Unveiling Multidimensional Poverty: Insights from the EU

Second Submission: RR_EUE_2024_197
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This review verifies the reproducibility of the exhibits included in the paper " *Unveiling Multidimensional Poverty: Insights from the EU*".

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2. List of exhibits and reproducibility status

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Main findings

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

  1. Change the path in the main do file.

- All outputs demonstrate stability across multiple runs. Specifically, executing the code two times consecutively yielded same results.

- The code takes approximately 45 minutes to run.

- We conducted our reproducibility analysis based on the paper shared by the authors.

- All the exhibits reproduced fully.

- **Reproducibility Summary**:

  - **Data**: All data is confidential 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**: The reviewers conducted the reproducibility verification using data provided directly by the authors, which is not included in the public reproducibility package. The reviewers did not verify whether the publicly available data matches the data supplied by the authors. Part of the verification process was done virtually, as not all data was made available to the reviewers.

  - **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 exhibits and reproducibility status

Results in the Main Section of the Paper

- **Figure 1** Reproduced. The figure produced by the code has different color formats and the regions are in a different order. However, since the numbers are the same, this does not affect reproducibility.

- **Figure 2** Reproduced. The figure produced by the code has different color formats. However, since the numbers are the same, this does not affect reproducibility.

- **Figure 3** Reproduced. The figure values were checked against the last column of Tables A4.1 to A4.4.

- **Figure 4** Reproduced. The figure values were checked against the coefficients in columns of Table A4.9.

- **Figure 5** Reproduced. The figure values were checked against the first two columns (Column 1 and 2) of Table A4.10

- **Table 1** Does not show analysis results.

- **Table 2** Does not show analysis results.

- **Table 3** Reproduced.

- **Table 4** Reproduced.

- **Table 5** Reproduced.

- **Table 6** Reproduced.

- **Table 7** Reproduced.

- **Table 8** Reproduced.

- **Table 9** Reproduced.

- **Table 10** Reproduced. The exhibit was part of the output from the virtual verification process.

- **Table 11** Reproduced. The exhibit was part of the output from the virtual verification process.

- **Table 12** Reproduced. The exhibit was part of the output from the virtual verification process.

- **Table 13** Reproduced. The exhibit was part of the output from the virtual verification process.

Results in the Annex

- **Table A3.1** Reproduced.

- **Table A3.2** Reproduced. The last row "EU - 27 (Excluding Germnay) was verified from last row of Table A3.1

- **Table A3.3** Reproduced.

- **Table A3.4** Reproduced.

- **Table A3.5** Reproduced.

- **Table A3.6** Reproduced. The exhibit was part of the output from the virtual verification process.

- **Table A4.1** Reproduced.

- **Table A4.2** Reproduced.

- **Table A4.3** Reproduced.

- **Table A4.4** Reproduced.

- **Table A4.5** Reproduced.

- **Table A4.6** Reproduced.

- **Table A4.7** Reproduced.

- **Table A4.8** Reproduced.

- **Table A4.9** Reproduced. The exhibit was part of the output from the virtual verification process.

- **Table A4.10** Reproduced. The exhibit was part of the output from the virtual verification process.

Reproduction Environment

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

  – OS: Windows 11 Enterprise

  – Processor Intel(R) Xeon(R) Gold 6226R CPU @ 2.90GHz, 2900 Mhz, 4 Core(s), 4 Logical Processor(s)

  – Memory available: 32.0 GB

  – Software version: Stata version 18 MP