

Opportunities for Early Childhood Development in Arab Countries: Profile & Evolution of Inequality & Its Sources

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State of access to ECD in Arab countries

- El-Kogali & Krafft (2015) find that state of access to ECD opportunities is low in the Arab region relative to most world regions, and that nutrition deficiency, inadequate access to health and inadequate cognitive stimulation are significant components of that problem.
- We emphasize evolution over time, in years leading up to and following the Arab Spring, using even the most recent surveys.
- We try to present side-by-side as many countries & survey-waves to provide a comprehensive picture of the Arab region.
- We study various indicators that have been proposed for the status and equality of opportunities for early childhood development, and that are available across most national demographic surveys.

Data sources

Country	El-Kogali & Krafft (2015)	Hlasny & Vintini (2015)	Additional in this study
<i>Greater Maghreb region</i>			
Algeria	PAPFAM 2002 ^a	MICS 2006	
Libya	PAPFAM 2007 ^a		
Mauritania		MICS 2007	MICS 2011
Morocco	DHS 2003/2004 ^a , MICS/PAPFAM 2006 ^a	PAPFAM 2011	
Tunisia	MICS 2011 ^a	MICS 2006	
<i>Mashriq region</i>			
Iraq	MICS 2006 ^a & 2011 ^a		
Jordan	DHS 2012 ^a	DHS 2007 & 2009	
Lebanon	PAPFAM 2004 ^a	MICS 2006	
Palestine	PAPFAM 2006 ^a	DHS 2004, MICS 2010 & 2014	
Syria	MICS 2006 ^a , PAPFAM 2009 ^a		
<i>Red Sea region</i>			
Djibouti	MICS 2006 ^a , PAPFAM 2012 ^a		
Egypt	DHS 2008 ^a	DHS 2005 & 2014	DHS 2015 (Special)
Somalia		MICS/PAPFAM 2006	MICS 2011
Sudan		PAPFAM 2006	MICS 2010
Yemen	PAPFAM 2003, MICS 2006 ^a	DHS 2013	
<i>Southeast Africa</i>			
Comoros		DHS 2012	

^a We have access to these surveys previously evaluated by El-Kogali & Krafft (2015). El-Kogali & Krafft evaluated these survey waves, but often reported a smaller number of results for them.

DHS is the Demographic and Health Survey; MICS is the Multiple Indicator Cluster Survey; and PAPFAM is the Pan-Arab Project for Family Health Survey.

ECD indicators

- *Mothers' access to qualified doctors* during pregnancy, *adequate visits* to doctors (4+) and *assistance with delivery* affect children's health and likelihood of survival.
- *Vaccination* for 6 essential preventable diseases (tuberculosis, diphtheria, whooping cough, tetanus, polio and measles) protects children during the early years.
- *Adequately iodized salt* is an important input in children's brain development.
- Children's anthropometric status including *weight for height*, *weight for age* and *height for age*, as well as *neonatal and infant mortality* are important outputs of early childhood nutrition, and physical and psychological stress-free care.
- Engagement in adequate *developmental activities at home*, in *nurseries* and *preschool programs* helps to stimulate children's cognition. *Violent disciplining* and *exploitation of children for housework* affects their physical and cognitive development.

Method of analysis: Summary statistics

- Rates of access to ECD opportunities are reported at the *national level*, to gauge the overall level of ECD in each Arab country and across countries.
- Access to ECD is also imputed for individual *wealth quintiles of population*, and for households in counterfactual least-advantaged vs. most-advantaged circumstances, to gauge the degree of within-country inequality in ECD.
- Probit regressions are used to estimate the effects of various household characteristics on children's access to ECD. Estimated coefficients – interacted with counterfactual extreme values of household characteristics – are used to predict access to ECD of households in *least advantaged vs. most advantaged circumstances*.

Method of analysis 2: Dissimilarity index

- Inequality of opportunity for ECD is measured using a *dissimilarity index*:

$$D = \frac{1}{2\bar{p}} \sum_{i=1}^K w_i |p_i - \bar{p}|$$

p_i rate of access to ECD in a circumstance group i

K number of circumstance groups

\bar{p} rate of access in the population

w_i population sampling weight of each group i

- To operationalize this across numerous circumstance groups, p_i & \bar{p} are estimated using logistic regressions at the level of individual households. Sampling weights and summation above are applied at the household level (Azevedo et al., 2010, *HOI: Stata Module to Compute Human Opportunity Index*).

Method 3: Shorrocks-Shapley decomposition

- Marginal impact of a circumstance (or characteristic) j , D_j , is the mean of all changes that occur to D when j is added to all possible subsets of circumstances that exclude j from consideration:

$$D_j = \sum_{s \in S} \frac{n_s! (K - n_s - 1)!}{K!} [D(s, j) - D(s)]$$

- S set of delineations of circumstance groups that exclude j from consideration
- $s \in S$ subset of circumstances drawn, numbering n_s circumstances
- K all circumstances.

- *Normalized Shapley values*, $M_j = D_j/D$, in % form are reported. They sum up to unity across all considered circumstances, and are interpreted as fractions of inequality explainable by household circumstances that are due to circumstance j .

Results & discussion

Central Estimates of Access to ECD Opportunities by Households (Percent of Children/Mothers with Access to ECD)

	Prenat. care	Prenatal visits: 4+	Skilled delivery	Full immun.	Neonatal mortality	Infant mort.	Stunted	Under-weight	Wasted	Iodized salt	4+ dvlp. activities	ECCE 3-4yrs	ECE 5-6yrs	Violent discipl.	Child labor	
Algeria '02-'06	79.2-89.4	52.5-55.8	94.4-95.2	91.8-89.2	0.7-	1.0-	23.2-12.4	11.0-4.1	10.6-3.9	61.0-58.4	-61.7	-8.9	-23.9	-86.2	-22.2	
Comoros '12	92.4	57.4	83.8	63.7	2.1	3.3	29.6	15.6	11.1	91.0					25.0	
Djibouti '06-'12	92.3-87.9	-26.6	92.9-87.4	45.7-20.6	-3.6	-6.0	32.6-33.5	30.3-29.9	30.1-22.3	0.4-	26.5-35.8	14.1-	6.4-	69.6-36.2	18.6-	
Egypt '05-'08-'14-'15	69.8-73.6-90.2-	59.2-66.5-82.7-	74.6-79.0-91.6-	81.7-91.7-34.2-	1.9-1.6-1.4-	3.1-2.4-2.3-	17.6-28.9-17.6-13.5	6.1-6.0-6.8-1.8	3.8-7.3-7.6-1.5	72.6-75.4-88.3-		31.6-33.4-50.6	10.7--	97.0--	24.3-	45.5-
Iraq '06-'11	78.9-77.7	67.8-50.8	59.8-90.8	50.6-64.3	2.2-2.0	3.3-3.1	23.8-21.7	8.2-6.9	6.0-6.4	24.9-24.4	44.4-53.5	2.5-3.8	4.1-7.2	86.2-77.2	13.4-10.1	
Jordan '07-'09-'12	98.8--99.1	94.2--94.5	99.0--99.6	86.7--93.0	1.5-1.5	2.1-1.8	14.4-8.0-7.6	5.3-1.8-3.0	7.2-1.5-2.4		-81.6	21.7		-91.5		
Lebanon '04-'06	95.4-95.4	-84.9	98.2-93.9	51.5-47.6	1.0-	1.5-	18.1-	5.2-	6.6-	89.9-88.8		92.9-96.4				
Libya '07	93.8	75.5	98.7	85.8	1.1	1.7	21.0	5.6	7.0	52.5		5.3			7.1	
Mauritania '07-'11	73.9-33.7	-17.4	57.9-29.0	36.5-31.9			26.9-25.3	30.4-28.3	13.3-13.2	1.6-7.9	36.1-	7.2-				
Morocco '04-'06-'11	67.9--77.6	30.6--41.8	62.9--23.3	89.6--51.9	2.5--	3.8--	23.1--	9.9--	11.6--	-19.6-	-58.0-34.8	40.2-	-42.4-	-95.8-	19.4-	
Palestine '04-'06-'10-'14	98.4-98.5-98.6-99.4	86.4-90.4-94.3-96.0	91.6-97.7-68.1-99.6	94.5-85.9-92.7-87.3	2.3-2.1-1.3-1.0	4.0-3.0-2.0-1.7	11.0-11.9-10.9-7.4	6.1-2.3-3.7-1.4	3.4-2.0-3.3-1.2	68.2-87.7-79.5-73.8	-68.3-66.6-79.0	34.1-17.7-26.9	71.1--	92.3-94.1	15.3-31.4-	
Somalia '06-'11	-35.1	-26.6	-37.6	9.7-6.8	3.8-2.8	8.4-4.9	38.1-	36.3-	11.8-	1.5-	65.0-62.4	2.3-2.3	13.6-12.2	-71.7	52.1-29.1	
Sudan '06-'10	60.0-52.0	38.9-48.5	62.1-17.1	27.9-44.2	-2.9	-5.0	-34.2	-29.4	-15.2	11.4-10.3		-20.4	-30.1			
Syria '06-'09	83.3-87.7	-69.2	91.4-96.3	34.9-54.4	-1.2	-1.7	25.1-25.8	11.0-11.2	10.4-11.8	-30.4	59.8-48.3	7.4-11.2	44.1-32.9	85.7-58.1	12.3-3.3	
Tunisia '06-'11	53.0-98.1	65.2-85.5	-98.6	85.5-89.6	-1.2	-1.7	6.4-10.1	3.4-2.3	2.8-2.8		53.8-71.1	27.3-44.5	-88.5	98.5-94.9	-24.0	
Yemen '03-'06-'13	44.4-47.0-61.0	31.6--25.3	28.8-35.7-43.6	37.2-40.7-43.5	2.2-4.0-2.5	4.6-7.1-4.0	53.1--46.3	45.6-38.9	12.4--16.4	--49.0	-25.5-	-2.7-		-93.2-80.0	15.8-	

Among Arab region countries, access to ECD is generally low, with an average of 22 percent of children stunted, 12 percent underweight and 8 percent wasted.

Only 49 percent of children have access to iodized salt, and 53 percent are fully vaccinated.

Enrolment in nurseries and preschool programs is particularly low, at 27 and 24 percent, respectively.

There is wide disparity in children's access to ECD across the Arab region, from fewer than 7 percent stunted in Palestine/Tunisia to 38-53 percent stunted in Somalia/Yemen, or from 4 percent enrolled in preschool in Iraq to 94 percent in Palestine.

- Children's opportunities are improving across countries and facets of ECD, but the improvement is uneven.
- Immunization, iodine intake and children's stunting have worsened in many countries.
- Djibouti, Morocco, Somalia and Syria have seen deterioration in many aspects of ECD.

Opportunities to be Redistributed between Least and Most Advantaged Households in a Country (Dissimilarity Index, %)

	Prenatal care	Prenatal visits: 4+	Skilled delivery	Full immun.	Neonatal mortality	Infant mort.	Stunted	Under-weight	Wasted	Iodized salt	4+ dvlp. activities	ECCE 3-4yrs	ECE 5-6yrs	Violent discipl.	Child labor
Algeria '02-'06	7.7-4.6	10.3-14.0	2.3-2.6	2.7-2.8	23.6-	47.5-	9.6-14.8	13.5-20.9	9.5-15.3	-13.2	-7.2	-33.4	-30.1	-2.9	-6.5
Comoros '12	2.3	11.6	6.8	14.0	37.4	30.6	15.0	19.3	13.2	1.9					14.6
Djibouti '06-'12	2.5-6.8	-12.7	3.0-9.7	8.2-14.8	.	.	12.7-9.7	12.1-13.6	8.5-12.0	.	15.7-14.0	35.1-	38.2-	7.1-14.3	23.3-
Egypt '05-'08-'14-'15	12.1-9.0-3.3-	16.6-12.1-5.4-	10.9-9.0-3.4-	2.6-1.7-7.2-	18.1-24.9-21.2-	20.3-20.4-17.9-	12.2-9.0-11.5-16.4	15.2-12.1-14.2-34.2	17.1-12.4-8.4-38.9	10.7-8.1-4.1-	.	25.7-24.1-15.2-27.4	34.3--	0.7--1.0-	12.1--10.8-
Iraq '06-'11	6.4-20.9	11.9-10.1	7.4-2.9	13.4-8.6	11.0-9.7	8.2-6.1	9.1-7.1	6.8-8.5	7.6-7.0	21.9-20.3	10.5-12.6	41.2-43.5	42.2-44.9	4.9-2.6	12.9-17.0
Jordan '07-'09-'12	0.6--0.4	1.5--1.8	0.4--0.2	3.9--2.3	33.6-37.8-19.7	27.8-28.4-20.3	18.9-19.6-24.1	26.3-30.4-27.8	18.8-34.3-24.2	.	--3.4	--	.	--3.5	.
Lebanon '04-'06	2.6-2.2	-6.0	-2.6	18.4-15.9	.	.	22.2-	21.8-	23.7-	2.8-3.2	.	3.5-1.4	.	.	.
Libya '07	2.0	5.1	0.8	3.0	28.6	23.2	5.1	11.1	9.0	16.1		28.4			25.8
Mauritania '07-'11	9.5-16.2	-22.2	25.6-22.3	12.3-17.2	.	.	11.3-14.3	16.6-17.4	16.3-18.2	29.6-25.1	12.0-	35.5-	.	.	.
Morocco '04-'06-'11	14.3--11.4	26.6--25.7	19.6--22.6	3.6--7.4	19.5--	20.0--	16.7--	25.0--	25.7--	-32.2-	-15.0-22.2	-36.7-	-32.6-	-1.9-	--24.6-
Palestine '04-'06-'10-'14	0.5-0.5-0.3-0.2	4.3-2.3-1.4-0.8	3.1-0.8-4.3-0.2	1.4-2.6-2.2-3.3	12.4--	13.4--	9.3-13.4-9.8-11.3	11.7-11.4-9.9-19.9	18.2-14.4-10.8-23.2	8.5-1.0-7.1-5.0	-4.7-6.2-4.0	-12.2-15.2-14.8	5.7--1.5-2.7	-0.9-1.3-1.4	--15.7-16.4-
Somalia '06-'11	-25.9	-24.1	-30.5	45.2-25.8	12.2-57.5	5.9-52.2	16.5-	16.6-	16.7-	29.4-	3.9-7.2	46.4-45.0	59.1-24.9	-3.9	9.6-8.9
Sudan '06-'10	20.4-18.7	24.4-17.3	16.1-41.6	33.8-15.8	-89.3	-86.2	-14.9	-14.7	-9.9	58.1-54.2	.	-32.3	-34.5	.	.
Syria '06-'09	6.8-5.1	-8.1	4.3-2.2	7.6-8.6	.	.	12.5-13.0	15.0-13.4	15.2-11.9	-32.2	10.3-14.0	37.7-41.1	17.2-10.6	2.1-16.4	12.0-31.5
Tunisia '06-'11	18.7-1.0	10.2-4.7	-1.1	4.8-4.4	-40.0	-36.9	26.0-19.8	38.5-28.1	29.0-24.8	.	17.8-11.8	34.3-25.6	-6.4	0.9-1.3	-21.9
Yemen '03-'06-'13	17.4-16.8-14.5	25.3--32.0	20.6-26.1-22.9	26.1-20.7-14.4	16.4-17.0-19.3	12.5-15.6-16.2	4.9--12.3	--	--	--	-19.3-	-54.2-	.	-2.7-4.3	--25.7-

- Within-country inequality in opportunities is falling across many ECD indicators and countries, but these improvements have been uneven too.
- Inequality in child mortality, enrolment in preschool programs, engagement in developmental activities at home, violent disciplining of children & exploitation of children for housework has worsened.
- Algeria, Djibouti, Morocco, Iraq & Palestine have seen deteriorating inequality across many dimensions of ECD.

To reach a counterfactual state in which households from various backgrounds have equal access to ECD opportunities, a significant share of opportunities must be redistributed across least-advantaged and most-advantaged households.

For instance, 89% of the systematic differences in mortality rates & 58% of differences in access to iodized salt should be redistributed in Sudan to achieve between-group equality.

This is further worsening over time for vaccination, child mortality, stunting & underweight & wasting, cognitive development at home (including violent disciplining and child labor), and enrolment in nurseries.

Contribution of **wealth** to Inequality in ECD Opportunities (%)

	Prenatal care	Prenatal visits: 4+	Skilled delivery	Full immun.	Neonatal mortality	Infant mort.	Stunted	Underweight	Wasted	Iodized salt	4+ dvlp. Activities	ECCE 3-4yrs	ECE 5-6yrs	Violent discipl.	Child labor
Algeria '02-'06	21.3-25.8	26.3-24.1	20.9-22.1	28.1-28.1	13.5-	41.4-	51.5-32.1	58.4-18.9	30.4-22.3	-26.9	-34.3	-32.4	-31.8	-2.8	-23.8
Comoros '12	21.3	16.7	26.4	21.6	3.5	3.2	19.1	12.6	13.7	64.5	.	.	.	.	33.1
Djibouti '06-'12	22.3-23.8	-29.2	30.4-30.1	30.6-43.8	.	.	36.8-51.3	20.3-37.6	10.0-31.2	.	44.0-13.2	21.3-	30.5-	34.1-32.8	35.4-
Egypt '05-'08-'14-'15	26.8-34.1-25.3-	31.8-35.9-27.9-	8.9-33.9-8.8-	18.9-21.3-11.2-	10.4-17.9-13.5-	11.7-31.7-20.9-	20.7-4.5-4.9-25.5	13.4-15.6-16.9-15.2	23.6-18.6-26.0-34.7	38.9-44.2-39.3-	.	38.8-33.7-16.8-27.4	43.1-	33.2-32.3-	32.7-20.1-
Iraq '06-'11	37.2-30.6	37.3-33.1	43.1-37.4	18.4-23.9	18.6-3.8	16.1-20.7	19.7-10.6	31.3-6.8	22.0-7.9	19.5-22.5	40.9-37.2	35.3-33.5	32.6-16.7	36.2-22.9	11.8-8.4
Jordan '07-'09-'12	16.9-31.5	14.4-44.1	10.0-38.2	5.6-28.5	19.2-7.0-41.5	12.6-5.4-31.2	6.7-32.4-28.9	41.8-16.4-28.7	3.5-13.2-34.8	.	-22.9	-	.	-33.5	.
Lebanon '04-'06	24.0-39.3	-21.5	-27.8	50.4-22.5	.	.	21.4-	28.6-	6.3-	25.2-29.5	.	10.7-50.9	.	.	.
Libya '07	21.8	26.4	2.3	27.1	19.2	20.3	33.7	10.1	16.8	6.3	.	18.8	.	.	8.3
Mauritania '07-'11	46.1-6.3	-28.7	37.2-14.8	28.7-9.0	.	.	28.9-38.0	32.1-33.6	45.0-23.2	35.0-14.0	18.3-	27.5-	.	.	.
Morocco '04-'06-'11	27.7-30.6	27.3-34.5	29.5-14.4	31.2-26.2	20.9-	29.7-	39.3-	20.8-	5.5-	-22.2-	-29.2-25.6	-	-	-20.7-	-
Palestine '04-'06-'10-'14	19.0-21.5-24.7-42.8	5.1-31.8-24.6-23.2	1.3-6.1-10.2-32.6	13.8-22.4-13.3-52.5	29.9-30.6-13.5	19.0-46.8-5.9	11.3-17.8-51.0-8.3	26.2-32.4-41.6-14.4	16.1-29.0-29.5-27.4	3.9-4.6-3.0-18.2	-53.7-40.3-41.1	-	38.4-	-23.2-10.6-30.3	-8.0-13.1-
Somalia '06-'11	-33.2	-13.1	-43.1	19.4-22.4	43.5-10.2	27.6-4.2	27.2-	40.1-	21.8-	40.0-	11.1-24.8	22.7-30.7	33.0-39.2	-5.3	16.5-23.2
Sudan '06-'10	23.5-29.9	31.5-28.5	29.9-38.2	32.5-23.3	-5.2	-6.6	-28.5	-34.2	-18.4	17.0-13.6	.	-30.0	-45.7	.	.
Syria '06-'09	18.5-16.5	-27.0	34.5-21.5	33.2-14.1	.	.	10.3-12.6	15.9-8.9	11.5-5.5	-15.1	15.1-36.3	24.4-23.8	9.3-21.7	20.0-4.9	9.1-9.6
Tunisia '06-'11	31.4-33.8	25.8-24.2	-24.3	27.0-13.6	-8.5	-19.5	20.9-25.8	29.3-19.4	14.0-3.6	.	21.8-27.8	25.5-29.0	-33.8	14.3-16.5	-16.3
Yemen '03-'06-'13	31.3-28.5-30.6	34.9-39.6	14.0-42.3-36.4	35.4-32.5-29.2	9.2-24.8-17.1	13.9-30.1-36.7	-55.5-36.7	-41.7	-24.6	-30.0	-29.1-	-	30.4-	-29.8-22.6	-11.9-

- Within countries, there are significant disparities in access to ECD opportunities across households from different wealth quintiles.
- Comparing the poorest one-fifth of the population with the top one-fifth, among the wealthiest 20% of households the ECD opportunities are significantly higher for most facets of ECD.
- The disparities are greatest for women's access to adequate doctor visits, children's stunting, and children's engagement in cognitive-developmental activities, at home as well as in nursery and preschool programs.

Contribution of rural-urban inequality to Inequality in ECD Opportunities (%)

	Prenatal care	Prenatal visits: 4+	Skilled delivery	Full immun.	Neonatal mortality	Infant mort.	Stunted	Underweight	Wasted	Iodized salt	4+ dvlp. Activities	ECCE 3-4yrs	ECE 5-6yrs	Violent discipl.	Child labor	
Algeria '02-'06	15.4-14.5	15.2-12.6	23.9-15.4	6.6-8.4	8.0-	3.7-	2.6-4.9	3.0-4.8	2.3-6.9	-7.6	-12.4	-9.5	-16.0	-0.3	-7.0	
Comoros '12	7.4	1.1	13.1	0.7	13.4	17.0	2.7	5.4	9.8	0.9					16.4	
Djibouti '06-'12	31.4-27.9	-15.8	30.4-37.0	4.9-2.8	.	.	2.2-24.4	6.1-22.1	6.6-15.3	.	4.3-7.8	3.5-	3.1-	6.1-29.1	0.7-	
Egypt '05-'08-'14-'15	9.7-8.0-4.3-	10.9-9.5-5.6-	15.8-10.1-12.5-	3.7-2.2-23.4-	3.7-5.1-1.1-	1.4-3.7-6.1-	3.1-4.2-0.4-3.4	1.4-0.9-1.3-	8.5-6.9-3.9-	20.8-5.4-15.1-	.	11.0-4.9-0.8-3.1	13.1-.-.	1.6--12.7-	9.2--	16.4-
Iraq '06-'11	38.8-23.7	39.9-16.9	37.6-25.6	15.4-23.2	8.8-6.2	8.0-3.6	17.0-7.8	14.5-2.5	1.6-1.2	14.1-16.0	21.6-15.3	19.6-25.5	25.2-33.5	3.4-4.2	44.9-3.5	
Jordan '07-'09-'12	1.6--4.1	7.1--7.1	2.7--0.2	14.6--2.4	0.4-0.3-0.7	0.6-0.2-0.7	6.3-4.1-2.0	1.7-1.5-6.4	1.0-1.6-3.0	.	--3.6	--0.4	.	--11.4	.	
Lebanon '04							38.1	19.5	22.8	4.3		0.5				
Mauritania '07-'11	18.4-0.5	-2.4	27.3-10.8	8.2-12.4	.	.	19.9-7.2	17.9-16.4	12.4-17.9	2.3-14.1	13.5-	17.6-	.	.	.	
Morocco '04-'06-'11	36.3--22.2	29.5--18.1	34.0--18.0	15.4--16.0	18.7--.	29.7--.	20.9--.	14.4--.	2.8--.	-25.5-	-22.3-27.2	-	-	-3.5-	-	
Palestine '04-'06-'10-'14	13.3-21.6-1.0-6.5	10.6-14.5-6.5-18.6	12.4-5.7-1.0-3.4	2.3-60.5-9.0-5.2	4.3--0.5-4.5	4.5--0.7-4.9	6.8-10.6-1.8-0.9	12.7-6.7-1.1-0.9	4.5-29.7-12.4-2.3	12.9-46.9-0.1-9.2	-1.1-4.3-0.4	-1.5-1.6-4.4	9.0--7.7-0.3	-4.0-7.5-2.6	-	3.9-4.2-
Somalia '06-'11	-20.7	-4.1	-27.8	35.5-18.0	-1.1	-1.6	10.5-	22.5-	27.5-	9.0-	3.2-2.6	26.2-20.9	13.8-6.0	-0.6	2.8-9.1	
Sudan '06-'10	1.8-8.0	10.8-19.6	3.9-13.0	2.0-3.1	-2.7	-1.4	-9.7	-13.5	-8.8	7.3-7.5	.	-16.2	-14.1	.	.	
Syria '06-'09	11.5-8.8	-13.8	15.3-14.2	6.6-3.2	.	.	1.0-2.7	3.0-1.6	1.0-17.6	-11.7	3.9-7.8	2.5-4.2	2.8-11.7	5.2-0.9	6.2-1.0	
Tunisia '06-'11	8.9-9.6	17.4-6.2	-19.6	2.1-10.4	-10.3	-10.2	10.7-11.3	9.6-4.2	4.5-1.1	.	21.6-25.6	32.4-42.5	-32.4	1.4-1.5	-8.7	
Yemen '03-'06-'13	25.5-15.8-10.9	24.0--17.8	21.6-20.5-16.0	22.7-19.5-10.6	2.9-2.2-3.0	1.5-3.2-2.9	36.3--7.2	--6.2	--3.0	--17.2	-15.1-	-	14.7-	-8.4-1.2	-	1.0-

Contribution of administrative region to Inequality in ECD Opportunities (%)

	Prenatal care	Prenatal visits: 4+	Skilled delivery	Full immun.	Neonatal mortality	Infant mort.	Stunted	Underweight	Wasted	Iodized salt	4+ dvlp. Activities	ECCE 3-4yrs	ECE 5-6yrs	Violent discipl.	Child labor	
Algeria '06	2.0	8.6	16.0	6.0	.	.	13.2	42.1	51.5	25.9	17.0	14.7	5.3	75.4	0.1	
Comoros '12	1.5	42.1	27.6	45.9	22.5	4.5	35.2	33.5	8.2	33.7	.	.	.	.	40.7
Djibouti '06-'12	28.7-34.4	-36.0	24.0-19.0	26.7-32.6	.	.	20.4-21.0	52.9-33.6	69.1-37.6	.	14.1-70.0	20.9-	12.1-	1.0-31.3	31.7-	
Egypt '05-'08-'14-'15	21.2-13.1-25.3-	20.4-15.8-23.0-	25.9-26.1-31.3-	42.0-53.2-35.3-	9.0-20.9-22.5-	16.0-33.0-27.7-	57.3-70.7-64.5-38.7	41.2-11.2-19.0-62.1	20.6-24.0-54.6-46.4	21.8-16.9-23.6-	.	41.4-26.5-65.9-30.5	32.5-	23.5-37.3-	41.9-	29.9-
Iraq '06-'11	2.1-5.4	1.0-14.3	3.2-3.6	27.6-22.5	1.8-3.4	0.9-6.6	38.3-49.9	2.3-58.0	1.1-67.2	54.4-47.8	0.8-1.7	2.0-2.7	20.8-36.6	17.2-28.9	6.9-54.0	
Jordan '07-'09-'12	19.0-0.7	25.8-1.2	14.7-2.5	56.0-17.1	36.6-30.3-0.4	45.0-35.5-	61.9-27.3-17.7	29.4-32.6-5.4	75.3-51.9-7.5	.	-13.0	-7.3	.	-18.3	.	
Libya '07	2.2	11.7	67.3	23.9	37.2	40.1	18.5	44.9	72.1	84.3	.	40.8	.	.	70.8	
Mauritania '07-'11	18.7-44.3	-26.6	20.8-29.1	41.1-58.2	.	.	29.9-36.7	27.9-32.1	24.7-47.0	28.4-56.2	50.4-	18.4-	.	.	.	
Morocco '04-'06-'11	3.3-12.6	5.3-12.7	4.5-53.4	23.6-35.5	28.9-	7.5-	15.5-	48.9-	85.7-	-43.7-	-29.2-13.4	-	-	-56.5-	-	
Palestine '04-'06-'10-'14	41.3-15.6-15.0-5.4	67.1-33.4-19.5-4.2	76.8-76.1-68.6-1.6	10.3-1.7-71.4-32.4	19.1-0.8-0.2	10.8-3.8-0.4	7.6-51.7-6.1-9.5	9.2-22.0-4.3-5.9	56.1-30.2-19.5-53.6	79.7-1.1-84.9-55.7	-1.7-35.7-35.6	-3.7-5.1-9.1	21.7-	-46.1-52.4-34.3	-	25.2-75.1-
Somalia '06-'11	-23.1	-74.4	-11.6	32.1-32.3	26.9-7.8	12.9-8.3	47.5-	18.4-	30.0-	0.2-	70.3-43.8	18.8-31.1	25.1-26.9	-72.4	31.3-46.2	
Sudan '06-'10	48.6-35.5	16.1-18.1	20.7-30.5	40.2-41.9	-2.1	-1.7	-24.3	-24.3	-40.7	70.6-76.8	.	-15.4	-19.4	.	.	
Syria '06-'09	34.4-44.4	-29.7	22.3-32.1	13.9-49.5	.	.	52.3-60.2	36.6-53.0	57.5-47.8	-57.7	38.1-29.8	17.9-19.3	48.7-51.6	45.1-91.8	42.6-47.3	
Tunisia '06-'11	29.2-45.3	20.4-37.3	-43.3	35.6-47.7	-30.3	-19.3	27.5-25.0	21.3-22.8	58.9-23.7	.	24.2-16.6	11.6-12.2	-13.3	37.6-19.3	-	49.5
Yemen '03-'06-'13	11.0-18.6-30.6	16.7-17.0	43.5-21.9-18.7	8.5-12.6-15.6	38.8-60.4-14.6	25.8-60.9-26.9	-31.9	-28.5	-43.8	-37.1	-15.6-	-	-	-20.3-47.4	-	39.5-

Contribution of **mother's education** to Inequality in ECD Opportunities (%)

	Prenatal care	Prenatal visits: 4+	Skilled delivery	Full immun.	Neonatal mortality	Infant mort.	Stunted	Underweight	Wasted	Iodized salt	4+ dvlp. Activities	ECCE 3-4yrs	ECE 5-6yrs	Violent discipl.	Child labor
Algeria '02-'06	37.0-32.3	36.6-35.8	29.9-23.6	41.7-32.6	34.0-	17.4-	-24.9	-17.8	-4.9	-25.8	-19.6	-26.1	-28.3	-2.6	-15.9
Comoros '12	32.8	24.8	24.0	12.8	18.7	21.9	20.0	29.7	31.7						
Djibouti '06-'12	6.7-5.4	-13.2	3.8-4.5	19.3-2.1			10.5-1.7	5.1-2.2	2.4-1.1		12.7-5.1	21.3-	25.0-	33.2-0.9	6.1-
Egypt '05-'08-'14-'15	32.6-28.1-31.9-	27.5-23.9-31.5-	36.1-21.5-36.5-	22.6-11.3-11.6-	24.9-28.4-28.9-	37.7-17.9-29.2-	10.2-4.0-16.9-31.6	13.2--15.2-21.6	24.2--12.0-18.1	7.9-13.1-6.5-		4.8-23.8-12.9-37.4	5.1--	9.7--7.5-	8.8--16.4-
Iraq '06-'11	6.0-23.6	6.9-21.6	8.0-18.1	23.1-17.0	13.5-10.8	37.2-13.0	20.9-10.8	38.4-11.7	26.4-14.0	9.5-9.7	20.2-24.2	22.0-21.1	15.4-7.9	11.8-8.9	3.4-15.5
Jordan '07-'09-'12	31.1--27.7	30.0--26.3	45.2--26.6	13.6--29.7	24.3-39.3-15.5	27.8-34.5-20.3	14.3-28.8-24.3	16.5-49.0-30.4	11.1-26.1-30.4		--37.5	--39.6		--14.3	
Lebanon '04-'06	46.3-35.8	-44.9	-46.3	14.8-22.5			24.9-	37.7-	19.4-	45.2-31.4		35.2-			
Libya '07	48.5	40.7	17.7	34.0	11.7	14.9	9.7	15.8	5.1	4.8		16.1			10.0
Mauritania '07-'11	8.7-37.3	-33.8	9.3-39.3	15.0-5.7			12.6-9.1	12.7-10.9	11.5-6.6	18.4-5.6	12.7-	25.5-			
Morocco '04-'06-'11	20.5--19.8	23.0--18.7	18.1--8.0	12.6--10.5	14.6--	18.8-	10.9--	8.0--	3.1--	-4.6-	-9.2-19.8	-8.1-	-9.0-	-6.8-	-16.3-
Palestine '04-'06-'10-'14	14.8-23.9-23.9-4.3	6.5-13.8-29.8-15.0	6.5-5.2-10.8-5.1	43.4-3.8-2.0-3.7	26.9--3.1-81.2	43.6--8.2-88.2	30.3-11.2-19.5-42.7	17.7-11.7-7.6-44.9	13.2-7.2-9.4-2.5	1.9-5.1-2.6-0.1	-27.1-14.3-13.8	--41.8-27.0-26.3	23.1--9.4-24.4	-16.2-6.9-3.6	--8.8-6.2-
Somalia '06-'11	-9.1	-2.1	-7.6	2.7-20.9	18.6-56.5	26.5-62.5	7.5-	7.8-	2.6-	12.5-	3.7-6.7	7.8-5.5	12.9-12.6	-7.4	17.8-4.4
Sudan '06-'10	13.9-14.2	23.0-16.4	29.6-6.7	13.4-22.4	-88.0	-88.3	-25.9	-17.8	-10.9	3.5-1.0		-29.7	-5.7		
Syria '06-'09	29.5-23.8	-20.0	21.1-25.1	32.4-23.4			23.6-18.3	19.8-22.2	12.0-7.8	-12.7	22.6-16.5	29.5-35.5	26.7-	15.0-	15.2-3.0
Tunisia '06-'11	19.9-1.1	24.7-22.4	-10.5	5.9-20.1	-6.6	-7.0	18.1-10.3	18.1-17.8	11.6-11.0		17.1-19.3	20.9-8.7	-9.5	12.1-12.3	-12.7
Yemen '03-'06-'13	21.3-23.5-19.6	18.3--18.9	15.4-12.0-22.4	13.9-28.6-10.9	17.1-5.0-19.4	10.4-3.2-13.7	--16.8	--14.9	--5.1	--11.0	-28.6-	--11.4-		-12.1-13.3	--22.3-

Contribution of **father's education** to Inequality in ECD Opportunities (%)

	Prenatal care	Prenatal visits: 4+	Skilled delivery	Full immun.	Neonatal mortality	Infant mort.	Stunted	Underweight	Wasted	Iodized salt	4+ dvlp. Activities	ECCE 3-4yrs	ECE 5-6yrs	Violent discipl.	Child labor
Algeria '02-'06	26.4-25.3	22.0-18.8	25.3-22.7	22.3-24.1	22.3-	36.0-	38.4-23.0	29.9-16.0	60.0-13.0	-13.5	-16.4	-16.2	-18.4	-16.8	-
Comoros '12	27.0	13.6	8.3	11.0	24.0	23.5	16.5	10.4	24.9	.	.	.	.	.	33.3
Djibouti '06-'12	11.0-8.5	-5.8	11.4-9.5	16.1-18.6	.	.	22.4-0.8	8.5-0.7	9.3-0.6	.	24.6-3.6	32.5-	27.5-	18.6-1.0	22.4-
Egypt '05-'08-'14	9.8-13.7-13.1	9.4-11.9-12.1	13.3-7.6-11.0	11.7-8.1-18.2	20.6-2.6-27.9	26.0-6.7-15.3	4.6-6.6-9.5	12.6-14.7-40.7	14.5-23.0-9.3	10.4-11.4-15.4	.	3.9-10.3-3.6	5.4--	31.9--7.7	7.2-17.2
Iraq '06-'11	15.8-16.7	15.0-14.2	8.1-15.2	15.4-12.9	11.0-	12.8-	3.7-15.5	12.1-8.3	13.6-5.3	2.5-4.0	16.6-20.9	19.7-17.0	5.9-5.3	28.9-20.3	2.0-2.0
Jordan '07-'12	24.3-28.8	18.5-14.0	22.3-29.8	10.0-9.7	16.5-20.0	9.1-32.2	8.4-13.1	9.1-27.8	5.2-14.0	.	-22.2	-14.5	.	-21.5	.
Lebanon '04-'06	29.7-22.5	-32.1	-22.1	34.8-53.7	.	.	14.4-	6.5-	23.5-	18.6-24.2	.	47.7-42.0	.	.	.
Libya '07	27.5	21.2	12.6	15.0	13.3	20.6	17.2	13.3	1.7	4.6	.	20.0	.	.	10.8
Mauritania '07-'11	7.2-2.7	-3.4	4.3-4.3	2.1-13.7	.	.	7.0-8.4	8.7-6.4	5.5-4.2	7.2-9.0	4.1-	10.2-	.	.	.
Morocco '04-'06-'11	12.1--14.6	15.0--15.7	13.9--5.7	13.0--11.3	11.2--	5.2--	11.0--	6.0--	2.2--	-2.4-	-9.3-13.8	-3.7-	-7.3-	-10.7-	-
Palestine '04-'06-'10-'14	11.5-17.5-35.5-41.2	10.7-6.5-19.6-39.0	3.0-6.9-9.4-57.2	29.6-9.6-0.6-6.3	19.8--	22.0--	41.0-5.2-6.2-28.3	31.1-24.5-36.7-25.6	10.0-3.8-24.1-14.2	1.6-38.7-9.3-10.9	-16.0-5.0-9.0	-	7.6--	-8.9-20.8-27.2	-
Somalia '06-'11	-13.9	-6.2	-10.0	7.3-6.2	-23.9	-22.9	7.2-	10.5-	14.4-	33.0-	11.2-20.1	24.3-10.1	15.0-15.3	-14.2	25.4-6.2
Sudan '06-'10	10.7-12.4	17.7-17.4	15.2-11.5	10.1-8.4	-1.5	-2.0	-8.2	-7.8	-4.4	0.0-0.7	.	-7.9	-14.9	.	.
Syria '06-'09	6.2-6.5	-9.5	6.8-7.2	9.7-9.9	.	.	11.2-5.2	10.3-7.6	10.0-9.8	-2.6	20.4-9.5	25.1-17.1	12.2-13.9	14.7-2.3	14.8-15.1
Tunisia '06-'11	9.9-10.3	11.4-9.9	-2.3	28.0-8.2	-40.0	-43.7	20.0-23.0	19.4-14.6	9.4-21.6	.	13.5-9.8	8.2-7.3	-10.9	24.3-50.2	-6.2
Yemen '06-'13	10.8-13.6-8.3	6.1--6.7	5.5-3.3-6.5	18.8-6.7-22.9	11.5--14.4	41.7--13.5	--6.5	--8.0	--7.5	--4.8	-11.2-	-3.4-	.	-29.1-13.3	-

Least advantaged households – in terms of household wealth, parents' education, level of local development and rurality of the place of residence – have significantly lower rates of access to ECD opportunities.

The disparity is typically twice as large as when only household wealth was considered, implying that other household characteristics contribute to inequality, but wealth is the most significant factor.

Household wealth explains a large portion of differences in nursery & preschool enrolment across households (42 & 35%), followed by prenatal care, rate of stunting and access to iodized salt (29, 27, 27%).

Region + rural-urban nature of residence in which a household lives explain a similarly large portion of the differences (~25+10%). Mother's and father's education explain together a similar portion of the differences (~20+15%).

This suggests that inequality in early childhood development opportunities across households within a country is largely driven by differences in household wealth and regional level of economic development, and less so by other demographic factors at the household level.

Human Opportunity Index

	Prenatal care	Prenatal visits: 4+	Skilled delivery	Full immun.	Neonatal mortality	Infant mort.	Stunted	Underweight	Wasted	Iodized salt	4+ dvlp. Activities	ECCE 3-4yrs	ECE 5-6yrs	Violent discipl.	Child labor	
Algeria '02-'06	73.2-85.3	47.1-48.0	92.2-92.8	89.3-86.8	0.8-	1.5-	25.4-14.2	12.6-5.0	11.6-4.5	-	-57.3	-5.9	-16.7	-88.7	-	
Comoros '12	90.4	50.5	78.3	54.6	2.9	4.3	34.1	18.5	12.6	89.3					28.7	
Djibouti '06-'12	90.2-81.9	-23.3	90.1-78.9	41.8-17.6	.	.	36.6-36.8	33.8-33.9	32.8-25.0	.	22.2-30.9	9.4-	3.9-	73.4-40.7	23.1-	
Egypt '05-'08-'14-'15	61.4-67.0-87.3-	49.5-58.4-78.2-	66.5-71.9-88.5-	79.6-90.1-31.7-	2.2-2.1-1.7-	3.7-2.9-2.7-	19.8-31.5-19.6-15.8	7.1-6.7-7.8-2.4	4.5-8.2-8.3-2.1	64.8-69.2-84.7-	.	23.5-25.3-49.7-43.9	7.1-.-.-	97.7-.-	95.9-	27.2-50.4-
Iraq '06-'11	72.6-72.5	57.7-45.7	53.6-88.2	43.7-58.9	2.4-2.2	3.5-3.3	26.0-23.4	8.8-7.5	6.4-6.9	19.5-19.5	39.7-46.7	1.5-2.2	2.4-4.0*	90.4-79.5	15.1-12.0	
Jordan '07-'09-'12	98.1-.-	92.8-.-	98.6-.-	83.3-.-	2.1-1.9-	2.6-	17.1-	6.7-	8.6-	.	-.-78.9	-.-	.	-.-94.6	.	
Lebanon '04-'06	-93.3	-79.9	-91.4	-40.2	.	.	22.1-	6.3-	8.1-	87.4-86.1	.	89.7-95.1	.	.	.	
Libya '07	91.93	71.53	97.87	83.17	1.36	2.14	22.07	6.21	7.67	44.06		3.78			8.82	
Mauritania '07-'11	70.6-28.2	-13.6	48.3-22.5	32.6-26.4	.	.	29.5-28.9	34.9-33.2	15.4-15.6	1.1-5.9	32.0-	4.9-	.	.	.	
Morocco '04-'06-'11	58.2-.-	22.5-.-	50.7-.-	86.4-.-	3.0-.-	4.6-.-	26.9-.-	12.4-.-	14.6-.-	-13.3-	-40.6-27.1	-	-28.6-	-97.7-	-	
Palestine '04-'06-'10-'14	97.9-98.0-98.3-99.2	82.6-88.2-93.0-95.2	88.7-97.0-65.1-99.4	93.1-83.6-90.6-84.4	2.5-.-	4.5-.-	11.9-13.5-12.0-8.2	6.9-2.5-4.1-1.7	4.0-2.2-3.7-1.5	62.7-86.8-73.8-70.1	-65.1-62.5-75.8	-	67.1-.-	-96.3-93.5-95.4	-	
Somalia '06-'11	-26.0	-20.1	-26.1	5.3-5.0	4.3-0.8	9.0-1.6	44.5-	42.8-	14.0-	1.0-	62.5-57.9	1.3-1.3	0.7-9.2	-80.4	57.3-31.6	
Sudan '06-'10	48.9-42.2	29.9-40.1	52.7-10.0	19.1-37.2	-2.5	-4.6	-29.3	-33.8	-16.7	4.6-4.7	.	-13.8	-20.0	.	.	
Syria '06-'09	77.7-83.3	-63.6	87.5-94.2	32.3-49.7	.	.	28.3-29.1	12.7-12.6	11.9-13.1	-20.7	53.6-41.5	4.6-6.6	41.7-29.5	89.3-67.6	13.8-4.3	
Tunisia '06-'11	43.1-97.1	58.6-81.5	-97.5	81.4-85.7	-1.7	-2.3	8.1-12.1	4.8-3.0	3.7-3.4	.	44.3-62.7	17.9-33.1	-82.9	99.4-96.1	-	
Yemen '03-'06-'13	36.7-39.1-52.1	23.6-.-	22.9-26.4-33.6	27.5-32.4-37.2	2.6-4.7-	5.1-8.2-4.6	-.-52.0	-.-	-.-44.1	-.-40.5	-20.6-	-1.2-	.	-95.7-82.0	-	

- Across most countries & ECD indicators the levels & inequality are both improving.
- Yet, there are some systematic causes for worry, considering the levels of access, inequality across demographic groups, or both.
- Vaccination, prenatal & delivery care, stunting & wasting, and cognitive development at home deteriorate in a number of countries.
- Conditions in Djibouti, Iraq, Syria, Morocco, Mauritania, Sudan also deteriorate.

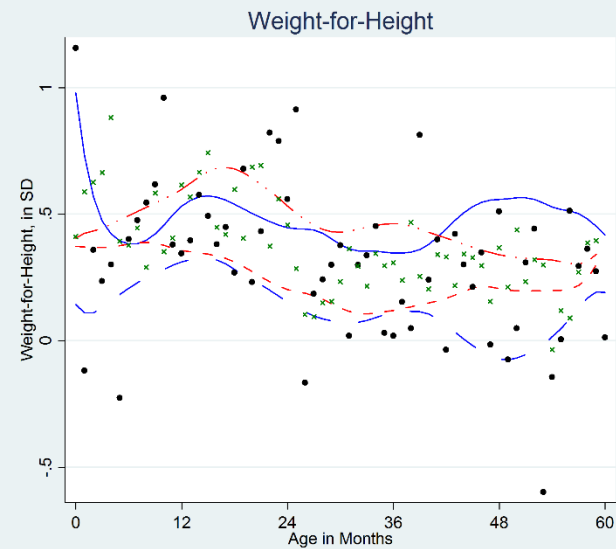
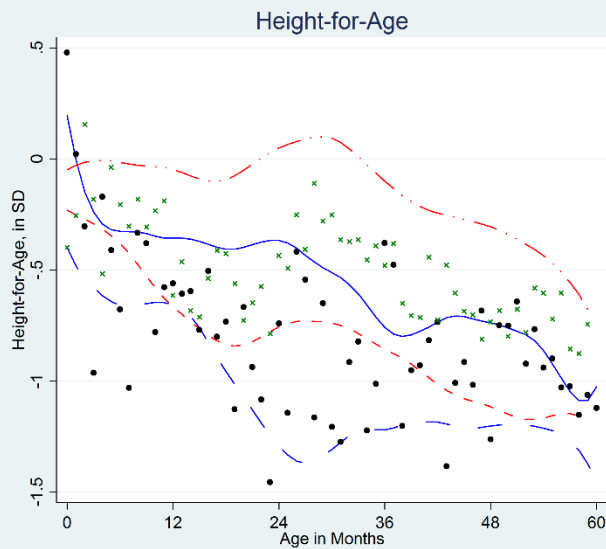
Children's physical growth

The following section presents statistics about children's physical growth across Arab countries, and evaluates how they compare to a reference healthy population, how they evolve over the first five years (60 months) of children's lives, as well as across years.

Physical growth in first 5 years is highly associated with life-long health, cognitive and economic achievements.

Physical growth can vary year to year. Effects of shocks and interventions can be identified (if we interpret pooled-cohort data longitudinally).

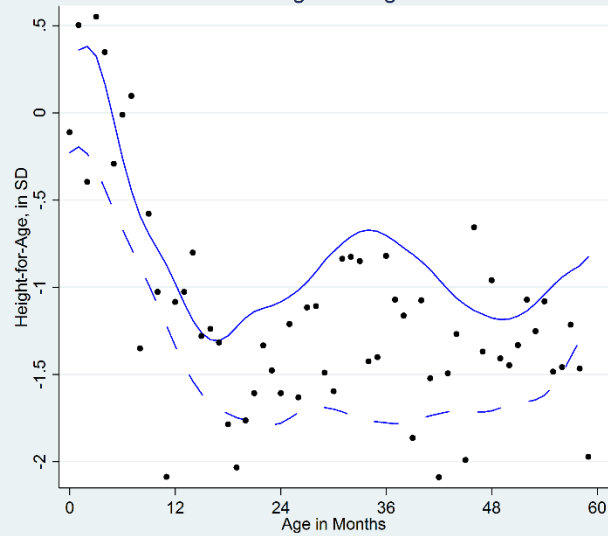
Algeria 2002-2006



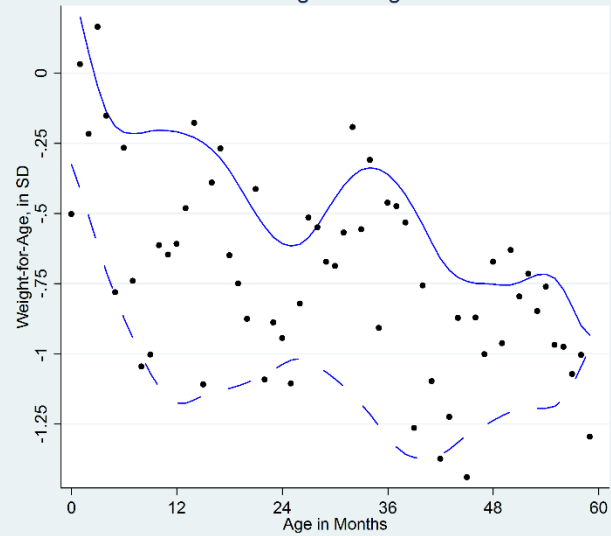
Monthly means in 2002 (black .) & 2006 (green x)
Smoothed lines of the top (blue ----) & bottom (blue - -) quintiles in 2002, and top (red - - .) & bottom (red - -) quintiles in 2006.

Comoros 2012

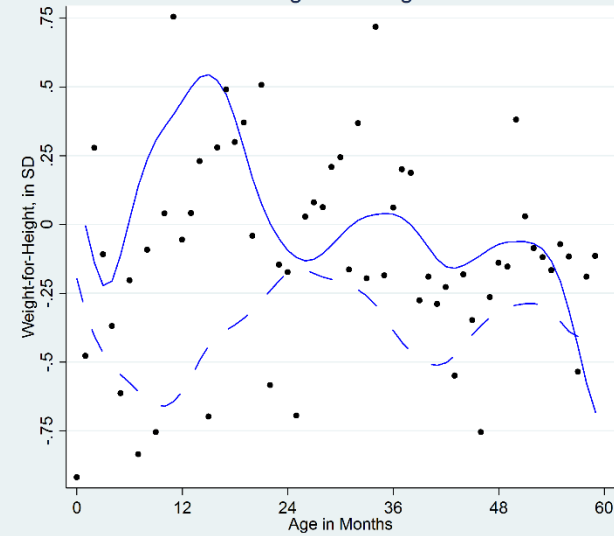
Height-for-Age



Weight-for-Age

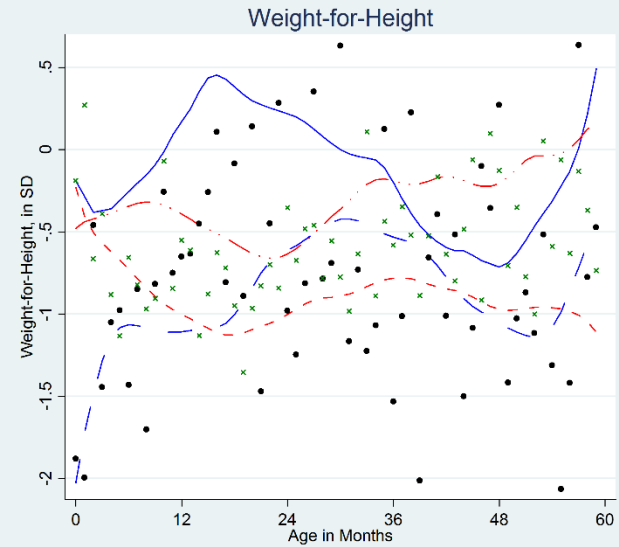
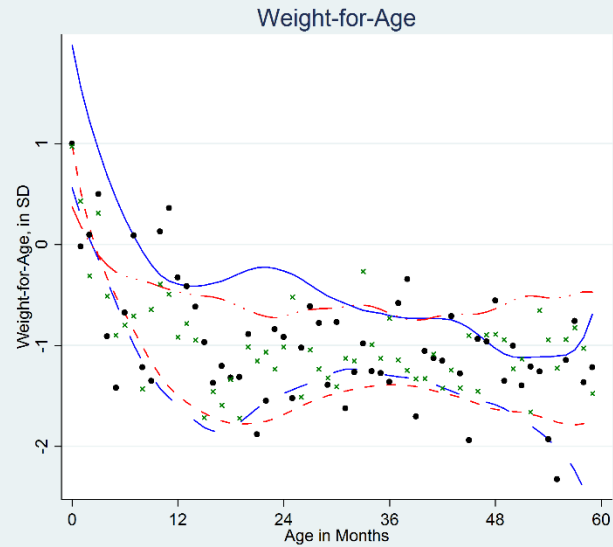
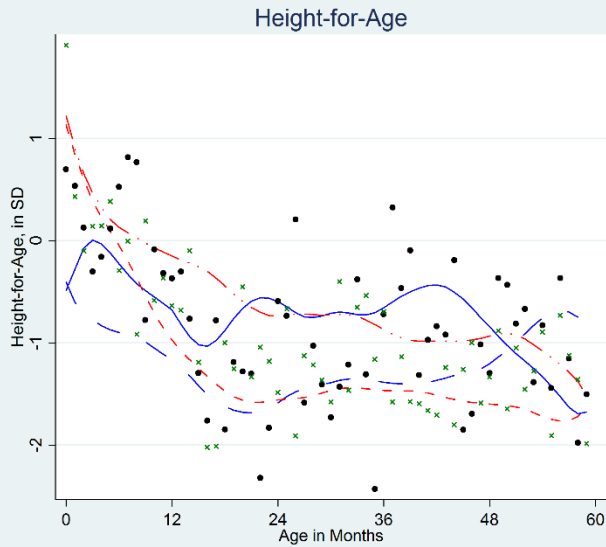


Weight-for-Height



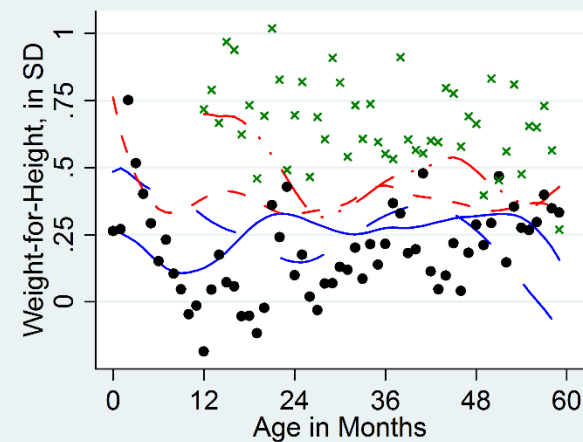
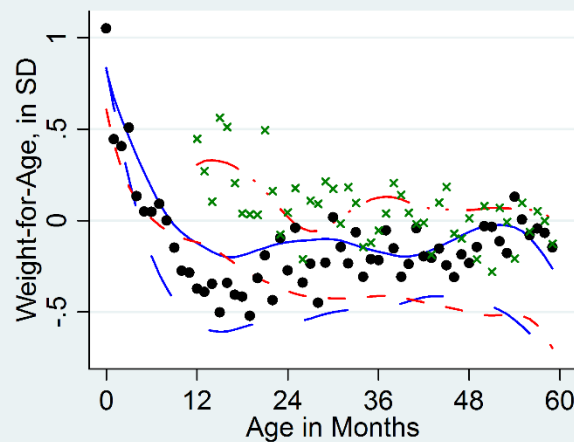
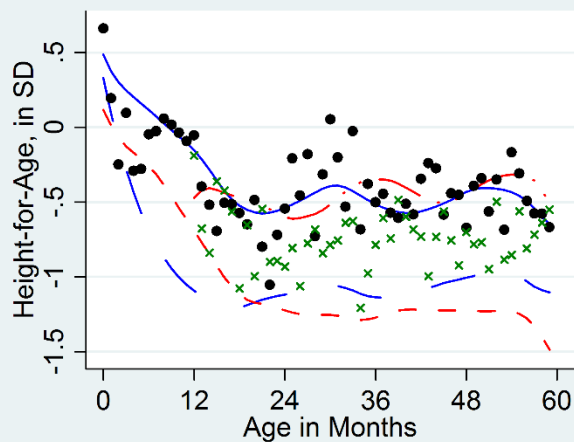
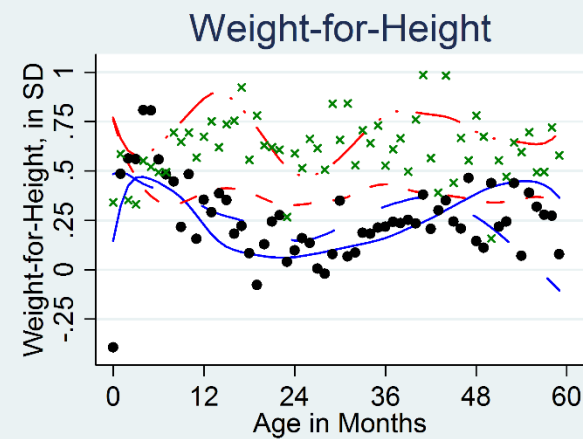
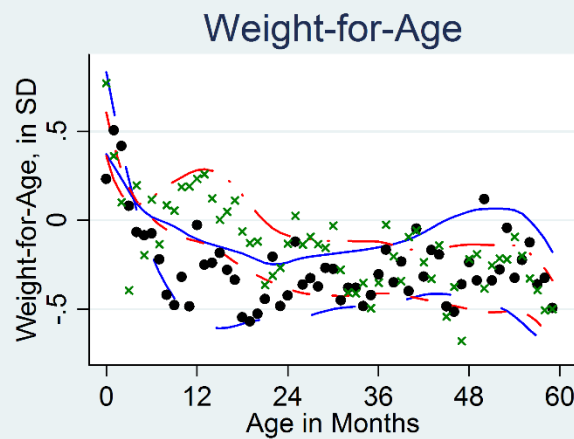
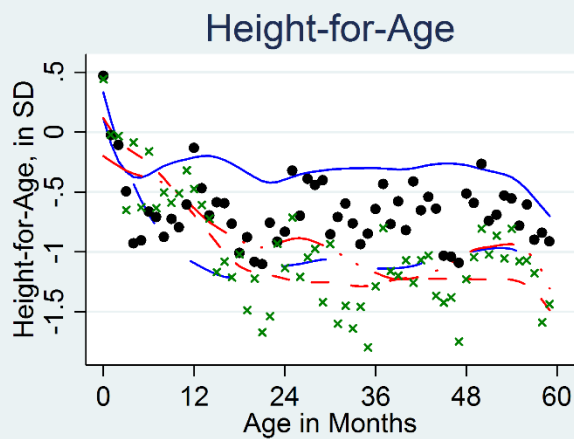
Monthly means (.), and smoothed lines of the top (---) & bottom (- -) quintiles.

Djibouti 2006-2012



Monthly means in 2006 (black .) & 2012 (green x)
Smoothed lines of the top (blue -----) & bottom (blue -- --) quintiles in 2006, and top (red - - .) & bottom (red - -) quintiles in 2012.

Egypt 2005–2008–2014–2015



Row 1: Monthly means in 2005 (black .) & 2008 (green x)

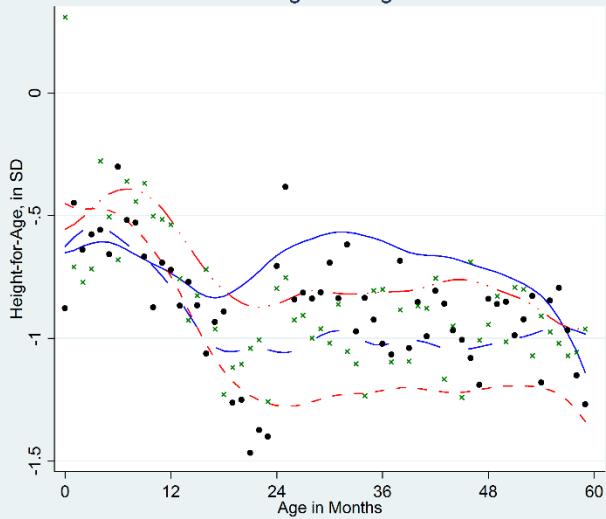
Smoothed lines of the top (blue ----) & bottom (blue - - -) quintiles in 2005, & top (red - - .) & bottom (red - -) quintiles in 2008

Row 2: Monthly means in 2014 (black .) & 2015 (green x)

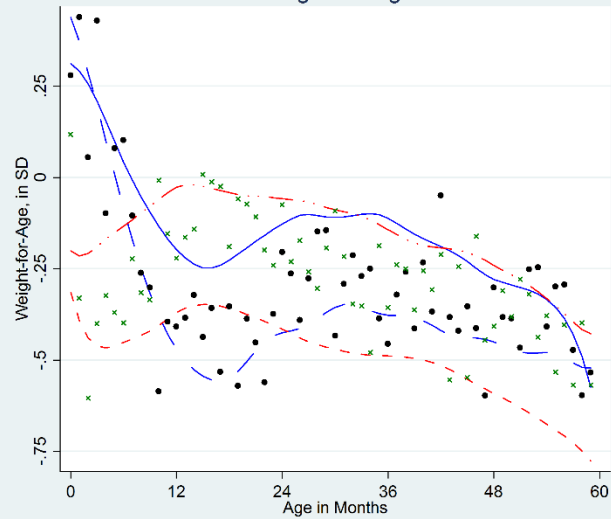
Smoothed lines of the top (blue ----) & bottom (blue - - -) quintiles in 2014, & top (red - - .) & bottom (red - -) quintiles in 2015

Iraq 2006-2011

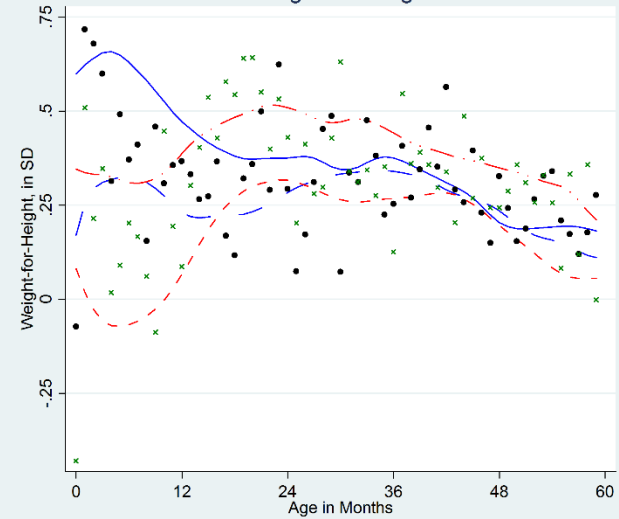
Height-for-Age



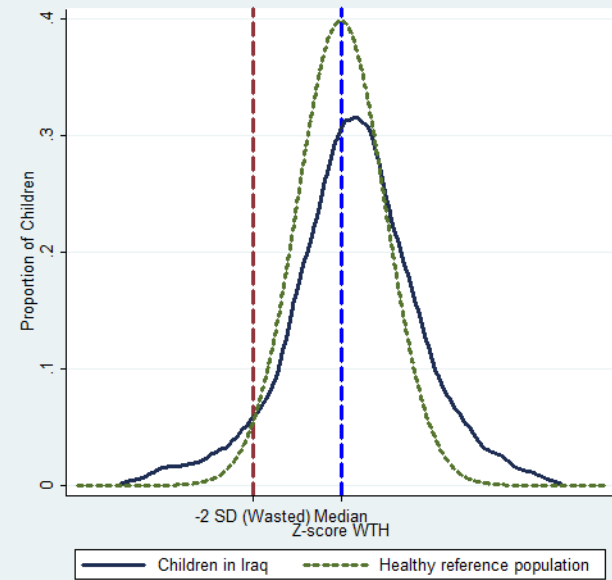
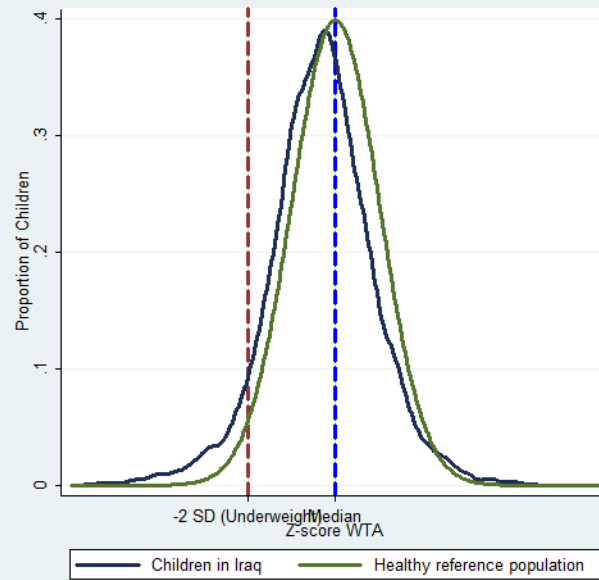
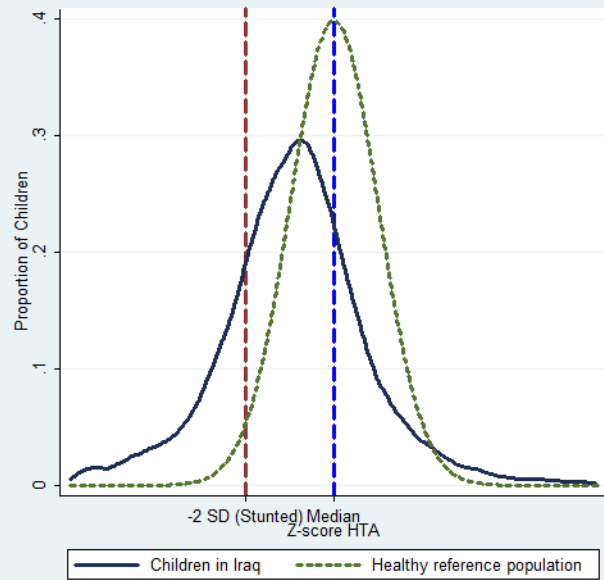
Weight-for-Age



Weight-for-Height

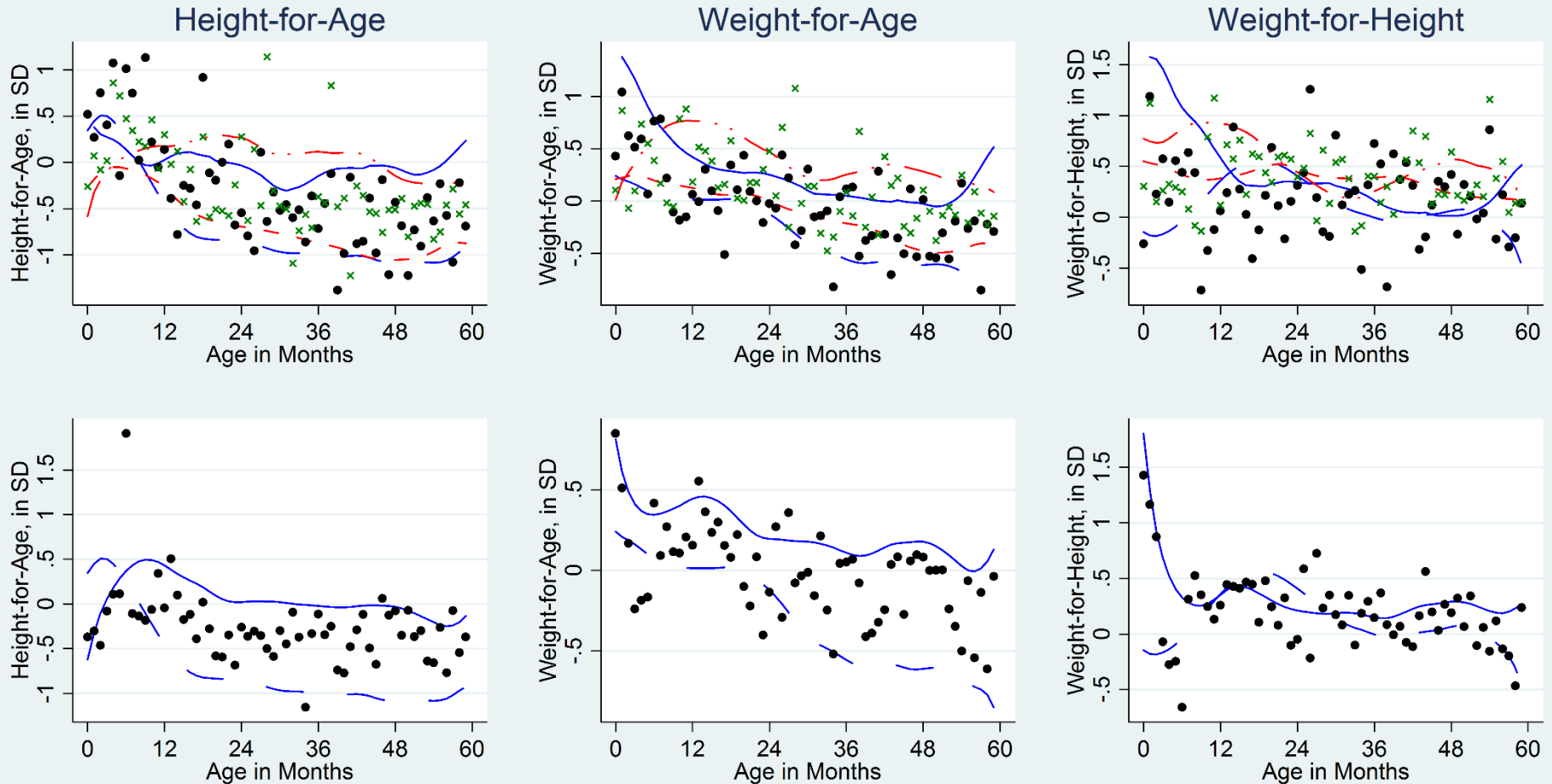


Monthly means in 2006 (black .) & 2011 (green x)
Smoothed lines of the top (blue ----) & bottom (blue - -) quintiles in 2006, and top (red - .) & bottom (red - -) quintiles in 2011.



Height for age (and stunting), and to a lesser degree weight for age (underweight) and weight for height (wastedness) indicate that a greater portion of Iraqi children face inadequate nutrition compared to a healthy reference population.

Jordan 2005–2008–2014



Row 1: Monthly means in 2005 (black .) & 2008 (green x)

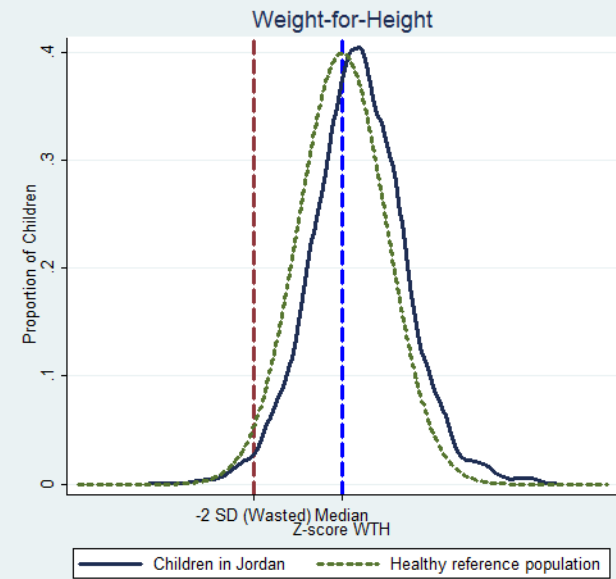
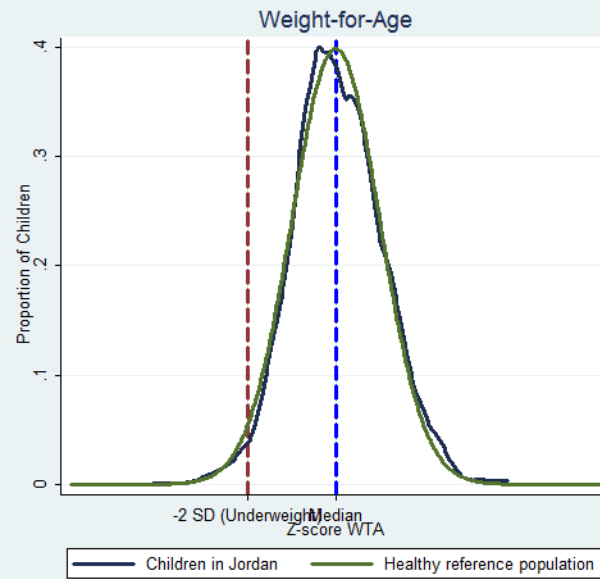
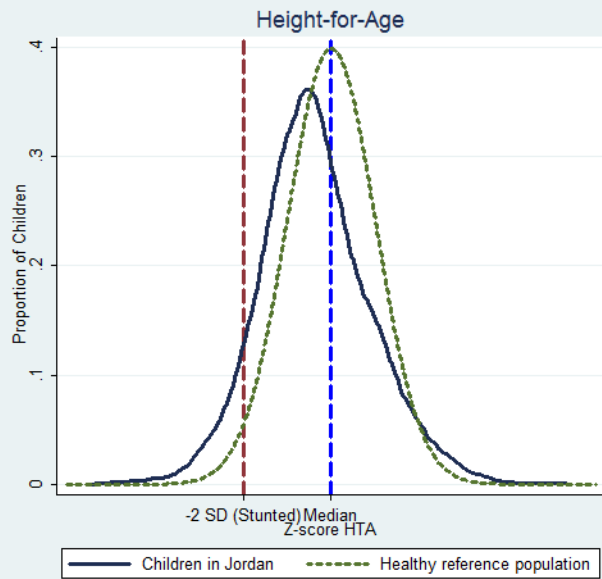
Smoothed lines of the top (blue ----) & bottom (blue - -) quintiles in 2005, & top (red - - .) & bottom (red - -) quintiles in 2008

Row 2: Monthly means in 2014 (.)

Smoothed lines of the top (blue ----) & bottom (blue - -) quintiles in 2014.

Physical health of Jordanian children deteriorates somewhat between the third and the fifth year of their lives, as the average *height for age* and *weight for age* fall below the levels among the healthy reference population.

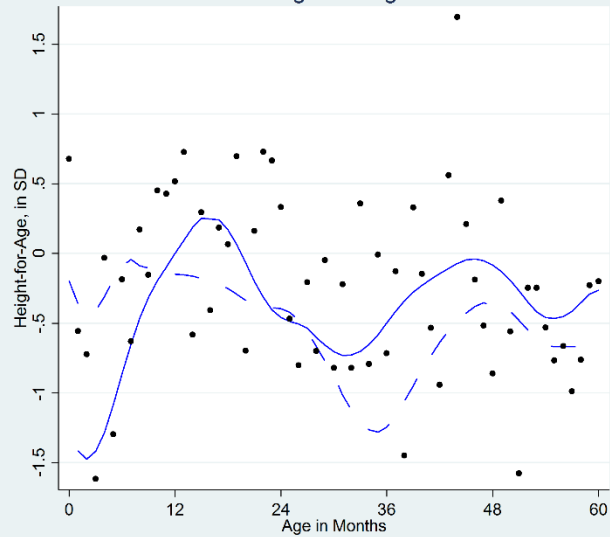
The distribution of *weight for height* is above that of a healthy reference population, but also deteriorates toward the reference level during the third to fifth years of children's lives.



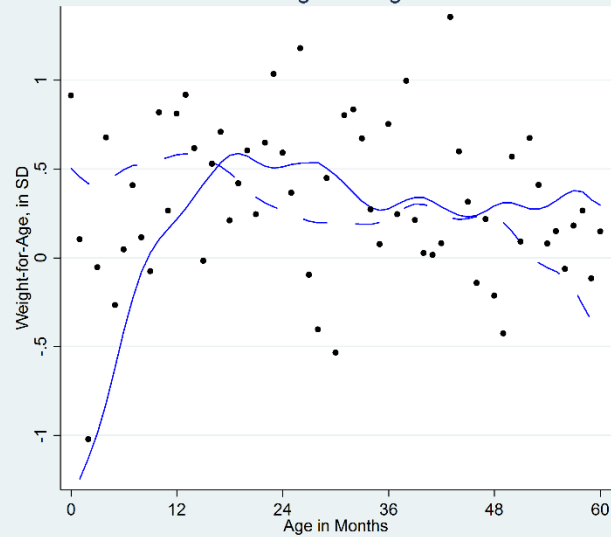
Jordanian children's *height for age* is distributed slightly lower than that of a reference healthy population, while *weight for age* and *weight for height* are distributed as highly as in reference population. This suggests that the distribution of height among Jordanian children is low relative to a healthy reference population.

Lebanon 2004

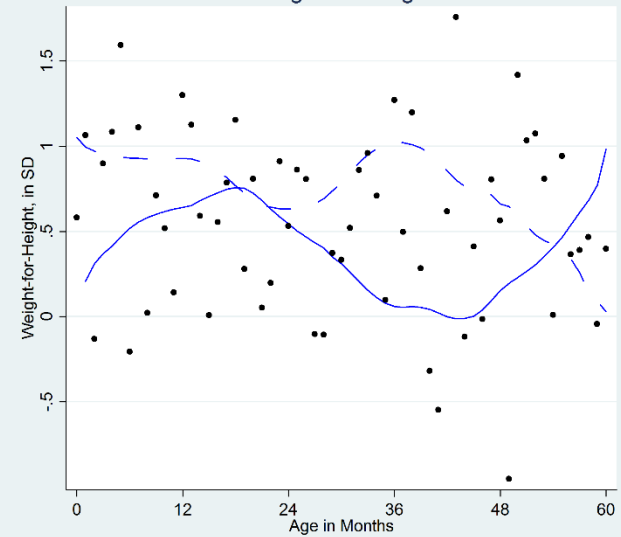
Height-for-Age



Weight-for-Age

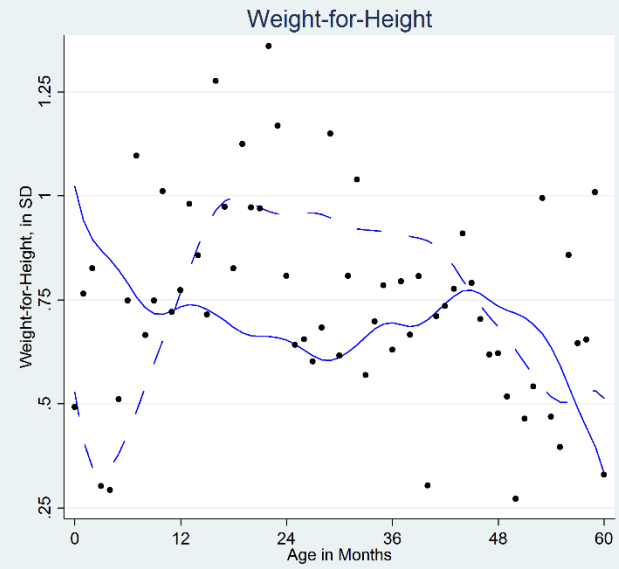
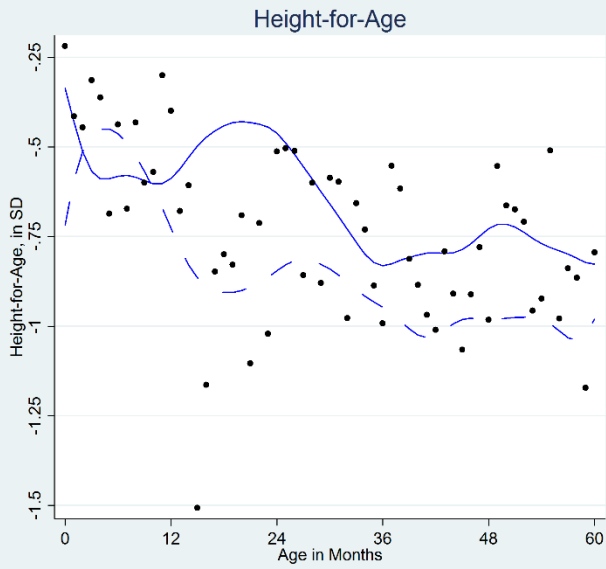


Weight-for-Height



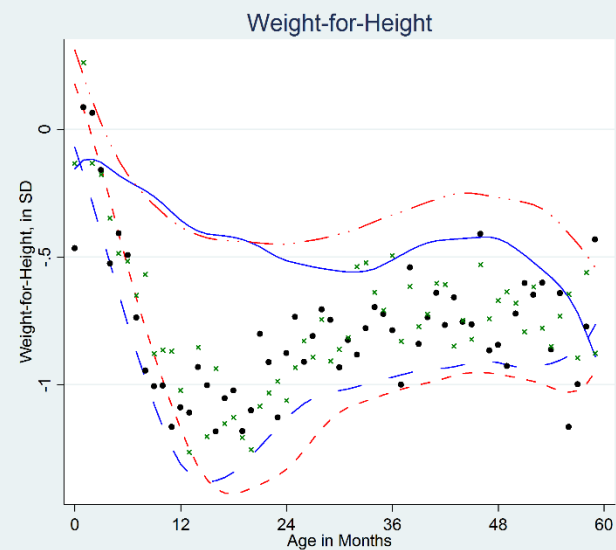
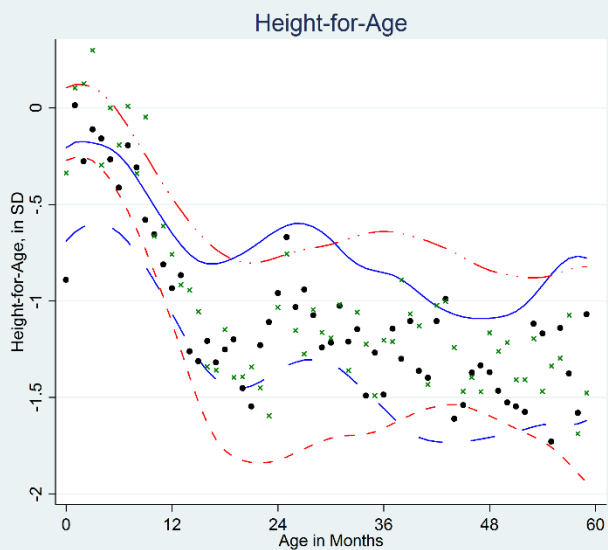
Monthly means (.), and smoothed lines of the top (---) & bottom (- -) quintiles.

Libya 2007



Monthly means (.), and smoothed lines of the top (---) & bottom (- -) quintiles.

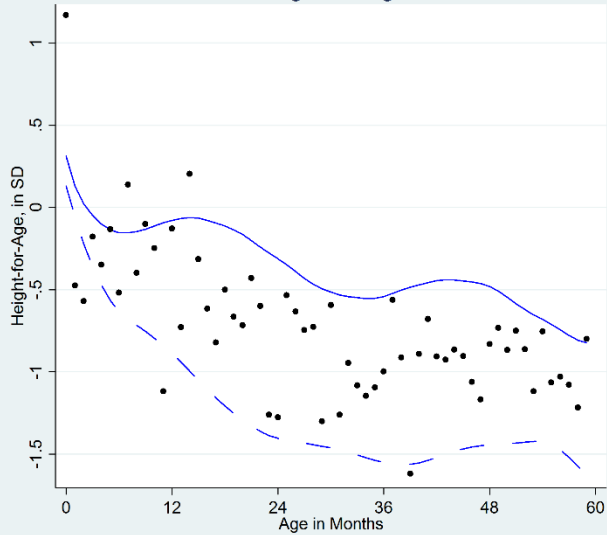
Mauritania 2007–2011



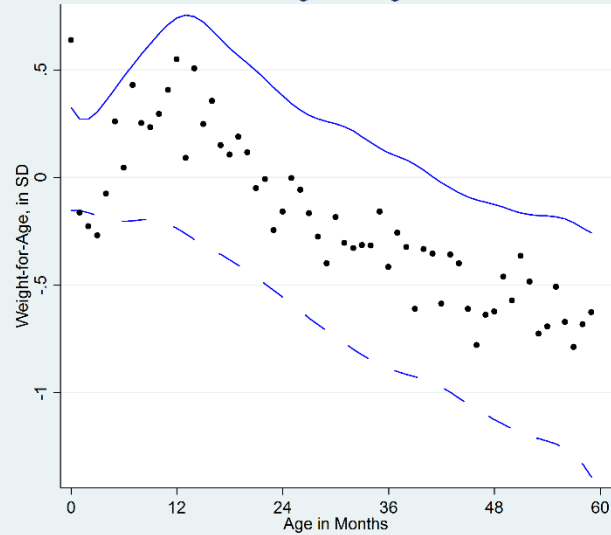
Monthly means in 2007 (black .) & 2011 (green x)
Smoothed lines of the top (blue —) & bottom (blue - -) quintiles in 2007, and top (red - .) & bottom (red - -) quintiles in 2011.

Morocco 2004

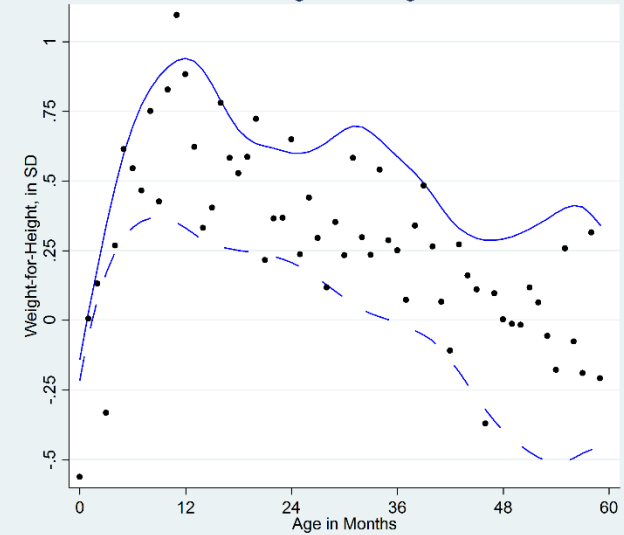
Height-for-Age



Weight-for-Age

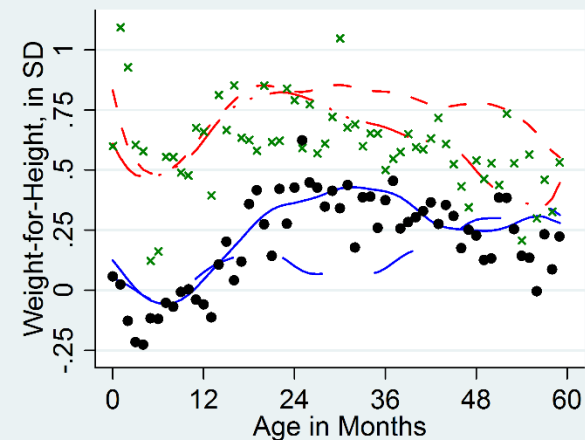
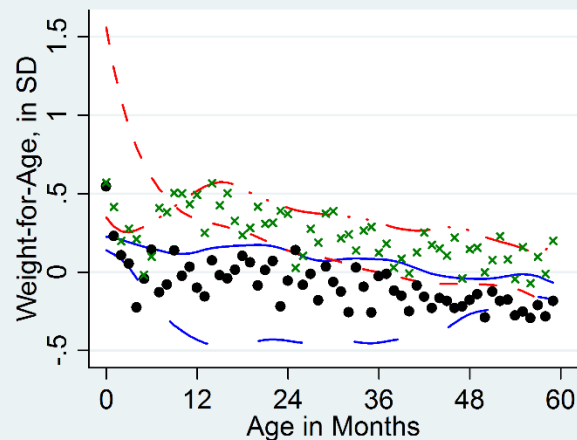
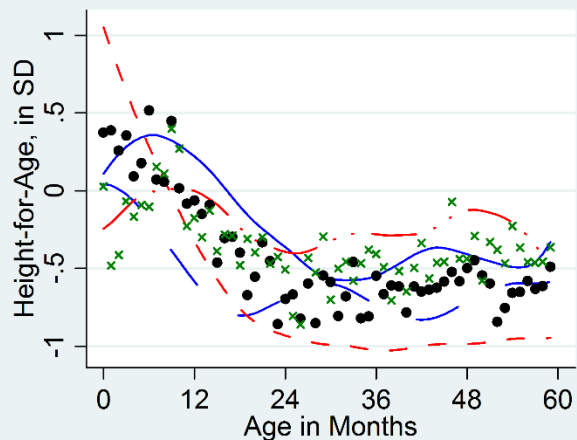
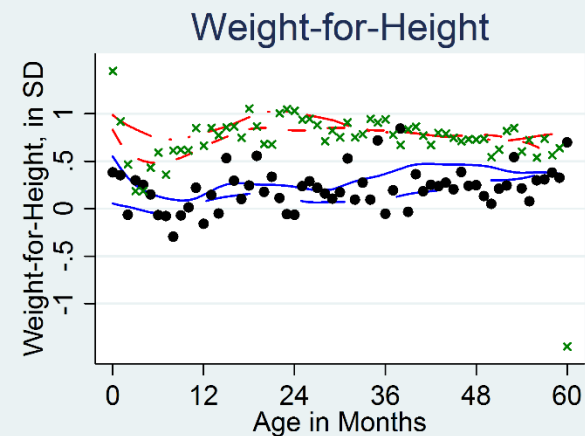
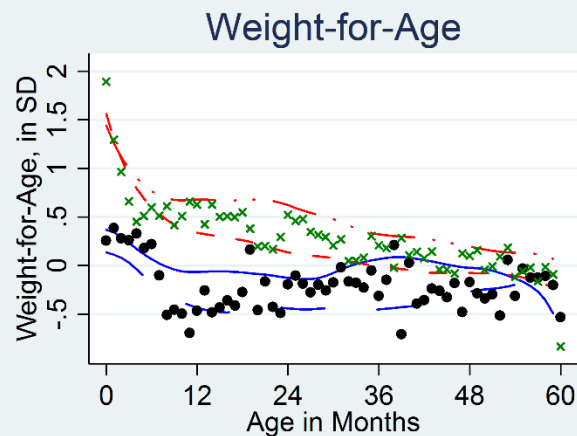
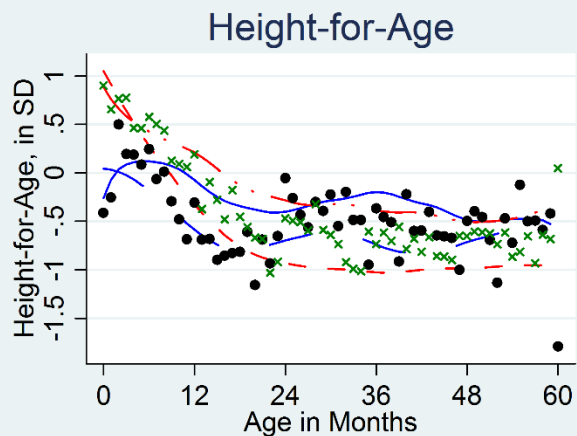


Weight-for-Height



Monthly means (.), and smoothed lines of the top (---) & bottom (- -) quintiles.

Palestine 2004–2006–2010–2014

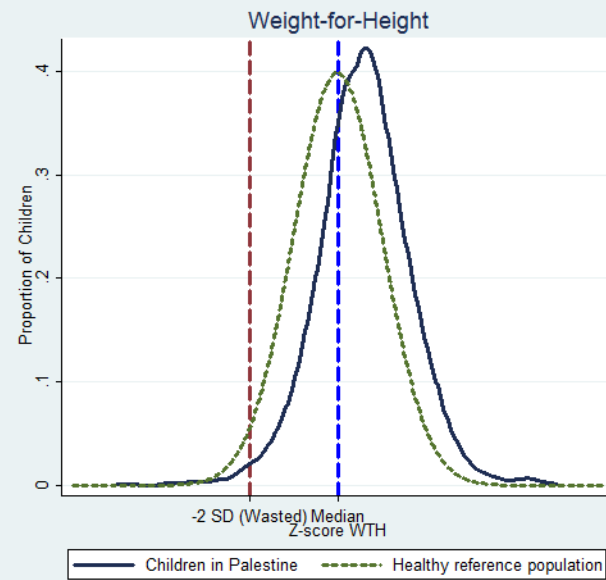
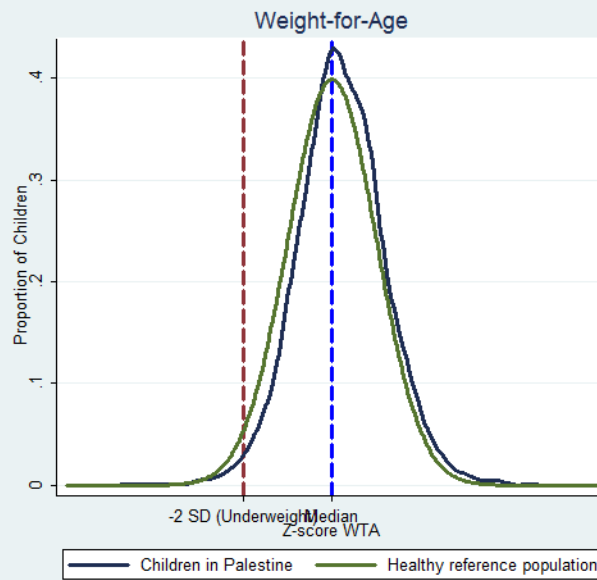
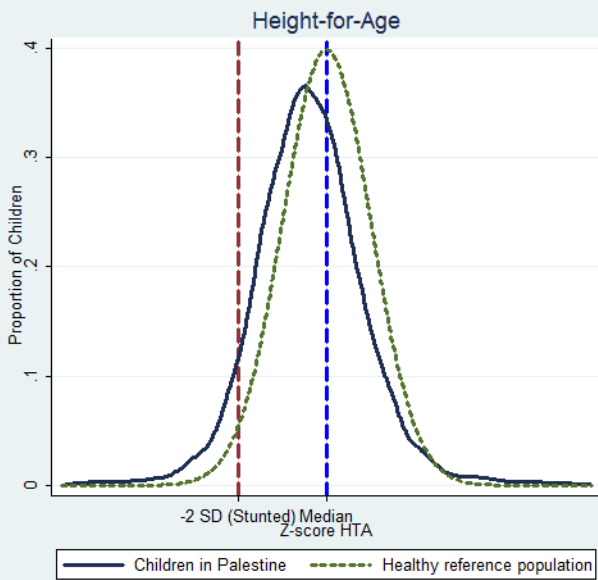


Row 1: Monthly means in 2004 (black .) & 2006 (green x)

Smoothed lines of the top (blue ----) & bottom (blue - -) quintiles in 2004, & top (red - .) & bottom (red - -) quintiles in 2006.

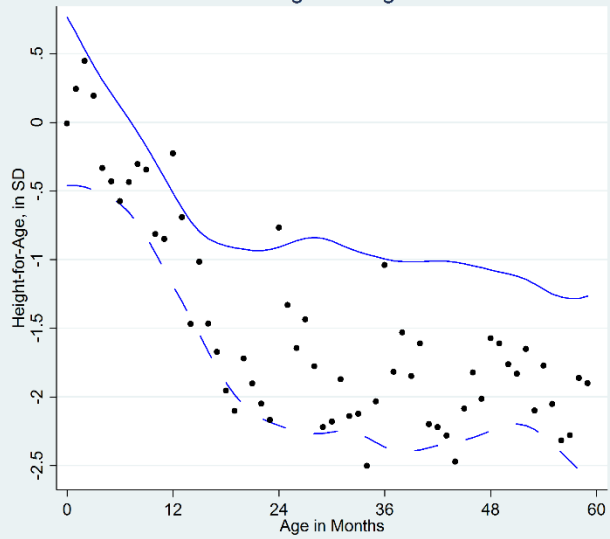
Row 2: Monthly means in 2010 (black .) & 2014 (green x)

Smoothed lines of the top (blue ----) & bottom (blue - -) quintiles in 2010, & top (red - .) & bottom (red - -) quintiles in 2014.

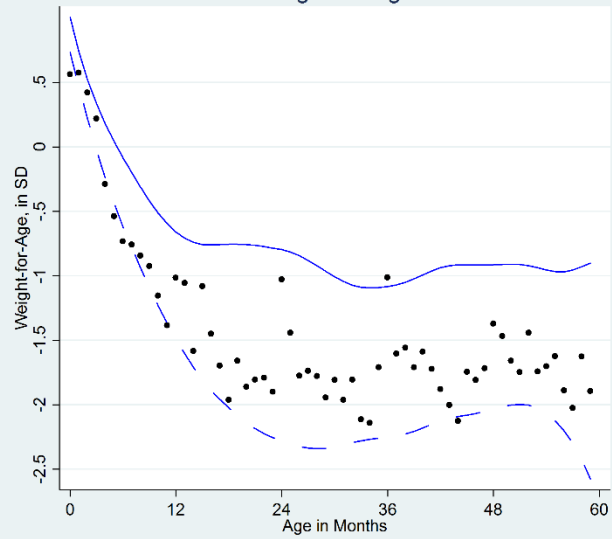


Somalia 2006

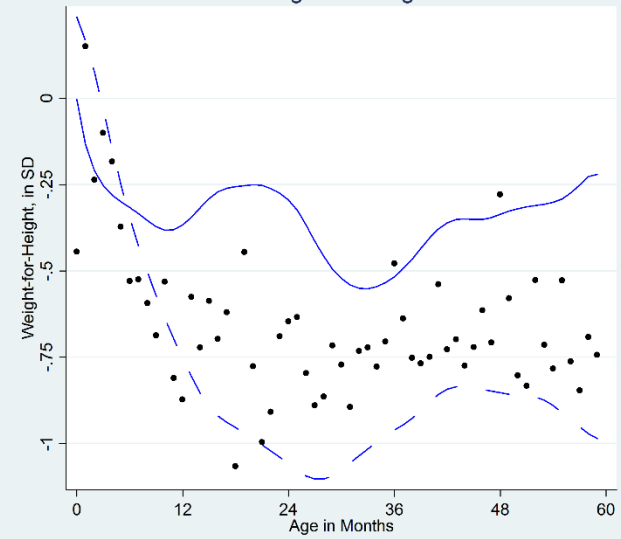
Height-for-Age



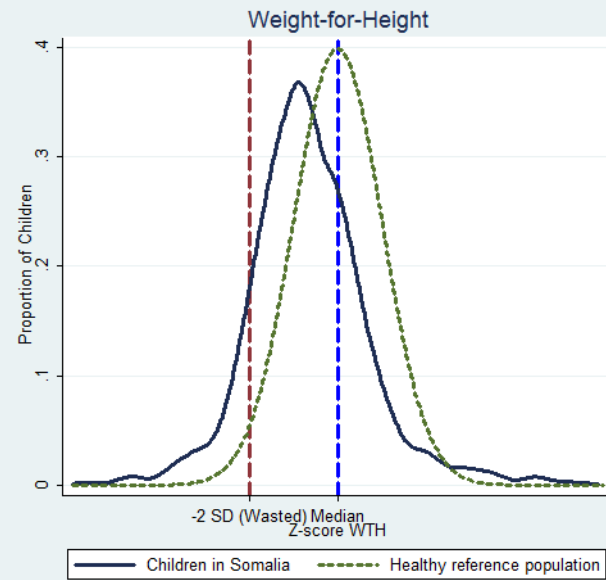
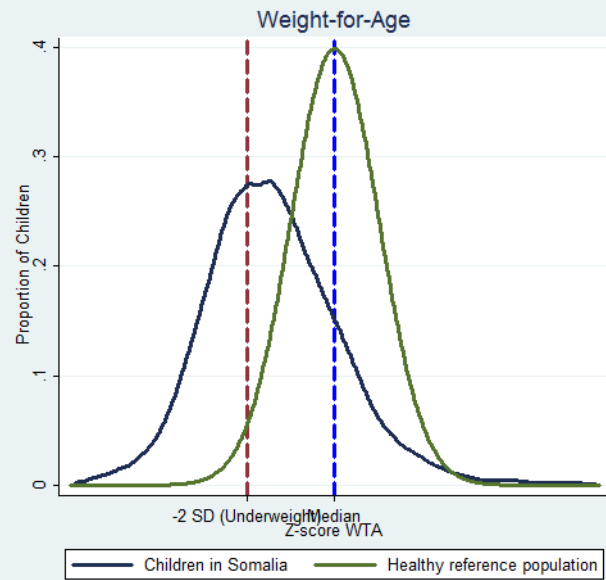
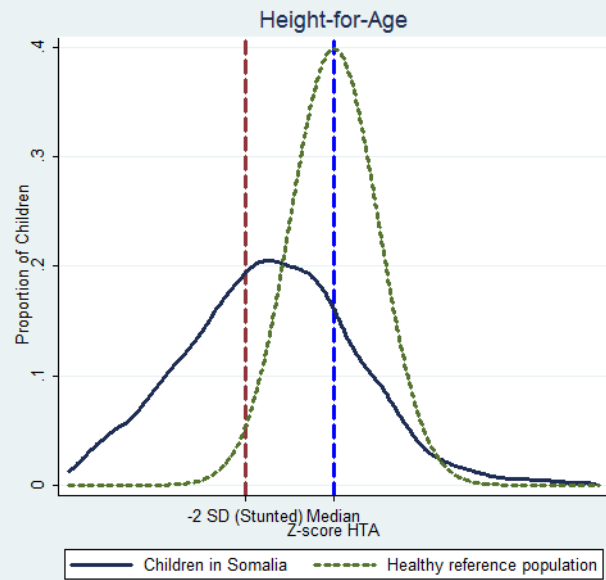
Weight-for-Age



Weight-for-Height

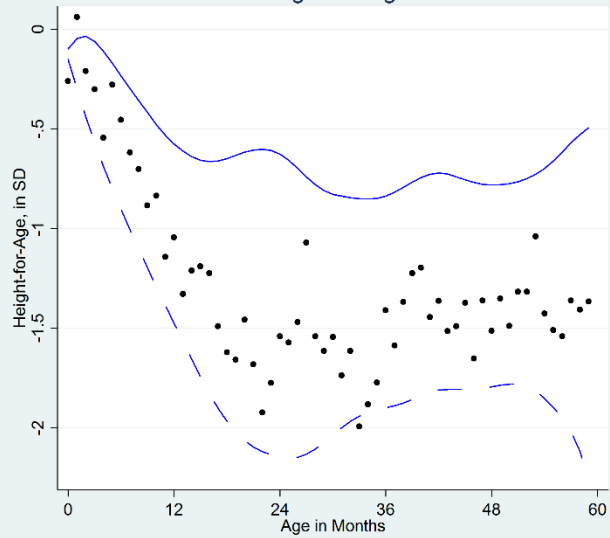


Monthly means (.), and smoothed lines of the top (---) & bottom (- -) quintiles.

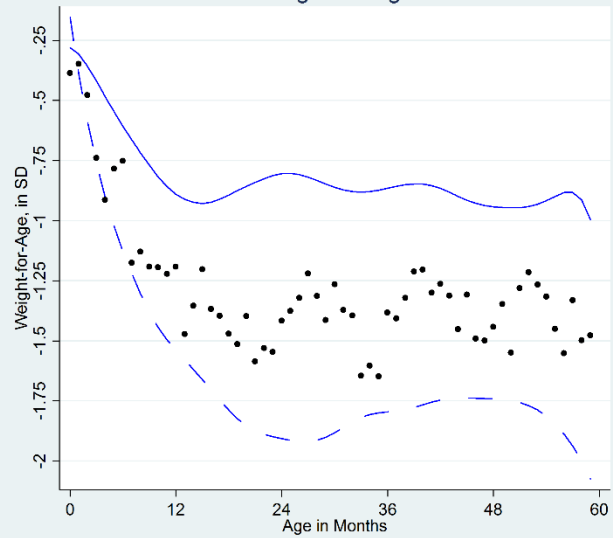


Sudan 2010

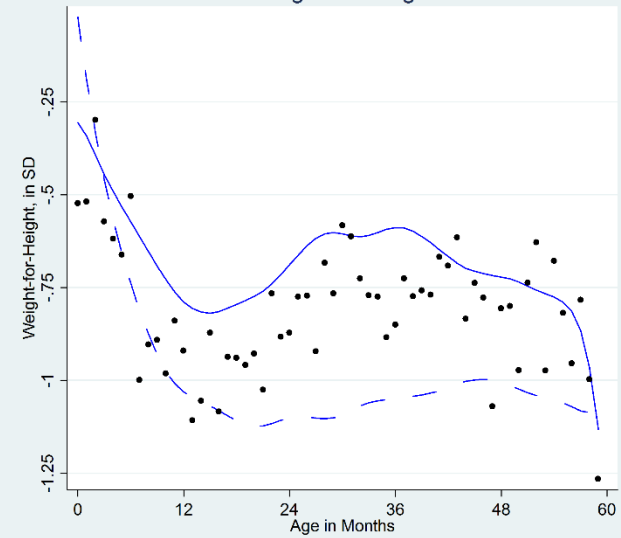
Height-for-Age



Weight-for-Age

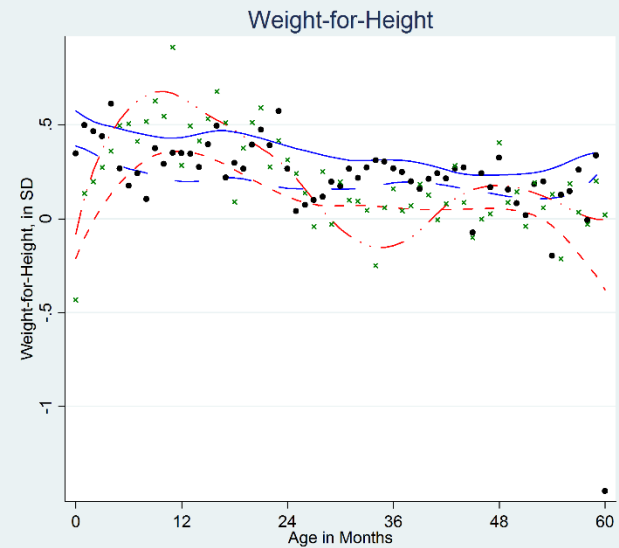
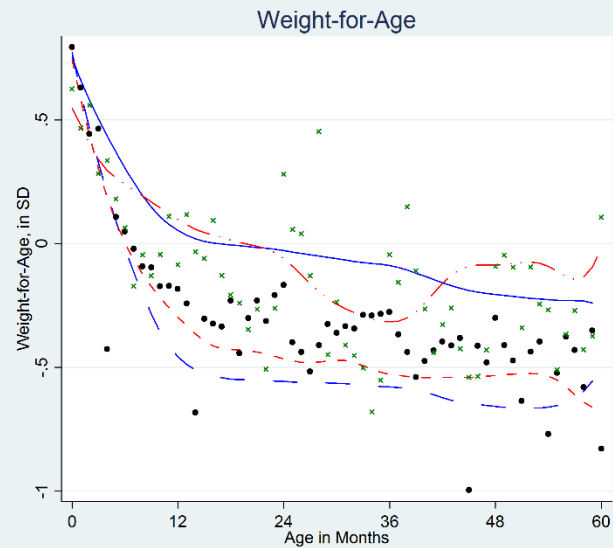
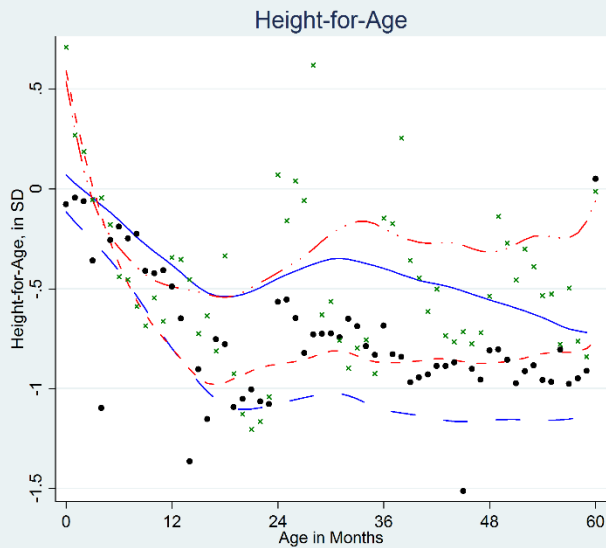


Weight-for-Height



Monthly means (.), and smoothed lines of the top (---) & bottom (- -) quintiles.

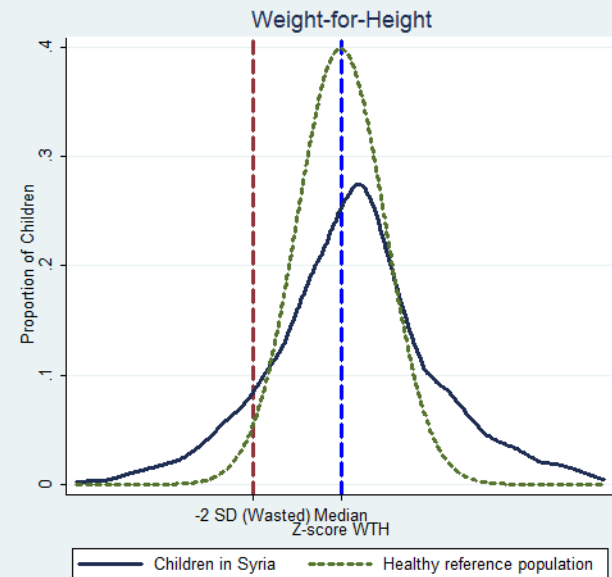
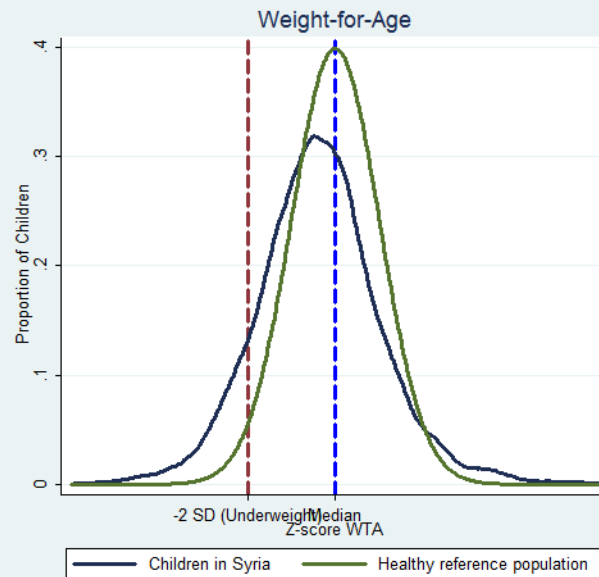
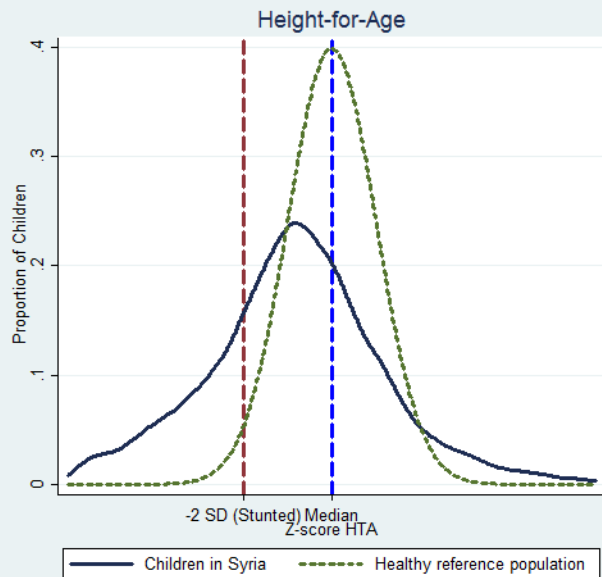
Syria 2006-2009



Monthly means in 2006 (black .) & 2009 (green x)
Smoothed lines of the top (blue ----) & bottom (blue - -) quintiles in 2006, and top (red - .) & bottom (red - -) quintiles in 2009.

Syrian children's *height for age* is distributed significantly lower than a healthy reference population, and their *weight for age* is also distributed lower than the reference. The most significant drop in these statistics occurs in the first 18 months of babies' lives, suggesting that a nutritional intervention in the early months may help children's growth and reduce infant mortality or life-long consequences.

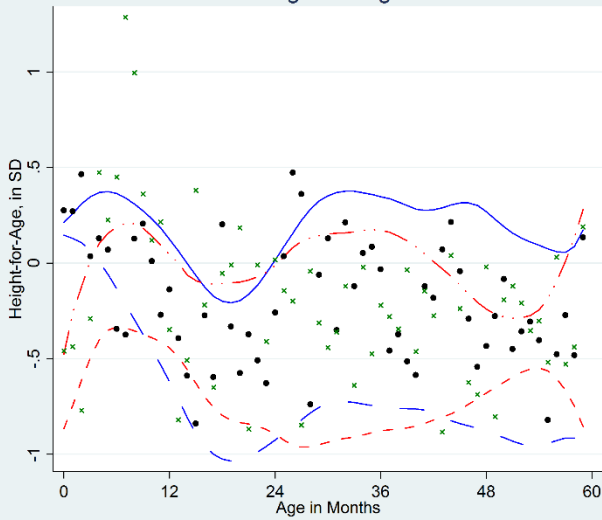
Children's weight for height hovers above the international reference level.



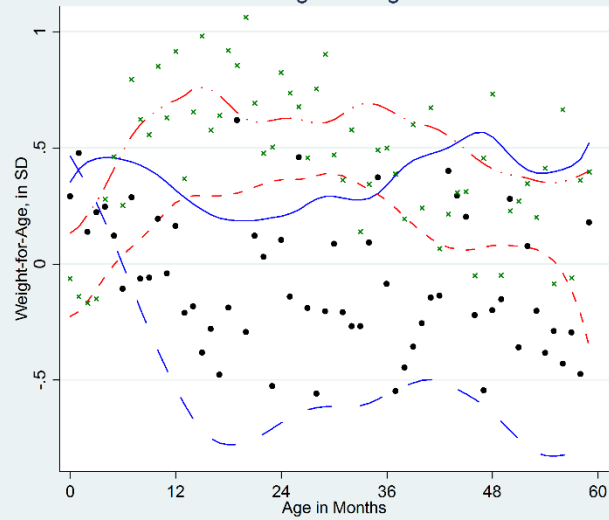
Syrian children's *height for age* has a fat left tail and is distributed lower and than that of a healthy reference population, while *weight for age* and *weight for height* are distributed as highly as the reference population or higher. It appears that the distribution of height among Syrian children is low.

Tunisia 2006–2011

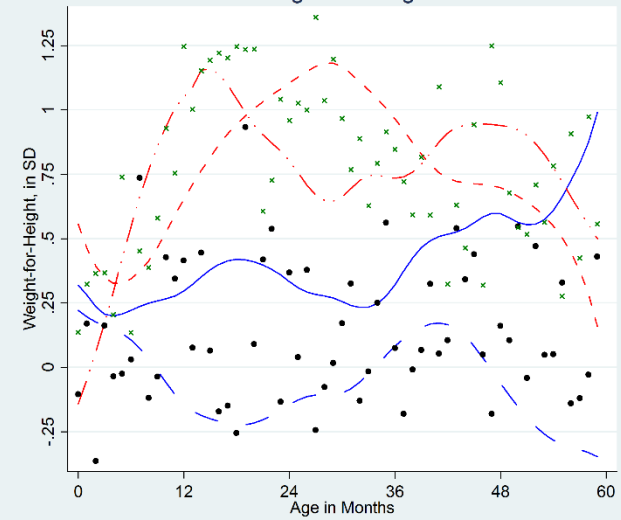
Height-for-Age



Weight-for-Age



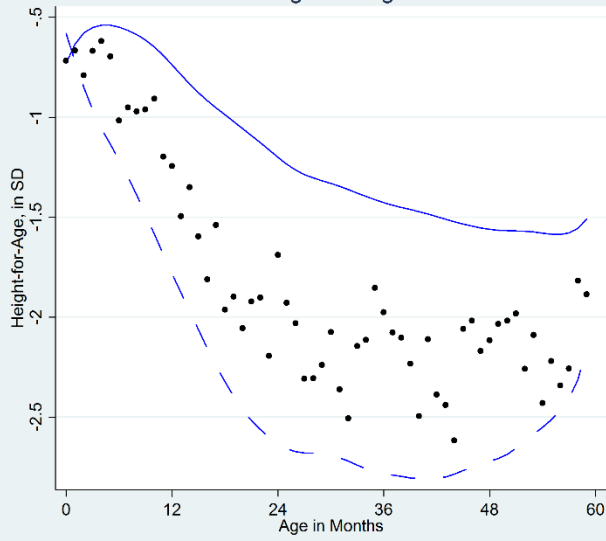
Weight-for-Height



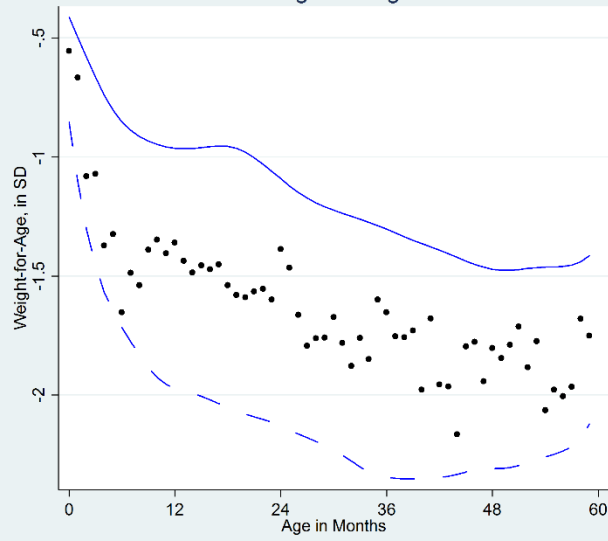
Monthly means in 2006 (black .) & 2011 (green x)
Smoothed lines of the top (blue -----) & bottom (blue - -) quintiles in 2006, and top (red - . .) & bottom (red - -) quintiles in 2011.

Yemen 2013

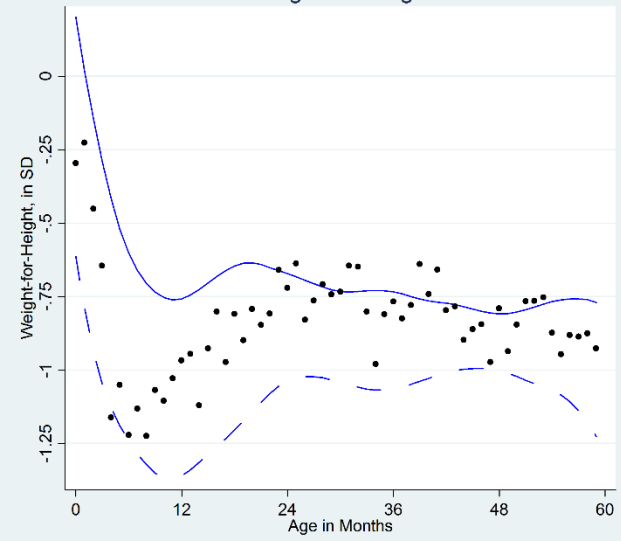
Height-for-Age



Weight-for-Age



Weight-for-Height



Monthly means (.), and smoothed lines of the top (---) & bottom (- -) quintiles.

Conclusions

- Access to ECD opportunities is for the most part inadequate, and subject to vast inequality across the Arab region as well as within individual countries.
- This is true of all forms of ECD, namely health care, nutrition and cognitive development, with particular deficiencies in children's height, access to iodized salt, enrolment in nurseries and preschool programs, cognitive stimulation at home, and violent disciplining.

- Access to ECD varies significantly across Arab countries and even across wealth and demographic strata within countries.
- Disparities are greatest for opportunities for cognitive development through preschool programs, parental stimulation, and exploitation of children for housework.
- Disparities in mothers' access to health, children's vaccination, and access to nutrients such as iodine give rise to disparities in the prevalence of children's stunting, underweight and mortality.

- Opportunities are improving and becoming more equal over time across most countries and across most forms of ECD, but progress is uneven.
- For the rates of skilled care during child delivery, child immunization, and enrolment in preschool programs, access has deteriorated in a large fraction of countries.
- Conditions were improving across most of the evaluated ECD indicators in Algeria, Egypt, Tunisia and Yemen, while a number of indicators were deteriorating in Djibouti, Mauritania and Syria.

- Inequality in child mortality, rate of underweight, enrolment in preschool programs, engagement in developmental activities at home, violent disciplining of children, and exploitation of children for housework has deteriorated.
- Egypt, Jordan, Sudan and Tunisia have seen systematic improvements in inequality across most ECD indicators, while Djibouti and Syria have seen deterioration.

Last thoughts

- With respect to access to preschool education, parental stimulation, vaccination, and iodized salt, opportunities for ECD are further deteriorating over time in a number of countries.
- Rates of stunting are rising in one half of Arab countries.
- Within Arab countries, inter-group inequality in children's stunting and mortality is also rising.

- Disparity between the poorest and the richest households appears to be largest for ECD activities facilitated by markets or local governments such as nursery and preschool attendance (ECCE and ECE), access to iodized salt, while they are relatively low for non-market activities such as child disciplining and the use of children for household or non-household chores.
- This suggests that household and community resources and factors associated with them affect significantly children's access to selected types of ECD, and could be influenced by targeted interventions by governments, NGOs & international organizations/donors.

- Surprisingly, during the revolutionary years, ECD opportunities improved in Egypt, Jordan and Yemen.
- In countries with minor or no unrests, including Comoros, Djibouti and Mauritania, on the other hand, ECD opportunities actually deteriorated.
- Finally, states in longer-term crisis, including Somalia and Palestine saw children's ECD rates fall to dismal levels or to fluctuate. (For other countries – Syria, Lybia – more recent surveys are needed.)



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Thank you