

ONLINE APPENDICES – Rural sample of households

Table A1– Descriptive Statistics (mean (S.D))

<u>Panel 1: measurements used in the construction of the autonomy index</u>	
Woman is allowed to go to the:	
market alone (m1)	0.48
health facility alone (m2)	0.45
places outside the community alone (m3)	0.36
Woman has the final say alone on purchases for daily needs (m4)	0.29
Woman has the final say together on: own health care (m5)	0.61
large household purchases (m6)	0.50
visiting family and friends (m7)	0.58
what to do with husband's money (m8)	0.62
Woman has money for her own use (m9)	0.36
Average Score (Std Dev)	4.24 (2.48)
Mean of the Average Scores	0.47
Median of the Average Scores	0.44
<u>Panel 2: variables in the nutrition and autonomy equations (1) and (3) - Z and S</u>	
Wealth index factor score/100000	-0.58(0.78)
Family is a nuclear family	0.47
<u>Mother's characteristics</u>	
Current Age in years	27.03 (5.8)
<u>Caste</u>	
'general' caste (used as the base category in the analysis)	0.25
Schedule caste	0.18
Schedule tribe	0.20
OBC (Other Backward Caste)	0.33
Caste information is missing	0.05
<u>Religion</u>	
Hindu (used as the base category in the analysis)	0.74
Christian	0.10
Muslim	0.13
Other Religion	0.03
<u>Education</u>	
No education or primary not completed (used as base category)	0.57
Completed primary	0.36
Completed secondary	0.03
Completed higher education	0.03
<u>Woman's Occupation</u>	
No occupation (base category)	0.55
Professional, Technical, Managerial; Clerical, Sales, Services	0.04
Agricultural employee	0.33
Skilled and Unskilled Manual	0.08

Table A1– Descriptive Statistics (mean (S.D)) continued

<u>Woman's working and earning status</u>	
Not working (base group)	0.54
works all year for cash	0.11
works all year for non-cash (not paid, paid in kind)	0.13
seasonal or occasional work	0.22
<u>Media Exposure</u>	
Woman reads newspapers or watches TV or listens to the radio	0.51
<u>Partner's Education</u>	
No education (used as the base category in the analysis)	0.46
Completed primary	0.45
Secondary or higher education	0.02
Education information missing or not known	0.07
<u>Partner's Occupation</u>	
Skilled and Unskilled Manual (base category) + a handful of 'unemployed'	0.38
Professional, Technical, Managerial	0.05
Clerical	0.03
Sales	0.09
Agricultural employee	0.40
Services	0.05
<u>State/Union Territory</u>	
Jammu and Kashmir	0.03
Himachal Pradesh	0.03
Punjab	0.03
Uttaranchal	0.03
Haryana	0.03
Rajasthan	0.05
Uttar Pradesh (used as the base state)	0.13
Bihar	0.05
Sikkim	0.02
Arunachal Pradesh	0.02
Nagaland	0.04
Manipur	0.04
Mizoram	0.02
Tripura	0.02
Meghalaya	0.02
Assam	0.04
West Bengal	0.05
Jharkhand	0.04
Orissa	0.05
Chhattisgarh	0.04
Madhya Pradesh	0.05
Gujarat	0.03

Table A1– Descriptive Statistics (mean (S.D)) continued

Maharashtra	0.03
Andhra Pradesh	0.03
Karnataka	0.04
Goa	0.02
Kerala	0.02
Tamil Nadu	0.03
<u>Panel 3: variables only in the autonomy equation (3) - S</u>	
<u>Partner's age-woman's age (binary indicators)</u>	
Age difference between the woman and her partner < 3 years (used as the base category in the analysis)	0.12
Age difference between the woman and her partner 3-5 years	0.47
Age difference between the woman and her partner 6-10 years	0.30
Age difference between the woman and her partner > 10 years	0.11
<u>Panel 4: variables only in the nutrition equation – z</u>	
<u>Child covariates</u>	
Girl	0.48
Age in months	30.2 (17.0)
Part of a multiple birth	0.01
Birth Order 1	0.27
2	0.26
3	0.18
4	0.11
5 or more	0.18
<u>Preceding birth interval</u>	
< 18 months	0.08
18-24 months	0.15
25-36 months	0.51
>36 months	0.27
<u>Mother specific covariates</u>	
Child had died in the family	0.20
Whether the mother is anaemic i.e. haemoglobin<11 gm/dl	0.40
Mothers height less than 145cm	0.10
Mother has low BMI i.e. BMI<18.5	0.14
BMI missing	0.14
<u>Panel 5: nutrition equation dependent variables</u>	
HAZ – Height for Age Z scores	-1.86 (1.66)
WHZ – Weight for Height Z scores	-0.99 (1.30)
WAZ – Weight for Age Z scores	-1.76 (1.23)
<u>Binary Indicators</u>	
Stunted (HAZ<-2)	0.48
Wasted (WHZ<-2)	0.19
Stunted but not wasted	0.39
Not stunted but wasted	0.11
Neither stunted nor wasted	0.41
Stunted and wasted	0.09

Table A1– Descriptive Statistics (mean (S.D)) continued

Number of mothers	17,749
Number of Children	23,878
Proportion of Mothers with one child in the sample	0.59

Notes: (i) Sample is the women who had children who were less than 5 years old at the survey time and thus contributed to the ‘nutrition’ analyses. See text for further details; (ii) The nutritional status variable definitions are based on the World Health Organisation standards; (iii) The Rural sample excludes Delhi; (iv) All variables are binary except when a SD is indicated in parenthesis.

Appendix Table A2: Estimates of Equation (2) (Standard errors)

(Impact of Women's Autonomy on Probability of Positive Response to the Measurement Question)

	Factor loading	Intercept
Measurements (binary indicators)	[1]	[2]
m1: woman is allowed to go to market alone – intercept constant	1	-1.407*** (0.082)
m2: woman is allowed to go to health facility alone	0.886*** (0.026)	-0.005 (0.046)
m3: woman is allowed to go to places outside community alone	0.894*** (0.028)	-0.484*** (0.050)
m4: final say alone on purchases for daily needs	0.745*** (0.030)	-0.653*** (0.060)
m5: final say together on own health care	2.171*** (0.081)	-0.682*** (0.097)
m6: final say together on large household purchases	2.877*** (0.119)	-2.420*** (0.150)
m7: final say together on visiting family and friends	2.959*** (0.115)	-1.815*** (0.151)
m8: final say together on what to do with husband's money	1.463*** (0.055)	0.170*** (0.065)
m9: woman has money for her own use	0.023 (0.020)	0.758*** (0.085)
Estimated variance of woman level heterogeneity		0.815*** (0.023)
Estimated variance of district level heterogeneity		0.748*** (0.015)
<u>'Reliability' measure⁺ (percentage)</u>		
m1: woman is allowed to go to market alone		16.8
m2: woman is allowed to go to health facility alone		13.8
m3: woman is allowed to go to places outside community alone		13.8
m4: final say alone on purchases for daily needs		10.2
m5: final say together on own health care		48.7
m6: final say together on large household purchases		62.6
m7: final say together on visiting family and friends		63.9
m8: final say together on what to do with husband's money		30.1
m9: woman has money for her own use		0.0
Maximised log likelihood value		-90899

Notes:

- (i) ***, **, * p-value<0.01, 0.05 and 0.10 respectively.
- (ii) There were not enough women in the rural sample living in Delhi and these women were dropped from the rural analyses.
- (iii) The ‘reliability’ measure provides the percentage of variation attributed to the autonomy variable in the total variation observed in that **particular** measurement. A measurement with a larger “reliability” measure is able to explain larger proportion of the variability in the observed pattern of women’s answers to that question relative to another measurement with a smaller reliability measure.
- (iv) This and the estimates reported in Appendix Table A3, are from the model jointly estimated (see equations (2) and (3)).

Appendix Table A3 – Estimates of Equation (3) (Standard errors)
(Determinants of Women’s Autonomy Index)

Wealth index factor score/100000	-0.043*** (0.017)
Family is a nuclear family	0.454*** (0.021)
<u>Woman’s characteristics</u>	
Age in years	0.028*** (0.002)
Caste: base case is ‘general’	
Schedule Caste	0.027 (0.026)
Schedule Tribe	-0.009 (0.032)
Other Backward Caste	-0.080*** (0.024)
Caste missing	-0.004 (0.047)
Religion: base case is ‘Hindu’	
Christian	0.086* (0.049)
Muslim	-0.132*** (0.030)
Other	-0.042 (0.046)
Education: base is no education	
Completed primary or incomplete secondary	0.125*** (0.021)
Completed secondary education	0.277*** (0.049)
Higher education	0.348*** (0.057)
Media Exposure	
Listens to either radio or watches television or reads newspapers at least once a week	0.045** (0.019)
Woman’s Occupation – base: no occupation	
Professional, Technical, Managerial; Clerical, Sales, Services	0.068 (0.162)
Agricultural employee	-0.126 (0.157)
Skilled and Unskilled Manual	-0.102 (0.159)

Table A3– Continued

Woman's working status in the last 12 months – base: not working	
works all year for cash	0.261*
	(0.159)
works all year for non-cash (not paid, paid in kind)	0.214
	(0.158)
seasonal or occasional work	0.244
	(0.158)
<u>Partner's Characteristics</u>	
Education: base is no education	
Completed primary or incomplete secondary	-0.051***
	(0.019)
Completed secondary education	-0.093
	(0.058)
Higher education	-0.080**
	(0.040)
Occupation – Base: Manual	
Professional, Technical, Managerial	0.102**
	(0.041)
Clerical	-0.025
	(0.048)
Sales	0.005
	(0.029)
Agricultural employee	-0.031
	(0.019)
Services	0.087**
	(0.039)
<u>Age difference between the partners</u>	
Base: less than 2 years	
Husband older by 2-5 years	0.008
	(0.025)
Husband older by 6-10 years	0.053*
	(0.027)
Husband older by more than 10 years	0.074**
	(0.034)
<u>State/Union Territory (base: Uttar Pradesh)</u>	
Jammu and Kashmir	-0.352***
	(0.065)
Himachal Pradesh	0.238***
	(0.063)
Punjab	0.397***
	(0.070)
Uttaranchal	-0.015
	(0.059)
Haryana	0.440***
	(0.063)
Rajasthan	-0.266***
	(0.051)

Table A3 - continued

Bihar	-0.029 (0.046)
Sikkim	0.813*** (0.093)
Arunachal Pradesh	0.717*** (0.084)
Nagaland	1.042*** (0.080)
Manipur	1.079*** (0.076)
Mizoram	1.315*** (0.127)
Tripura	0.052 (0.070)
Meghalaya	1.132*** (0.097)
Assam	0.999*** (0.071)
West Bengal	-0.116** (0.048)
Jharkhand	0.280*** (0.056)
Orissa	0.358*** (0.051)
Chhattisgarh	0.173*** (0.053)
Madhya Pradesh	-0.101** (0.048)
Gujarat	-0.129** (0.057)
Maharashtra	0.415*** (0.061)
Andhra Pradesh	0.043 (0.061)
Karnataka	-0.208*** (0.053)
Goa	0.483*** (0.085)
Kerala	0.634*** (0.071)
Tamil Nadu	0.427*** (0.066)
Number of Mothers	17.749

Notes: (i) ***, **, * p-value<0.01, 0.05 and 0.10 respectively. (ii) All are binary indicators except the Wealth score variable and the woman's age variable. (iii) +++ There were not enough women in the rural sample living in Delhi and these women were dropped from the rural analyses.

Appendix Table A4 – Estimates of Equation (1) Parameters (Standard errors)
 First-born rural children aged<18 months

	HAZ	'Stunted' [binary]
Maternal Autonomy –z score	0.161*** (0.051)	-0.032** (0.014)
<u>Child Characteristics</u>		
Age in months – binary – (base <6 months)		
6-11	-0.318*** (0.100)	0.058** (0.025)
12-17	-1.032*** (0.099)	0.237*** (0.027)
Girl	0.178** (0.071)	-0.039** (0.019)
Part of multiple birth	-2.392*** (0.442)	0.630*** (0.162)
<u>Family Characteristics</u>		
Wealth index factor score/100000	0.210*** (0.072)	-0.067*** (0.020)
Family is a nuclear family	-0.082 (0.106)	0.015 (0.026)
<u>Mother's characteristics</u>		
Age in years	0.042*** (0.013)	-0.010*** (0.003)
Whether the mother is anaemic i.e. haemoglobin <11gm/dl	-0.006 (0.080)	-0.005 (0.021)
Mothers height less than 145cm	-0.630*** (0.121)	0.132*** (0.036)
Mother has low BMI i.e. BMI<18.5	-0.340*** (0.080)	0.098*** (0.022)
Caste: (base case is 'general) Schedule Caste	-0.120 (0.122)	0.041 (0.034)
Schedule Tribe	0.024 (0.148)	-0.020 (0.037)
Other Backward Caste	-0.119 (0.099)	0.067** (0.029)
Religion: (base case is 'Hindu') Christian	-0.078 (0.219)	0.062 (0.048)
Muslim	0.224 (0.146)	-0.079** (0.039)
Other	0.018 (0.188)	0.014 (0.048)
Education: base is no education		
Completed primary or incomplete secondary	0.114 (0.090)	-0.065** (0.027)
Completed secondary education	0.032 (0.182)	-0.047 (0.045)
Higher education	0.258 (0.193)	-0.028 (0.051)

Appendix Table A4 – continued

	HAZ	'Stunted' [binary]
<u>Media Exposure:</u>		
Listens to either radio or watches TV or reads newspapers at least once a Week	-0.058 (0.088)	0.018 (0.025)
<u>Woman's Occupation – base: no occupation</u>		
Professional, Technical, Managerial; Clerical, Sales, Services	-0.663 (0.933)	0.294** (0.118)
Agricultural employee	-0.525 (0.919)	0.314*** (0.115)
Skilled and Unskilled Manual	-1.020 (0.948)	0.422*** (0.125)
<u>Woman's working status in the last 12 months – base: not working</u>		
works all year for cash	0.738 (0.955)	-0.321*** (0.120)
works all year for non-cash (not paid, paid in kind)	0.755 (0.912)	-0.364*** (0.114)
seasonal or occasional work	0.506 (0.941)	-0.298** (0.118)
<u>Partner's Characteristics</u>		
<u>Education: base is no education</u>		
Completed primary or incomplete secondary	0.082 (0.096)	-0.019 (0.028)
Completed secondary education	0.421** (0.204)	-0.088 (0.058)
Higher education	0.153 (0.170)	-0.016 (0.045)
<u>Occupation – Base: Manual</u>		
Professional, Technical, Managerial	-0.067 (0.177)	-0.005 (0.044)
Clerical	0.188 (0.198)	-0.059 (0.054)
Sales	-0.198 (0.143)	0.014 (0.035)
Agricultural employee	-0.098 (0.091)	0.023 (0.025)
Services	0.122 (0.178)	-0.029 (0.045)
<u>State/Union Territory (base: Uttar Pradesh)</u>		
Jammu and Kashmir	0.317 (0.276)	-0.046 (0.076)
Himachal Pradesh	0.148 (0.259)	-0.028 (0.066)
Punjab	-0.125 (0.265)	0.037 (0.068)

Appendix Table A4 – continued

	HAZ	'Stunted' [binary]
Uttaranchal	-0.461* (0.257)	0.089 (0.068)
Haryana	-0.236 (0.233)	0.023 (0.066)
Rajasthan	0.219 (0.210)	-0.063 (0.060)
Bihar	0.317* (0.184)	-0.141** (0.061)
Sikkim	0.561 (0.386)	-0.049 (0.075)
Arunachal Pradesh	0.092 (0.397)	0.041 (0.106)
Nagaland	0.268 (0.367)	-0.153** (0.076)
Manipur	0.540** (0.239)	-0.056 (0.059)
Mizoram	-0.078 (0.400)	0.076 (0.118)
Tripura	0.200 (0.257)	-0.096 (0.072)
Meghalaya	-0.011 (0.439)	0.005 (0.106)
Assam	0.032 (0.229)	-0.006 (0.064)
West Bengal	0.293 (0.213)	-0.025 (0.060)
Jharkhand	0.251 (0.307)	-0.050 (0.077)
Orissa	0.190 (0.210)	-0.073 (0.055)
Chhattisgarh	-0.330 (0.221)	0.093 (0.069)
Madhya Pradesh	0.387* (0.225)	-0.119* (0.062)
Gujarat	-0.041 (0.243)	0.022 (0.076)
Maharashtra	0.064 (0.239)	0.017 (0.059)
Andhra Pradesh	0.593* (0.305)	-0.239*** (0.066)
Karnataka	0.440* (0.243)	-0.132** (0.058)
Goa	0.115 (0.239)	-0.031 (0.081)
Kerala	0.002 (0.249)	-0.013 (0.063)

Appendix Table A4 – continued

	HAZ	‘Stunted’ [binary]
Tamil Nadu	0.240 (0.264)	-0.061 (0.065)
Intercept	-1.441*** (0.364)	0.382*** (0.088)
R-squared	0.176	0.157
Sample average of the dependent variable (SD)	-1.15 (1.72)	0.31
Number of Children	17.749	11,187

Notes: (i) ***, **, * p-value < 0.01, 0.05 and 0.10 respectively. (ii) All are binary indicators except the Wealth score variable and the woman’s age variable. (iii) +++ There were not enough women in the rural sample living in Delhi and these women were dropped from the rural analyses.