



Horizontal Equity Of Taxation: Citizen Beliefs And Policy Preferences

First Submission: RR_WLD_2026_613

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May 14, 2026

This review verifies the reproducibility of the exhibits included in the paper “*Horizontal Equity Of Taxation: Citizen Beliefs And Policy Preferences*”.

Contents in this review:

1. Main findings
2. List of exhibits and reproducibility status
3. Reproduction Environment

Main findings

- **Every exhibit in the main section of the paper and 10 randomly selected exhibits in the appendix were reproduced accurately**
- The code was successfully executed on a new computer after:
 1. Updating the working directory of the do-file Reproducibility_microsimulations/dofiles/0a_master_horizontal_equity.do, and running it.
 2. Updating the working directory of the do-file Reproducibility_experiments/online_survey/do/1_master.do, and running it.
 3. Updating the working directory of the do-file Reproducibility_experiments/inperson_survey/Do_file/1_master.do, and running it.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 2 hours to run.
- We conducted our reproducibility analysis based on the paper shared by the authors in the reproducibility package.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on four types of data: open, accesible, limited-access, and restricted data.
 - Open data is included in the public reproducibility package.
 - Reviewers used limited-access/restricted data provided directly by the authors to conduct the reproducibility verification, and this is not included in the public reproducibility package.

- *data_hash_report.csv* lists the SHA256 hashes of all files in the Data folder to support data integrity checks. Users who acquire the forthcoming/accessible/limited-access/restricted data can use this file to verify that the data has not been altered.
- **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.
 - **Dependencies environment:** The reviewers created a new environment using the latest versions of dependencies available at the moment of the review.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Figure 1a Reproduced.** Verified against Reproducibility_microsimulations/graphs/share_se_p90_cross_count_exp2_se50_emp100_adj1.pdf.
- **Figure 1b Reproduced.** Verified against Reproducibility_microsimulations/graphs/share_se_pitexpm_cross_count_exp2_se50_emp100_adj1.pdf.
- **Figure 2a Reproduced.** Verified against Reproducibility_microsimulations/graphs/shares_inf_se_ci_exp2_se50_emp100_adj1.pdf.
- **Figure 2b Reproduced.** Verified against Reproducibility_microsimulations/graphs/eff_VAT_topdecile_exp2_se50_emp100_adj1.pdf.
- **Figure 3a Reproduced.** Verified against Reproducibility_microsimulations/graphs/he_ve_scatter_exp2_se50_emp100_adj1_v2.pdf.
- **Figure 3b Reproduced.** Verified against Reproducibility_microsimulations/graphs/he_ve_arrows_exp2_se50_emp100_adj1_v2.pdf.
- **Figure 4** Does not show analysis results.
- **Figure 5a Reproduced.** Verified against Reproducibility_experiments/inperson_survey/Outputs/img/Fig8_PanelA_combined.png. Formatting differences.
- **Figure 5b Reproduced.** Verified against Reproducibility_experiments/inperson_survey/Outputs/img/Fig8_PanelB_combined.png. Formatting differences.
- **Figure 5c Reproduced.** Verified against Reproducibility_experiments/inperson_survey/Outputs/img/Fig8_PanelC_combined.png. Formatting differences.
- **Table 1 Reproduced.** Verified against Reproducibility_experiments/inperson_survey/Outputs/table/table1.tex.
- **Table 2 Reproduced.** Verified against Reproducibility_experiments/inperson_survey/Outputs/table/table2.tex.

- **Table 3 Reproduced.** Verified against `Reproducibility_experiments/inperson_survey/Outputs/table/table3.tex`.
- **Table 4 Reproduced.** Verified against `Reproducibility_experiments/inperson_survey/Outputs/table/table4.tex`.
- **Table 5 Reproduced.** Verified against `Reproducibility_experiments/inperson_survey/Outputs/table/table5.tex`.

Results in the Annex

For the Appendix, we did not review every exhibit. Instead, we randomly selected 10 exhibits from the remaining datasets to assess the appendix. Our review was based on those 10 exhibits. Since they were chosen randomly, we are operating under the assumption that if all randomly selected exhibits are reproducible, then the rest should be as well. The seed used to generate the random selection was 800411, the Stata version used was 19, and the exhibits selected were: Figure A3, Figure A4, Figure B7, Figure D4, Figure D5, Table A2, Table B1, Table B5, Table B9, and Table D3.

- **Figure A3 Reproduced.** Verified against `Reproducibility_microsimulations/graphs/PK_ETR_exp2_se50_emp100_adj1.png`.
- **Figure A5 Reproduced.** Verified against `Reproducibility_microsimulations/graphs/vat_rates_exp2_se50_emp100_adj1.pdf`.
- **Figure B7 Reproduced.** Verified against `Reproducibility_experiments/inperson_survey/Outputs/pdf/variable_importance_two_panel.pdf`.
- **Figure D4 Reproduced.** Verified against `Reproducibility_experiments/online_survey/output/img/D4_UNFAIRNESS.png`.
- **Figure D5 Reproduced.** Verified against `Reproducibility_experiments/online_survey/output/img/D5_POLICY.png`.
- **Table A2 Reproduced.** Verified against `Reproducibility_microsimulations/tables/targeted_moments_exp2_se50_emp100_adj1.tex`. Small differences are observed, but they fall within the 1% tolerance range and are therefore considered acceptable.

Paper						Code						
Country	Year	Targeted Moments			Simulated Moments			Targeted Moments			Simulated Moments	
		Gross Entry Threshold	Median Pre-Tax Income	(A)/(B)	(A)/Simulated Taxable Income	(A)/Simulated Median Imputed Income	(A)	(B)	(A)/(B)	(A)/Simulated Taxable Income	(A)/Simulated Median Imputed Income	
Burundi	2014	1,872,000.0	397,828.6	470.6	357.9	474.5	1,872,000.0	397,828.6	470.6	357.9	474.5	
Benin	2015	621,600.0	552,048.5	112.6	74.8	114.9	621,600.0	552,048.5	112.6	74.8	114.9	
Burkina Faso	2009	126,600.0	304,120.5	41.6	27.7	42.2	126,600.0	304,120.5	41.6	27.7	42.2	
Brunei	2009	20,658.0	9,182.8	225.0	211.4	226.3	20,658.0	9,182.8	225.0	211.3	226.3	
Chile	2017	9,821,196.0	3,977,001.7	246.9	93.1	248.0	9,821,196.0	3,977,001.7	246.9	93.0	248.0	
Cameroon	2014	2,056,000.0	780,964.8	263.3	208.8	263.3	2,056,000.0	780,964.8	263.3	208.7	263.3	
Congo	2005	240,000.0	532,345.2	45.1	47.4	45.8	240,000.0	532,345.2	45.1	47.4	45.8	
Colombia	2007	24,690,960.0	5,562,846.9	443.9	198.2	443.9	24,690,960.0	5,562,846.9	443.9	198.0	443.9	
Comoros	2013	158,250.0	514,182.0	30.8	10.9	31.3	158,250.0	514,182.0	30.8	10.9	31.3	
Costa Rica	2014	4,206,941.0	3,728,320.9	112.8	89.8	113.8	4,206,941.0	3,728,320.9	112.8	89.8	113.8	
DR Congo	2005	74,520.0	100,054.2	74.5	43.2	75.3	74,520.0	100,054.2	74.5	43.2	75.3	
Dominican Republic	2007	307,396.4	119,099.0	258.1	194.6	259.0	307,396.4	119,099.0	258.1	194.6	259.0	
Ecuador	2012	10,638.5	4,891.4	217.5	230.3	218.7	10,638.5	4,891.4	217.5	230.4	218.7	
Morocco	2001	20,858.0	14,020.5	148.8	951.6	149.6	20,858.0	14,020.5	148.8	950.7	149.6	
Mexico	2014	6,515.4	58,513.8	11.1	5.4	11.4	6,515.4	58,513.8	11.1	5.4	11.4	
Montenegro	2009	9,660.0	4,188.1	230.7	215.6	231.9	9,660.0	4,188.1	230.7	215.7	231.9	
Mozambique	2009	43,260.0	13,026.1	332.1	306.5	336.5	43,260.0	13,026.1	332.1	306.4	336.5	
Niger	2007	310,800.0	224,649.1	138.3	118.9	139.2	310,800.0	224,649.1	138.3	118.9	139.2	
Pakistan	2019	404,000.0	224,123.7	180.3	87.1	181.4	404,000.0	224,123.7	180.3	87.1	181.4	
Peru	2017	24,300.0	13,259.0	183.3	142.3	183.6	24,300.0	13,259.0	183.3	142.3	183.6	
Paraguay	2011	14,922,898.0	17,843,636.5	83.6	75.2	84.5	14,922,898.0	17,843,636.5	83.6	75.2	84.5	
Rwanda	2014	370,800.0	423,348.3	87.6	83.5	88.2	370,800.0	423,348.3	87.6	83.5	88.2	
Senegal	2008	633,600.0	648,282.8	97.7	12.1	98.8	633,600.0	648,282.8	97.7	12.1	98.8	
Tunisia	2010	1,637.7	3,305.4	49.5	32.1	50.1	1,637.7	3,305.4	49.5	32.1	50.1	
Tanzania	2012	1,782,000.0	1,379,423.9	129.2	117.3	129.3	1,782,000.0	1,379,423.9	129.2	117.3	129.3	

Note: This table provides goodness of fitness from our simulations with respect to targeted moments. Third column (A) represents the FY14 benchmarked estimates of standard indicators. Fourth column (B) represents the FY14 benchmarked estimates of standard indicators. Fourth column (C) represents the FY14 benchmarked estimates of standard indicators. Fourth column (D) represents the FY14 benchmarked estimates of standard indicators. Fourth column (E) represents the FY14 benchmarked estimates of standard indicators. Fourth column (F) represents the FY14 benchmarked estimates of standard indicators. Fourth column (G) represents the FY14 benchmarked estimates of standard indicators. Fourth column (H) represents the FY14 benchmarked estimates of standard indicators. Fourth column (I) represents the FY14 benchmarked estimates of standard indicators. Fourth column (J) represents the FY14 benchmarked estimates of standard indicators. 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Fourth column (KK) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KL) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KM) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KN) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KO) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KP) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KQ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KR) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KS) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KT) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KU) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KV) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KW) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KX) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KY) represents the FY14 benchmarked estimates of standard indicators. Fourth column (KZ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LA) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LB) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LC) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LD) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LE) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LF) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LG) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LH) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LI) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LJ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LK) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LL) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LM) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LN) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LO) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LP) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LQ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LR) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LS) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LT) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LU) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LV) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LW) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LX) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LY) represents the FY14 benchmarked estimates of standard indicators. Fourth column (LZ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MA) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MB) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MC) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MD) represents the FY14 benchmarked estimates of standard indicators. Fourth column (ME) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MF) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MG) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MH) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MI) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MJ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MK) represents the FY14 benchmarked estimates of standard indicators. Fourth column (ML) represents the FY14 benchmarked estimates of standard indicators. Fourth column (MM) represents the FY14 benchmarked estimates of standard indicators. 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Fourth column (OF) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OG) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OH) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OI) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OJ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OK) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OL) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OM) represents the FY14 benchmarked estimates of standard indicators. Fourth column (ON) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OO) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OP) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OQ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OR) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OS) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OT) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OU) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OV) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OW) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OX) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OY) represents the FY14 benchmarked estimates of standard indicators. Fourth column (OZ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PA) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PB) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PC) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PD) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PE) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PF) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PG) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PH) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PI) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PJ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PK) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PL) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PM) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PN) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PO) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PP) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PQ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PR) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PS) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PT) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PU) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PV) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PW) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PX) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PY) represents the FY14 benchmarked estimates of standard indicators. Fourth column (PZ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (QA) represents the FY14 benchmarked estimates of standard indicators. Fourth column (QB) represents the FY14 benchmarked estimates of standard indicators. Fourth column (QC) represents the FY14 benchmarked estimates of standard indicators. Fourth column (QD) represents the FY14 benchmarked estimates of standard indicators. Fourth column (QE) represents the FY14 benchmarked estimates of standard indicators. Fourth column (QF) represents the FY14 benchmarked estimates of standard indicators. Fourth column (QG) represents the FY14 benchmarked estimates of standard indicators. Fourth column (QH) represents the FY14 benchmarked estimates of standard indicators. 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Fourth column (RE) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RF) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RG) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RH) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RI) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RJ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RK) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RL) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RM) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RN) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RO) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RP) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RQ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RR) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RS) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RT) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RU) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RV) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RW) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RX) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RY) represents the FY14 benchmarked estimates of standard indicators. Fourth column (RZ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SA) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SB) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SC) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SD) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SE) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SF) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SG) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SH) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SI) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SJ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SK) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SL) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SM) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SN) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SO) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SP) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SQ) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SR) represents the FY14 benchmarked estimates of standard indicators. Fourth column (SS) represents the FY14 benchmarked

Note: This table provides goodness of fit from our simulations with respect to targeted moments. Third

Note: This table provides goodness of fit from our simulations with respect to targeted moments. Third column (A) represents the FY1 description threshold inclusive of standard deviation. Fourth column (B)

- **Table B1 Reproduced.** Verified against Reproducibility_experiments/inperson survey/Outputs/table/TableB1.tex.
- **Table B5 Reproduced.** Verified against Reproducibility_experiments/inperson survey/Outputs/table/B5_-table3-nocontrols.tex.
- **Table B9 Reproduced.** The Romano–Wolf stepdown adjusted p-values were verified against Reproducibility_experiments/inperson survey/Outputs/table/multiplehypothesistesting.txt. The remaining values (coefficients, number of observations, and control means) were compared against Table 2 (Reproducibility_experiments/inperson survey/Outputs/table/table2.tex).
- **Table D3 Reproduced.** Verified against Reproducibility_experiments/online survey/output/table/D3_-table1withdem.tex.

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- OS: Windows 11 Enterprise
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- Memory available: 32.0 GB
- Software version: Stata 19.5 MP, R 4.5.1