

Instructions for Replicators

Overview

This readme provides instructions on replicating the results in the draft working paper: *Are Unit Values Reliable Proxies for Prices? Implications of Better Price Data for Household Consumption Measurement in a Low-Income Context* by Omoniyi Alimi, Wilbert Drazi Vundru, and Talip Kilic. The provided code reproduces all tables and figures in the paper including the appendix tables:

Data Availability and Folder Structure

The data used for the analysis is provided with the replication package in the Input folders. There are two folders in the replication package. One named Unit Value, and another named Market Price. The Market Price folder contains the do-files in the folder named 0_Do. All input files are either in the Input files in the Market Price folder or in the Unit Value folder. All folders are required for replication thus folder structure should be maintained.

The raw data are various modules of the Malawi Fifth Integrated Household Survey 2019-2020 except the agriculture components (files starting with ag_). This data is publicly available and can be accessed at <https://microdata.worldbank.org/index.php/catalog/3818/data-dictionary> after free registration at the World Bank Micro Data library. Please note that the naming convention for the market survey data in our analysis is MOD_* versus mrk_mod_* in the publicly available data. There are several modules that make up the household survey data, the description of each module of the Integrated Household Survey are available in the link above.

Software requirements

Stata (code was last run with version 18)

Memory and Runtime Requirements

This code was ran on an Intel® Core™ i5-6200U CPU with 8GB RAM, 250GB of local storage. Runtime: 2.5hours

Description of programs/code

Prog name	Description
0_OA_Master_ihs5_rep	Master do-file that executes all the do-files below
1_OA_MP_marketsurvey_rep	Cleaning of market survey data
2_OA_MP_food_rep	Creating of food consumption aggregates
3_OA_MP_price_deflators_rep	Creating of price deflators
3a_OA_MP_price_deflators_limited	Creating of price deflators for limited items
3b_OA_MP_price_deflators_one_to_one	Creating of price deflators for mapped one to one between market survey and IHS5 food module
3c_OA_MP_pricedeflator_reg_rep	Price deflators regressions
4_OA_MP_tconsumption_rep	Creating of total consumption aggregates
5_OA_MP_povline_rep	Deriving poverty lines
5a_OA_MP_povline_ref group mod_rep.do	Deriving poverty lines with variations in reference group
5b_OA_MP_povline_1911_calorie_rep.do	Deriving poverty lines with variations in calorie requirement
6_OA_MP_prate_rep.do	Calculating poverty headcounts

6a_OA_MP_prate_night lights_rep.do	Relationship between poverty estimates and nightlights at district level
6b_OA_MP_prate_night lights_rep.do	Relationship between poverty estimates and nightlights at TA and EA level
7_OA_MP_Alchain Allan_final_rep	Test of Alchain Allan effect
R1_OA_marketsurvey_rep	Cleaning of market survey data for reduced market survey assumption
R2_OA_food_rep	Creating of food consumption aggregates for reduced market survey assumption
R3_OA_price_deflators_rep	Creating of price deflators for reduced market survey assumption
R4_OA_tconsumption_rep	Creating of total consumption aggregates for reduced market survey assumption
R5_OA_povline_rep	Deriving poverty lines for reduced market survey assumption
R6_OA_prate_rep.do	Calculating poverty headcounts for reduced market survey assumption
R7_OA_markets_Summary_rep	Summary of Market visits under each level of market coverage
X6_Comp_povrate_rep	Comparison of poverty rates under full and reduced spatial market coverage

Instructions to Replicators

Replicators should run the master do-file (0_OA_Master_ihs5_rep) to execute all do-files. Edit the master do-file to adjust the default path then run all. Run lines 25 to 44 to make the for the analysis and run this part only once. The rest of the do-file can be run after the directories have been created. Change the directory on line 27 to replicators computer and run

Each do-file can be run separately if required but they need to be run in sequence as by their numbering (run 1,2,3,3a ...etc.) and order in the master do-file. All user-written commands needed can be installed from SSC or installed by uncommenting the section *user written commands* in the master do-file. All outputs (Tables or Figures) are saved in the Tables folder with the corresponding Table/Figure name as they appear in the manuscript.

Inputs folder

Source: Malawi Fifth Integrated Household Survey 2019-2020

Folder: "Market Price/Input files and UV/Input files"

Files: IHS_Conversion_Factor_2020.dta, IHS5_VIIRS_monthly.csv, IHS5_VIIRS_monthly.dta, MOD_A.dta, MOD_B.dta, MOD_C.dta, MOD_D.dta,

Folder: "Market Price/Input files/Other inputs/IHS"

Files: calories.dta, HH_MOD_A_FILT.dta, HH_MOD_B.dta, HH_MOD_C.dta, HH_MOD_D.dta, HH_MOD_E.dta, HH_MOD_F.dta, HH_MOD_F1.dta, HH_MOD_G1.dta, HH_MOD_G2.dta, HH_MOD_G3.dta, HH_MOD_H.dta, HH_MOD_I1.dta, HH_MOD_I2.dta, HH_MOD_J.dta, HH_MOD_K1.dta, HH_MOD_K2.dta, HH_MOD_L.dta, HH_MOD_M.dta, HH_MOD_N1.dta, HH_MOD_N2.dta, HH_MOD_O.dta, HH_MOD_P.dta, HH_MOD_Q.dta, HH_MOD_R.dta, HH_MOD_S1.dta, HH_MOD_S2.dta, HH_MOD_T.dta, HH_MOD_U.dta, HH_MOD_V.dta, HH_MOD_W.dta, HH_MOD_X.dta, IHS_Conversion_Factor_2020.dta, IHS_Conversion_Factor_formerge.dta, IHS_Other_Conversion_Factor_formerge.dta, IHS_Other_Units_2020.dta, Non-food_CPI.xlsx, Non-food_CPI_IHS5.xlsx

Please note the comment on renaming data in our analysis is MOD_* versus mrk_mod_* in the publicly available data.

Folder: "UV/Input files"

Files: Same as above, and please note the comment on renaming data in our analysis is MOD_* versus mrk_mod_* in the publicly available data.

List of tables and programs

Figure/Table #	Program	Line Number	Output file	Note
Tables				
Table 1	1_OA_MP_marketsurvey_rep	107	...Tables\Table1.out	
Table 2	1_OA_MP_marketsurvey_rep	1279	...Tables\Table_2_3_4.xlsx	
Table 3	1_OA_MP_marketsurvey_rep	1284	...Tables\Table_2_3_4.xlsx	
Table 4	1_OA_MP_marketsurvey_rep	1289	...Tables\Table_2_3_4.xlsx	
Table 5	7_OA_MP_Alchain Allan_final_rep	165	...Tables\Table5output_504.xml	
Table 6	n.a. (no data)			Analysis framework
Table 7	3c_OA_MP_pricedeflator_reg_rep	181	...Tables\Table7.out	
Table 8	4_OA_MP_tconsumption_rep	390 and 495	...Tables\Tables8_9panelAB.xlsx ...Tables\Tables8_9_share.xls ...Tables\Tables8_9_panelC.xlsx	Tables 8 and 9 are created in three separate Tables. <ul style="list-style-type: none"> • Tables8_9panelAB.xlsx contains the mean and standard error reported in columns 2,3, 4, 5. • Tables8_9_share.xls contains the shares reported in column 4 and column 7 in each table • Tables8_9panelC contains the test of differences
Table 9	4_OA_MP_tconsumption_rep	390 and 495		Tables 8 and 9 are created in two separate Tables.

				<ul style="list-style-type: none"> • Tables8_9panelAB.xlsx contains the mean and standard error reported in columns 2,3, 5,6. • Tables8_9_share.xls contains the shares reported in column 4 and column 7 in each table
Table 10	5a_OA_MP_povline_ref group mod_rep.do	452	...Tables\Table10.csv	
Table 11	5a_OA_MP_povline_ref group mod_rep.do	453	...Tables\Table11.csv	
Table 12	5a_OA_MP_povline_ref group mod_rep.do		...Tables \Table12.csv	Table 12 is a transformation of Table 10 into shares.
Table 13	5a_OA_MP_povline_ref group mod_rep.do		...Tables \Table13.csv	Table 13 is a transformation of Table 11 into shares.
Table 14	5a_OA_MP_povline_ref group mod_rep.do	501	...Tables\Table14.xls	
Table 15	6_OA_MP_prate_rep.do		...Tables\Table15_16_20_A19.xlsx	Table15 in sheet <i>Tables15_20_A19</i> . Unit Value (UV) results in A5:M10. Market Price results in A15:N20. Test of difference for food poverty and CBN poverty results in W15:AA20 and AC15: AG20 respectively
Table 16	6_OA_MP_prate_rep.do		...Tables\Table15_16_20_A19.xlsx	Table16 in sheet <i>Table16</i> . Unit Value (UV) results in A1:M5. Market Price results in A7:N11. Test of difference for food poverty and CBN poverty results in U7:W11 and AA7: AC11respectively
Table 17	6_OA_MP_prate_rep.do	884	...Tables\Table17.csv	
Table 18	6_OA_MP_prate_rep.do	889	...Tables\Table18.csv	

Table19	6a_OA_MP_prate_night lights_rep.do	531-556	...Tables\Table19.xml	
Table 20	6_OA_MP_prate_rep.do		...Tables\Tables15_20_A19.xlsx	<i>Results from A15: M50 by item coverage level. Test of difference for food poverty and CBN poverty results in W15: AA50 and AC15: AG50 respectively</i>
Table 21	R5_OA_povline.do	453	...Tables\Table21.xls	
Table 22	X6_Comp_povrate_rep.DO	429-439	...Tables\Table22.xlsx	
Figures				
Figure 1	1_OA_MP_marketsurvey_rep	1690	...Tables\Figure1.gph	
Figure 2	3_OA_MP_price_deflators_rep.do	821	...Tables\Figure2.gph	
Figure 3	3_OA_MP_price_deflators_rep.do	827	...Tables\Figure3.gph	
Figure4	4_OA_MP_tconsumption_rep	525	...Tables\Figure4.gph	
Appendix Tables				
Appendix Table A1	1_OA_MP_marketsurvey_rep	475	...Tables\Appendix_TableA1.out	
Appendix Table A2	1_OA_MP_marketsurvey_rep	114	...Tables\Appendix_TableA2.out	
Appendix Table A3	1_OA_MP_marketsurvey_rep	493	...Tables\Appendix_TableA3.out	
Appendix Table A4	1_OA_MP_marketsurvey_rep	504	...Tables\Appendix_TableA4.out	
Appendix Table A5	1_OA_MP_marketsurvey_rep	508	...Tables\Appendix_TableA5.out	

Appendix Table A6	1_OA_MP_marketsurvey_rep	521	...Tables\Appendix_TableA6.out	
Appendix Table A7	1_OA_MP_marketsurvey_rep	577	...Tables\Appendix_TableA7.out	
Appendix Table A8	1_OA_MP_marketsurvey_rep	582	...Tables\Appendix_TableA8.out	
Appendix Table A9	n.a. (no data)			
Appendix Table A10	5a_OA_MP_povline_ref group mod_rep.do	480	...Tables\Appendix Table_A10.out	
Appendix Table A11	5a_OA_MP_povline_ref group mod_rep.do	481	...Tables\Appendix Table_A11.out	
Appendix Table A12	5a_OA_MP_povline_ref group mod_rep.do		...Tables\Appendix_Table12.csv	Appendix Table 12 is a transformation of Table 10 into shares.
Appendix Table A13	5a_OA_MP_povline_ref group mod_rep.do		...Tables\Appendix_Table13.csv	Appendix Table 13 is a transformation of Table 11 into shares.
Appendix Table A14	5b_OA_MP_povline_1911_calorie_rep.do	307	...Tables\Appendix_Table A14.xls	
Appendix Table A15	5a_OA_MP_povline_ref group mod_rep.do	367	...Tables\Appendix Table_A15.xls	
Appendix Table A16	5a_OA_MP_povline_ref group mod_rep.do	420	...Tables\Appendix Table_A16.xls	
Appendix Table A17	6b_OA_MP_prate_night lights_rep.do	433-456	...Tables\Appendix_TableA17.xml	
Appendix Table A18	6b_OA_MP_prate_night lights_rep.do	370-393	...Tables\Appendix_TableA18.xml	
Appendix Table A19	R7_OA_markets_Summary_rep.do	100	...Tables\Appendix_TableA19.xls	

Appendix Table A20	6_OA_MP_prate_rep.do		...Tables\Tables15_20_A19.xlsx	Values in sheet Tables15_20_A19 in excel file Table 15_16_20_A19. Column G5:L10 for Unit values and G16:M20 for Market price results
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