Malnutrition pathway for the impact of in utero drought shock on child growth indicators in rural households

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ONLINE APPENDIX

Table A1. The impact of negative and positive rainfall deviations on HAZ-scores by gender

	Dependent variable: HAZ	
	Boys	Girls
Variables	(1)	(2)
Negative rainfall deviation	-1.476**	-2.108***
	(0.574)	(0.536)
Positive rainfall deviation	0.000	-0.188
	(0.397)	(0.358)
Temperature	0.039	0.082**
	(0.040)	(0.038)
Constant	-4.344***	-4.061***
	(1.174)	(1.197)
R-squared	0.363	0.362
Observations	3,205	3,279

Notes: Table A1 presents results on table 4, column 1 for boys and girls separately. See tables 2 and 4 for notes. Robust standard errors (clustered at the community level) are reported in parentheses. *** and ** represent significance at the 1% and 5% levels respectively.

Table A2. Panel households results for HAZ-scores

	Dependent variable: HAZ	
Variables	(1)	(2)
Linear rainfall deviation	1.119***	
	(0.415)	
Negative rainfall deviation		-1.461*
		(0.740)
Positive rainfall deviation		-0.078
		(1.911)
Temperature	-0.118	-0.119
	(0.087)	(0.086)
Constant	-0.873	-0.771
	(2.387)	(2.370)
R-squared	0.159	0.159
Household FE	Yes	Yes
Month of Birth FE	Yes	Yes
Interview Month X Year FE	Yes	Yes
Interview Season X Year FE	Yes	Yes
Community controls	Yes	Yes
Household and adaptation controls	Yes	Yes
Observations	2,171	2,171
Number of Households	1,292	1,292

Notes: Table A2 presents results from panel of 2,171 children within 1,292 households between 2010 and 2013 waves. See the notes to table 2 for additional details and a list of community and household control variables. Robust standard errors (clustered at the community level) are reported in parentheses. *** and * represent significance at the 1% and 10% levels respectively.

Table A3. Association between harvest and rainfall deviation in rural Malawi (2004–2013)

	Dependent variable: Natural log of harvest (grams)		
VARIABLES	(1)	(3)	(4)
PANEL A: REPEATED CROSS-SECTION DATA (2004 – 2013)			
Linear rainfall deviation	2.273**		
	(0.988)		
Negative rainfall deviation		-4.299	
		(3.805)	
Positive rainfall deviation			3.149***
			(1.210)
Constant	12.102***	12.263***	12.023***
	(0.115)	(0.109)	(0.128)
R-squared	0.442	0.441	0.443
Community FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Household and adaptation controls	Yes	Yes	Yes
Observations	6,063	6,063	6,063
PANEL B: PANEL DATA (2010 – 2013)			
Linear rainfall deviation	2.484**		
	(1.095)		
Negative rainfall deviation		-3.963	
		(4.126)	
Positive rainfall deviation			3.552**
			(1.365)
Constant	13.771***	13.813***	13.739***
	(0.664)	(0.666)	(0.666)
R-squared	0.092	0.080	0.096
Household FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Household and adaptation controls	Yes	Yes	Yes
No of Households	1,131	1,131	1,131
Observations	1,854	1,854	1,854

Notes: Table A3 presents results from repeated cross section and panel Malawi LSMS-ISA data respectively for 2004-2013 and 2010-2013 waves, respectively in Panels A and B. Dependent variable is computed as the natural logarithm of agricultural harvest in grams. Rainfall deviations are computed as locality collective seasonal variation with focus on household exposure rather than individual-level exposures adopted in Equations (1) – (3). Each column is a separate regression with negative rainfall deviation model estimated differently from positive rainfall deviation following the approach in the literature. See the notes to Table 2 above for additional details and a list of community and household control variables. Robust standard errors (clustered at the community level) are reported in parentheses. *** and ** represent significance at the 1% and 5% levels respectively.

Table A4. Association between harvest and food consumption score in rural Malawi (2004–2013)

	Dependent variable: Natural log of food consumption score		
VARIABLES	(1)	(3)	(4)
PANEL A: REPEATED CROSS-SECTION DATA (2010 – 2013)			
Linear rainfall deviation	0.973***		
	(0.244)		
Negative rainfall deviation		-2.009**	
		(0.847)	
Positive rainfall deviation			1.321***
			(0.306)
Constant	3.747***	3.797***	3.717***
	(0.057)	(0.060)	(0.057)
R-squared	0.359	0.351	0.360
Community FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Household and adaptation controls	Yes	Yes	Yes
Observations	1,851	1,851	1,851
PANEL B: PANEL DATA (2010 – 2013)			
Linear rainfall deviation	0.796***		
	(0.268)		
Negative rainfall deviation		-1.478	
		(1.035)	
Positive rainfall deviation			1.110***
			(0.331)
Constant	3.738***	3.751***	3.728***
	(0.183)	(0.186)	(0.182)
R-squared	0.136	0.118	0.141
Household FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Household and adaptation controls	Yes	Yes	Yes
No of Households	1,131	1,131	1,131
Observations	1,851	1,851	1,851

Notes: Table A4 presents results from repeated cross section and panel Malawi LSMS-ISA data respectively for 2010-2013 waves in panels A and B. Dependent variable is computed as the natural logarithm of food consumption score. See definition of food consumption score in footnote 13 in the main text. Year 2004 is excluded from the repeated cross section results in panel A due to lack of food consumption score variable in that survey. Rainfall deviations are computed as locality collective seasonal variation with focus on household exposure rather than individual-level exposures adopted in equations (1)–(3). Each column is a separate regression with negative rainfall deviation model estimated differently from positive rainfall deviation following the approach in the literature. See the notes to table 2 for additional details and a list of community and household control variables. Robust standard errors (clustered at the community level) are reported in parentheses. *** and ** represent significance at the 1% and 5% levels respectively.

Figure A1. Height-for-age Z scores distribution for boys in Malawi.

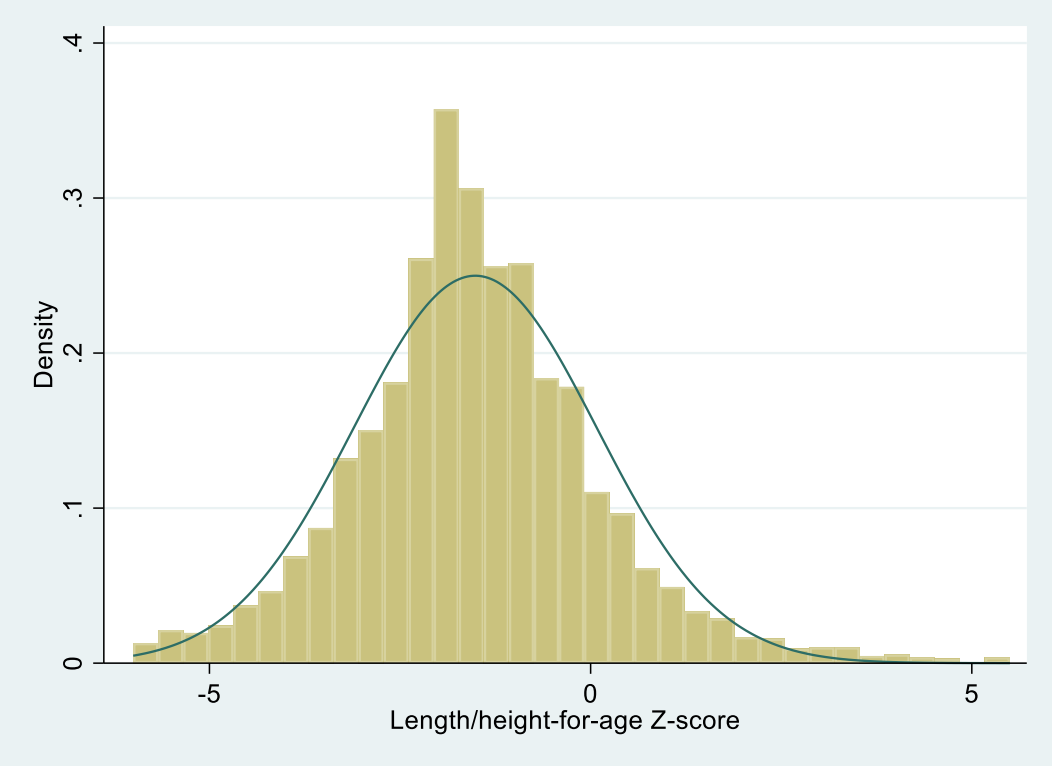

Figure A2. Height-for-age Z scores distribution for girls in Malawi.