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**Working Paper**

## Complementarities in the production of child health

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## Online Appendix

### A Additional Tables

#### A.1 Attrition

We document the extent of attrition over the sample period. The table 16 shows the causes of sample loss over the panel rounds, by urban and rural communities.

The table 16 displays the characteristics of those who attrited and those who stayed in the sample. Across almost all of the baseline characteristics described, attrited and non-attrited children are not statistically significantly different. There are however some notable exclusions to this rule, the most obvious being home ownership. That attrited mothers are significantly less likely to own the home they lived in during the baseline survey is hardly a surprise; home ownership is likely to make mothers less mobile and therefore more likely to stay in the survey. That attrited mothers are also significantly younger is again possibly a function of younger mothers being more able or willing to move out of the survey area.

Table 16: Attrited vs Non-Attrited Samples

Variable	Mean		p value
	Not Attrited	Attrited	
<i>Household and community Characteristics</i>			
Percentage of Households in Urban community	0.754 (.113)	0.813 (.214)	0.809
Distance to nearest public hospital, km	5.92 (1.29)	5.392 (2.44)	0.849
Age of household head	35.519 (.456)	34.738 (.863)	0.427
Percentage of household heads in employment	0.947 (.009)	0.933 (.018)	0.509
Heads years of education	7.268 (.469)	7.71 (.889)	0.662
Proportion of households with safe toilets	0.65 (.073)	0.752 (.139)	0.517
Proportion of households with pumped/piped water	0.48 (.074)	0.462 (.14)	0.911
Home made of concrete, (1=Yes)	0.18 (.025)	0.18 (.047)	0.996
Household head is female	0.063	0.07	0.662

*Continued from previous page*

Variable	Not Attrited	Attrited	p value
	(.008)	(.016)	
Number of household members	5.64	5.321	0.136
	(.099)	(.187)	
Home ownership	0.691	0.486	0.074
	(.053)	(.1)	
Households own a refrigerator, (1=Yes)	0.067	0.07	0.892
	(.011)	(.022)	
Household owns benches/chairs, (1=Yes)	0.704	0.652	0.202
	(.023)	(.033)	
Household has electric lighting (1=Yes)	0.484	0.528	0.7
	(.065)	(.094)	
<i>Mothers Characteristics</i>			
Years of education	7.484	7.868	0.65
	(.394)	(.745)	
Head/Spouse of head	0.777	0.764	0.72
	(.017)	(.032)	
Age	26.827	26.503	0.509
	(.201)	(.445)	
Number of children under 5	1.233	1.074	0.08
	(.042)	(.079)	
Pregnancy at least part covered by insurance, (1=Yes)	0.101	0.102	0.99
	(.012)	(.024)	
Percentage of mothers working during pregnancy	0.376	0.325	0.337
	(.025)	(.046)	
<i>Child Birth Characteristics</i>			
Child Gender, (1=Female)	0.473	0.449	0.54
	(.016)	(.036)	
Child Birth Weight, g	3045.19	2957.08	0.237
	(29.221)	(-67.713)	
Child Birth Height, cm	49.252	49.218	0.881
	(.093)	(.205)	

## A.2 Wealth Index

Like most other surveys in developing countries the CHLNS provides very detailed information on household assets, and it is necessary to reduce the dimensionality of the wealth information provided to create a wealth index which captures the underlying socio-economic status of the household. To do this we use a polychoric principle component analysis, following the approach laid out in Kolenikov and Angeles (2009). This allowed us to construct a wealth index combining continuous, categorical and discrete variables to estimate the underlying wealth factor for each household without violating any assumptions of normality or the loss of information associated with a standard PCA approach.

Discrete variables on furniture ownership (cupboards, benches, tables etc), electrical appliances (electric fans, refrigerators, televisions, radios) and home ownership are used with categorical variables such as light source and cooking fuel type to construct the wealth index score. The first principle component in this analysis explains around 73% of the variation in these variables. This standardized wealth score is then broken into 5 evenly populated quintiles for use in later stages of the analysis.

## B WASH Correlations

Table 17: Correlation between WASH scores and observed variables

	(1)	(2)	(3)
	$\ln S_{it} - 1$	$\ln S_{it} - 1$	$\ln S_{it} - 1$
Childs gender (1=Male)	-0.00499 (0.0113)	-0.0136 (0.00946)	-0.0164 (0.0106)
Childs age (months)	0.0171 (0.00953)	0.0151 (0.00893)	0.0150 (0.00846)
Childs age squared	-0.00163* (0.000660)	-0.00117 (0.000611)	-0.00118* (0.000573)
Childs age cubed	0.0000359* (0.0000137)	0.0000250 (0.0000130)	0.0000253* (0.0000122)
Wealth Quintile=2		0.0470 (0.0281)	0.0541* (0.0247)
Wealth Quintile=3		0.145*** (0.0218)	0.125*** (0.0195)
Wealth Quintile=4		0.241*** (0.0205)	0.213*** (0.0192)
Wealth Quintile=5		0.314*** (0.0266)	0.274*** (0.0250)
hd_ageyr		0.461 (1.162)	0.505 (1.075)
hd_ageyr2		-0.204 (4.490)	-0.720 (4.102)
Mother age, years		0.0156* (0.00701)	0.0159* (0.00669)
Mother age squared		-0.000206 (0.000117)	-0.000206 (0.000112)
HH head has no education (dummy)		-0.201*** (0.0319)	-0.122*** (0.0315)
HH head has some elementary schooling (dummy)		-0.138*** (0.0321)	-0.0713* (0.0263)
Whether household head is a farmer		-0.249*** (0.0520)	-0.0863* (0.0355)
HH head has elementary schooling (dummy)		-0.0914** (0.0296)	-0.0518 (0.0258)
HH head has some high schooling (dummy)		-0.00905 (0.0190)	0.0105 (0.0186)
HH head has completed high school (dummy)		0.0127 (0.0136)	0.0105 (0.0170)
Mother has no education (dummy)		-0.264*** (0.0712)	-0.261*** (0.0637)
Mother has some elementary schooling (dummy)		-0.187*** (0.0260)	-0.150*** (0.0290)
Mother has elementary schooling (dummy)		-0.0617* (0.0299)	-0.0471 (0.0274)
Mother has some high schooling (dummy)		-0.0371 (0.0223)	-0.0420 (0.0208)
Mother has completed high school (dummy)		-0.0246 (0.0257)	-0.0236 (0.0236)
Log population density			0.0351** (0.0114)
Household in urban community			0.148** (0.0499)
Observations	20539	20539	20539
Adjusted $R^2$	0.043	0.429	0.522

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 18: Male Wage Correlations

	(1) Log Male Wages	(2) Log Male Wages	(3) Log Male Wages	(4) Log Male Wages	(5) Log Male Wages
Urban	0.117 (0.147)				-0.0636 (0.235)
Agriculture large employer		-0.388 (0.194)			-0.312 (0.218)
Has electricity			0.283 (0.165)		0.229 (0.216)
Log 1980 Census population				0.0751 (0.0733)	0.00389 (0.118)
Constant	3.422*** (0.105)	3.541*** (0.0756)	3.268*** (0.144)	2.903*** (0.570)	3.359*** (0.825)
Observations	33	33	33	33	33

Table 19: Female Wage Correlations

	(1) Log Female Wages	(2) Log Female Wages	(3) Log Female Wages	(4) Log Female Wages	(5) Log Female Wages
Urban	0.226 (0.216)				-0.454 (0.328)
Agriculture large employer		-0.161 (0.303)			0.174 (0.305)
Has electricity			0.530* (0.236)		0.482 (0.302)
Log 1980 Census population				0.229* (0.102)	0.308 (0.165)
Constant	2.992*** (0.154)	3.132*** (0.118)	2.707*** (0.205)	1.339 (0.791)	0.576 (1.151)
Observations	33	33	33	33	33

## B.1 Stock and Variable WASH

### B.1.1 Stock WASH

Table 20: Protein Height and Weight

	Height		Weight	
	(1) OLS	(2) CF	(3) OLS	(4) CF
$\ln P_{it-1}$	0.000749*** (0.000150)	0.00500** (0.00231)	0.00106** (0.000429)	0.0194* (0.00998)
$upro$		-0.00432* (0.00230)		-0.0178* (0.0101)
$upro^2$		-0.0000245 (0.0000747)		0.000524** (0.000215)
$\ln S_i$	0.00264*** (0.000557)	0.0192 (0.0117)	0.00733*** (0.00132)	-0.0425 (0.0311)
$uwash$		-0.0165 (0.0116)		0.0498 (0.0315)
$uwash^2$		0.00164 (0.00219)		-0.000567 (0.00610)
$\ln P_{it-1} * \ln S_{it-1}$	0.00100*** (0.000354)	0.00147*** (0.000423)	0.00373*** (0.00105)	0.00504*** (0.00139)
$upro * uwash$		-0.00127 (0.000843)		-0.00369 (0.00261)
$\ln P_{it-1} * \ln H_{it-1}$	0.00420*** (0.00107)	0.00418*** (0.00135)		
$\ln P_{it-1} * \ln W_{it-1}$			-0.000762 (0.00188)	-0.00238 (0.00238)
$\ln H_{it-1}$	0.779*** (0.00654)	0.773*** (0.00855)	0.181*** (0.0159)	0.196*** (0.0166)
$\ln W_{it-1}$	0.0546*** (0.00153)	0.0553*** (0.00157)	0.854*** (0.00862)	0.854*** (0.00860)
$\ln S_{it-1} * \ln H_{it-1}$	-0.0212*** (0.00546)	-0.0241*** (0.00562)		
$\ln S_{it-1} * \ln W_{it-1}$			-0.0335*** (0.0106)	-0.0334*** (0.0110)
Observations	22647	22647	22662	22662
Adjusted $R^2$	0.952	0.952	0.921	0.921
F-stat Protein		23.84		21.48
F-stat WASH		6.556		5.298

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Notes: Additional controls present in all columns include municipality dummies, interview month dummies, census population, age, urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well controls for the distribution of ages within the household

Table 21: Calories Height and Weight

	Height		Weight	
	(1) OLS	(2) CF	(3) OLS	(4) CF
$\ln C_{it-1}$	0.000694*** (0.000154)	0.00211 (0.00260)	0.00141*** (0.000453)	0.0178 (0.0121)
$ucal$		-0.00150 (0.00259)		-0.0157 (0.0123)
$ucal^2$		-0.0000772 (0.000113)		0.000855** (0.000369)
$\ln S_i$	0.00276*** (0.000539)	0.0267** (0.0108)	0.00690*** (0.00133)	-0.0143 (0.0262)
$uwash$		-0.0238** (0.0107)		0.0210 (0.0267)
$uwash^2$		0.00203 (0.00218)		-0.00258 (0.00603)
$\ln C_{it-1} * \ln S_{it-1}$	0.00122*** (0.000432)	0.00189*** (0.000476)	0.00476*** (0.00142)	0.00616*** (0.00159)
$ucal * uwash$		-0.00198** (0.000938)		-0.00418 (0.00282)
$\ln C_{it-1} * \ln H_{it-1}$	0.00487*** (0.00125)	0.00497*** (0.00137)		
$\ln C_{it-1} * \ln W_{it-1}$			0.000973 (0.00218)	0.0000713 (0.00237)
$\ln H_{it-1}$	0.778*** (0.00645)	0.770*** (0.00812)	0.177*** (0.0163)	0.183*** (0.0158)
$\ln W_{it-1}$	0.0551*** (0.00152)	0.0558*** (0.00151)	0.856*** (0.00893)	0.856*** (0.00880)
$\ln S_{it-1} * \ln H_{it-1}$	-0.0225*** (0.00534)	-0.0267*** (0.00540)		
$\ln S_{it-1} * \ln W_{it-1}$			-0.0382*** (0.0113)	-0.0396*** (0.0118)
Observations	22884	22884	22898	22898
Adjusted $R^2$	0.952	0.952	0.920	0.921
F-stat Calories		10.21		9.830
F-stat WASH		9.025		7.177

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Notes: Additional controls present in all columns include municipality dummies, interview month dummies, census population, an urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well controls for the distribution of ages within the household



### B.1.2 Variable WASH

Table 22: Protein Height and Weight

	Height		Weight	
	(1) OLS	(2) CF	(3) OLS	(4) CF
$\ln P_{it-1}$	0.000771*** (0.000150)	0.00870*** (0.00263)	0.000776* (0.000387)	0.0102 (0.00764)
$upro$		-0.00796*** (0.00267)		-0.00887 (0.00778)
$upro^2$		-0.0000161 (0.0000714)		0.000493** (0.000223)
$\ln S_{it-1}$	0.0000369** (0.0000169)	-0.000136 (0.000221)	0.000200*** (0.0000359)	0.000578 (0.000722)
$uwash$		0.000174 (0.000222)		-0.000394 (0.000724)
$uwash^2$		0.000000834 (0.00000145)		-0.00000695 (0.00000414)
$\ln P_{it-1} * \ln S_{it-1}$	0.0000616*** (0.00000854)	0.0000959*** (0.0000185)	0.0000913*** (0.0000233)	0.000164*** (0.0000474)
$upro * uwash$		-0.0000569** (0.0000246)		-0.000142** (0.0000557)
$\ln P_{it-1} * \ln H_{it-1}$	0.00537*** (0.00122)	0.00579*** (0.00145)		
$\ln P_{it-1} * \ln W_{it-1}$			-0.000645 (0.00163)	-0.00198 (0.00210)
$\ln H_{it-1}$	0.778*** (0.00643)	0.780*** (0.00688)	0.181*** (0.0158)	0.173*** (0.0146)
$\ln W_{it-1}$	0.0547*** (0.00150)	0.0545*** (0.00151)	0.855*** (0.00850)	0.855*** (0.00806)
$\ln S_{it-1} * \ln H_{it-1}$	-0.000857*** (0.000158)	-0.00110*** (0.000202)		
$\ln S_{it-1} * \ln W_{it-1}$			-0.00101*** (0.000264)	-0.00107*** (0.000311)
Observations	22647	22647	22661	22661
Adjusted $R^2$	0.952	0.952	0.921	0.921
F-stat Protein		23.84		21.36
F-stat WASH		30.34		29.60

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Notes: Additional controls present in all columns include municipality dummies, interview month dummies, census population, an urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well controls for the distribution of ages within the household

Table 23: Calories Height and Weight

	Height		Weight	
	(1) OLS	(2) CF	(3) OLS	(4) CF
$\ln C_{it-1}$	0.000717*** (0.000168)	0.00628* (0.00323)	0.00111** (0.000435)	0.0111 (0.0102)
$ucal$		-0.00561* (0.00323)		-0.00941 (0.0105)
$ucal^2$		-0.0000711 (0.000121)		0.000818** (0.000378)
$\ln S_{it-1}$	0.0000387** (0.0000170)	0.0000728 (0.000202)	0.000185*** (0.0000386)	0.000917 (0.000700)
$uwash$		-0.0000323 (0.000201)		-0.000748 (0.000701)
$uwash^2$		0.000000891 (0.00000152)		-0.00000732 (0.00000446)
$\ln C_{it-1} * \ln S_{it-1}$	0.0000672*** (0.0000113)	0.000116*** (0.0000225)	0.0000967*** (0.0000350)	0.000179*** (0.0000588)
$ucal * uwash$		-0.0000855*** (0.0000274)		-0.000197*** (0.0000665)
$\ln C_{it-1} * \ln H_{it-1}$	0.00581*** (0.00150)	0.00668*** (0.00168)		
$\ln C_{it-1} * \ln W_{it-1}$			0.000652 (0.00181)	0.00000862 (0.00201)
$\ln H_{it-1}$	0.777*** (0.00631)	0.776*** (0.00692)	0.176*** (0.0160)	0.164*** (0.0142)
$\ln W_{it-1}$	0.0552*** (0.00151)	0.0555*** (0.00150)	0.856*** (0.00878)	0.858*** (0.00837)
$\ln S_{it-1} * \ln H_{it-1}$	-0.000848*** (0.000164)	-0.00115*** (0.000219)		
$\ln S_{it-1} * \ln W_{it-1}$			-0.00108*** (0.000298)	-0.00117*** (0.000351)
Observations	22883	22883	22897	22897
Adjusted $R^2$	0.952	0.952	0.920	0.921
F-stat Calories		10.23		9.839
F-stat WASH		34.93		35.24

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Notes: Additional controls present in all columns include municipality dummies, interview month dummies, census population, an urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well controls for the distribution of ages within the household

## B.2 Extended Control Function

Table 24: Protein Height and Weight

	Height		Weight	
	(1) OLS	(2) CF	(3) OLS	(4) CF
$\ln P_{it-1}$	0.000738*** (0.000152)	0.00407* (0.00227)	0.00128*** (0.000390)	0.0266** (0.0112)
$upro$		0.000389 (0.00977)		-0.0106 (0.0302)
$upro^2$		0.000802 (0.000803)		-0.0167*** (0.00453)
$\ln S_{it-1}$	0.00126*** (0.000417)	0.0203** (0.00809)	0.00459*** (0.000903)	-0.0608** (0.0281)
$uwash$		0.0107 (0.0222)		0.127 (0.105)
$uwash^2$		0.0106 (0.00664)		-0.0752* (0.0416)
$\ln P_{it-1} * \ln S_{it-1}$	0.000757** (0.000317)	0.00542*** (0.000931)	0.00201** (0.000797)	0.00569** (0.00220)
$upro * uwash$		0.00158 (0.00356)		0.0291 (0.0191)
$\ln P_{it-1} * \ln H_{it-1}$	0.00412*** (0.00117)	0.0299*** (0.00500)		
$\ln S_{it-1} * \ln H_{it-1}$	-0.0107** (0.00477)	-0.0873*** (0.0125)		
$\ln P_{it-1} * \ln W_{it-1}$			-0.000852 (0.00188)	0.00541 (0.00428)
$\ln W_{it-1} * \ln S_{it-1}$			-0.0202** (0.00885)	-0.0468*** (0.0157)
$\ln H_{it-1}$	0.781*** (0.00670)	0.772*** (0.00822)	0.187*** (0.0158)	0.208*** (0.0159)
$\ln W_{it-1}$	0.0541*** (0.00158)	0.0547*** (0.00159)	0.852*** (0.00865)	0.846*** (0.00775)
Observations	21870	21864	21884	21878
Adjusted $R^2$	0.951	0.952	0.920	0.920
F-stat Protein		42.07		90.72
F-stat WASH		42.41		65.05

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Notes: Additional controls present in all columns include municipality dummies, interview month dummies, census population, an urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well as controls for the distribution of ages within the household. F - statistics represent an F test of all variables interacted with relevant control function

Table 25: Calories Height and Weight

	Height		Weight	
	(1) OLS	(2) CF	(3) OLS	(4) CF
$\ln C_{it-1}$	0.000707*** (0.000143)	0.000239 (0.00187)	0.00169*** (0.000444)	0.0249** (0.00929)
$ucal$		-0.00112 (0.0129)		-0.0312 (0.0416)
$ucal^2$		0.00540*** (0.00190)		-0.00780 (0.00551)
$\ln S_{it-1}$	0.00157*** (0.000366)	0.00889*** (0.00276)	0.00460*** (0.000907)	-0.0358* (0.0182)
$wwash$		0.0194 (0.0319)		0.0953 (0.0995)
$wwash^2$		0.0199** (0.00857)		-0.0134 (0.0396)
$\ln C_{it-1} * \ln S_{it-1}$	0.000881** (0.000336)	0.00579*** (0.00105)	0.00267** (0.00111)	0.00636** (0.00274)
$ucal * wwash$		-0.0139* (0.00721)		0.0194 (0.0213)
$\ln C_{it-1} * \ln H_{it-1}$	0.00452*** (0.00138)	0.0329*** (0.00559)		
$\ln S_{it-1} * \ln H_{it-1}$	-0.0110** (0.00498)	-0.0804*** (0.0115)		
$\ln H_{it-1}$	0.781*** (0.00666)	0.776*** (0.00684)	0.184*** (0.0164)	0.197*** (0.0152)
$\ln W_{it-1}$	0.0548*** (0.00155)	0.0547*** (0.00157)	0.854*** (0.00904)	0.849*** (0.00771)
$\ln C_{it-1} * \ln W_{it-1}$			0.000527 (0.00231)	0.00736 (0.00513)
$\ln W_{it-1} * \ln S_{it-1}$			-0.0221** (0.00950)	-0.0473*** (0.0159)
Observations	22088	22082	22102	22096
Adjusted $R^2$	0.951	0.952	0.920	0.921
F-stat Calories		118.8		16.56
F-stat WASH		60.55		29.95

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Notes: Additional controls present in all columns include municipality dummies, interview month dummies, census population, an urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well controls for the distribution of ages within the household. F - statistics represent an F test of all variables interacted with relevant control function. NOTE: for column 2, due to a lack of variation within birth order and wealth quintile leading to collinearity with  $ucal$ , wealth quintile dummy is replaced with a dummy for top quile and birth order is changed to a dummy if this is the mothers first child.

### B.3 Input by Input Build-Up

Table 26: Child Height and Protein Intake

	(1) OLS	(2) CF	(3) OLS	(4) CF	(5) OLS	(6) CF	(7) OLS	(8) CF	(9) OLS	(10) CF
$\ln P_{it-1}$	0.000554*** (0.000128)	0.00726*** (0.00234)			0.000512*** (0.000130)	0.00366 (0.00220)	0.000531*** (0.000132)	0.00384* (0.00219)	0.000740*** (0.000151)	0.00377* (0.00219)
$upro$		-0.00669*** (0.00237)				-0.00313 (0.00220)		-0.00327 (0.00219)		-0.00307 (0.00218)
$upro^2$		0.0000381 (0.0000609)				0.0000295 (0.0000609)		0.0000396 (0.0000625)		-0.0000112 (0.0000731)
$\ln S_{it-1}$			0.00137*** (0.000399)	0.0246*** (0.00749)	0.00112*** (0.000398)	0.0191** (0.00815)	0.00128*** (0.000400)	0.0194** (0.00816)	0.00126*** (0.000416)	0.0197** (0.00801)
$wwash$				-0.0233*** (0.00742)		-0.0181** (0.00803)		-0.0181** (0.00806)		-0.0183** (0.00793)
$wwash^2$				0.000933 (0.00144)		0.000828 (0.00145)		0.00105 (0.00146)		0.00105 (0.00144)
$\ln P_{it-1} * \ln S_{it-1}$							0.000537* (0.000291)	0.000824** (0.000319)	0.000757** (0.000316)	0.00119*** (0.000334)
$upro * wwash$								-0.000831 (0.000632)		-0.00109 (0.000664)
$\ln P_{it-1} * \ln H_{it-1}$									0.00413*** (0.00116)	0.00398*** (0.00142)
$\ln S_{it-1} * \ln H_{it-1}$									-0.0107** (0.00473)	-0.0131** (0.00487)
$\ln H_{it-1}$	0.782*** (0.00655)	0.780*** (0.00646)	0.782*** (0.00661)	0.773*** (0.00773)	0.781*** (0.00660)	0.774*** (0.00797)	0.781*** (0.00667)	0.773*** (0.00807)	0.781*** (0.00668)	0.774*** (0.00797)
Observations	21864	21864	21864	21864	21864	21864	21864	21864	21864	21864
Adjusted $R^2$	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951
F-stat Protein		25.82					25.82	25.82		25.82
F-stat WASH				19.26			19.26	19.26		19.26

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Additional controls present in all columns include municipality dummies, interview month dummies, census population, an urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well controls for the distribution of ages within the household

Table 27: Child Height and Calorie Intake

	(1) OLS	(2) CF	(3) OLS	(4) CF	(5) OLS	(6) CF	(7) OLS	(8) CF	(9) OLS	(10) CF
$\ln C_{it-1}$	0.000511*** (0.000143)	0.00534* (0.00314)			0.000456*** (0.000145)	0.00221 (0.00269)	0.000467*** (0.000141)	0.00226 (0.00267)	0.000676*** (0.000145)	0.00231 (0.00265)
$ucal$		-0.00485 (0.00315)				-0.00180 (0.00270)		-0.00180 (0.00267)		-0.00168 (0.00266)
$ucal^2$		-0.00000521 (0.000101)				-0.0000288 (0.000102)		-0.00000497 (0.000106)		-0.0000502 (0.000113)
$\ln S_{it-1}$			0.00136*** (0.000394)	0.0229*** (0.00748)	0.00118*** (0.000392)	0.0215*** (0.00745)	0.00132*** (0.000395)	0.0221*** (0.00748)	0.00132*** (0.000405)	0.0222*** (0.00733)
$wwash$				-0.0216*** (0.00742)		-0.0204*** (0.00736)		-0.0207*** (0.00741)		-0.0208*** (0.00727)
$wwash^2$				0.000858 (0.00143)		0.000793 (0.00144)		0.00117 (0.00141)		0.00122 (0.00138)
$\ln C_{it-1} * \ln S_{it-1}$							0.000542* (0.000316)	0.000971** (0.000357)	0.000843** (0.000341)	0.00156*** (0.000371)
$ucal * wwash$								-0.00145* (0.000726)		-0.00193** (0.000728)
$\ln C_{it-1} * \ln H_{it-1}$									0.00438*** (0.00138)	0.00438*** (0.00149)
$\ln S_{it-1} * \ln H_{it-1}$									-0.0106** (0.00486)	-0.0147*** (0.00493)
$\ln H_{it-1}$	0.780*** (0.00659)	0.780*** (0.00659)	0.780*** (0.00661)	0.772*** (0.00764)	0.780*** (0.00662)	0.772*** (0.00770)	0.780*** (0.00669)	0.772*** (0.00780)	0.780*** (0.00668)	0.772*** (0.00770)
Observations	22082	22082	22082	22082	22082	22082	22082	22082	22082	22082
Adjusted $R^2$	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951
F-stat Calories		10.68				10.68		10.68		10.68
F-stat WASH				21.66		21.66		21.66		21.66

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Additional controls present in all columns include municipality dummies, interview month dummies, census population, an urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well controls for the distribution of ages within the household

Table 28: Child Weight and Protein Intake

	(1) OLS	(2) CF	(3) OLS	(4) CF	(5) OLS	(6) CF	(7) OLS	(8) CF	(9) OLS	(10) CF
$\ln P_{it-1}$	0.00148*** (0.000410)	0.0135* (0.00682)			0.00132*** (0.000398)	0.0152 (0.00973)	0.00135*** (0.000409)	0.0156 (0.00970)	0.00123*** (0.000426)	0.0153 (0.00983)
$upro$		-0.0115 (0.00693)				-0.0133 (0.00986)		-0.0136 (0.00980)		-0.0134 (0.00988)
$upro^2$		0.000447** (0.000169)				0.000411** (0.000175)		0.000432** (0.000177)		0.000504** (0.000215)
$\ln S_{it-1}$			0.00491*** (0.000956)	0.0136 (0.0148)	0.00427*** (0.000858)	-0.00892 (0.0238)	0.00453*** (0.000896)	-0.00829 (0.0238)	0.00494*** (0.000920)	-0.00683 (0.0237)
$wwash$				-0.00885 (0.0147)		0.0127 (0.0239)		0.0126 (0.0239)		0.0119 (0.0239)
$wwash^2$				-0.000591 (0.00345)		-0.00101 (0.00353)		-0.000415 (0.00362)		0.000540 (0.00355)
$\ln P_{it-1} * \ln S_{it-1}$							0.000857 (0.000624)	0.00162** (0.000764)	0.00192** (0.000839)	0.00345*** (0.00115)
$upro * wwash$								-0.00200 (0.00165)		-0.00390** (0.00189)
$\ln P_{it-1} * \ln W_{it-1}$									-0.00114 (0.00182)	-0.00282 (0.00231)
$\ln W_{it-1} * \ln S_{it-1}$									-0.0189** (0.00893)	-0.0206** (0.00951)
$\ln H_{it-1}$	0.192*** (0.0166)	0.190*** (0.0165)	0.191*** (0.0164)	0.187*** (0.0160)	0.190*** (0.0165)	0.193*** (0.0168)	0.190*** (0.0164)	0.192*** (0.0167)	0.189*** (0.0163)	0.191*** (0.0165)
Observations	21878	21878	21878	21878	21878	21878	21878	21878	21878	21878
Adjusted $R^2$	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921
F-stat Protein		23.79				23.79		23.79		23.79
F-stat WASH				20.29		20.29		20.29		20.29

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Additional controls present in all columns include municipality dummies, interview month dummies, census population, an urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well controls for the distribution of ages within the household



Table 29: Child Weight and Calorie Intake

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	OLS	CF	OLS	CF	OLS	CF	OLS	CF	OLS	CF
$\ln C_{it-1}$	0.00175*** (0.000458)	0.0167* (0.00938)			0.00156*** (0.000449)	0.0163 (0.0104)	0.00158*** (0.000450)	0.0164 (0.0104)	0.00160*** (0.000478)	0.0167 (0.0106)
$ucal$		-0.0142 (0.00961)				-0.0141 (0.0107)		-0.0141 (0.0107)		-0.0144 (0.0108)
$ucal^2$		0.000909** (0.000363)				0.000847** (0.000372)		0.000888** (0.000373)		0.000925** (0.000391)
$\ln S_{it-1}$			0.00488*** (0.000951)	0.0129 (0.0150)	0.00427*** (0.000870)	0.00242 (0.0177)	0.00458*** (0.000889)	0.00353 (0.0177)	0.00491*** (0.000911)	0.00434 (0.0176)
$wwash$				-0.00820 (0.0150)		0.00136 (0.0177)		0.000752 (0.0178)		0.000575 (0.0178)
$wwash^2$				-0.000659 (0.00339)		-0.00105 (0.00342)		-0.000568 (0.00352)		0.000244 (0.00346)
$\ln C_{it-1} * \ln S_{it-1}$							0.00116 (0.000876)	0.00188** (0.000890)	0.00253** (0.00113)	0.00406*** (0.00129)
$ucal * wwash$								-0.00205 (0.00199)		-0.00422* (0.00212)
$\ln C_{it-1} * \ln W_{it-1}$									0.000279 (0.00226)	-0.000754 (0.00244)
$\ln W_{it-1} * \ln S_{it-1}$									-0.0210** (0.00962)	-0.0234** (0.0102)
$\ln W_{it-1}$	0.854*** (0.00915)	0.855*** (0.00903)	0.854*** (0.00910)	0.854*** (0.00894)	0.854*** (0.00916)	0.855*** (0.00894)	0.854*** (0.00918)	0.854*** (0.00896)	0.854*** (0.00922)	0.855*** (0.00903)
Observations	22096	22096	22096	22096	22096	22096	22096	22096	22096	22096
Adjusted $R^2$	0.921	0.921	0.921	0.921	0.921	0.922	0.921	0.922	0.922	0.922
F-stat Calories		10.20				10.20		10.20		10.20
F-stat WASH				22.59		22.59		22.59		22.59

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors clustered at community level.

Additional controls present in all columns include municipality dummies, interview month dummies, census population, an urban/rural dummy, wealth quintile, household income per capita, age of household head and their education, mother age and education as well controls for the distribution of ages within the household