_annex.tex*.

- **Table A.7** Reproduced. The exhibit was compared against *table_9_T_annex.tex*.

- **Table A.8** Reproduced. The exhibit was compared against *table_9_DR_annex.tex*.

- **Table A.9** Reproduced. The exhibit was compared against *table_9_MC_annex.tex*.

- **Table A.10** Reproduced. The exhibit was compared against *table_9_BI_annex.tex*.

- **Table B .1** Does not apply: the exhibit does not show data analysis results.

Reproduction Environment

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

- **OS:** Windows 10 Enterprise

- **Processor:** Intel(R) Xeon(R) Gold 6226R CPU @ 2.90GHz 2.90 GHz (2 processors)

- **Memory available:** 128 GB

- **Software version:** Stata 18.0 MP