

Risk Factors of Stunting

*Jade Benjamin-Chung, Andrew N. Mertens, Esther Chung, Jeremy Coyle, Oleg Sofrygin,
Nima Hejazi, Ivana Malenica, Alan E. Hubbard, Mark J. van der Laan, John M. Colford,
Jr., Benjamin F. Arnold*

2018-06-14

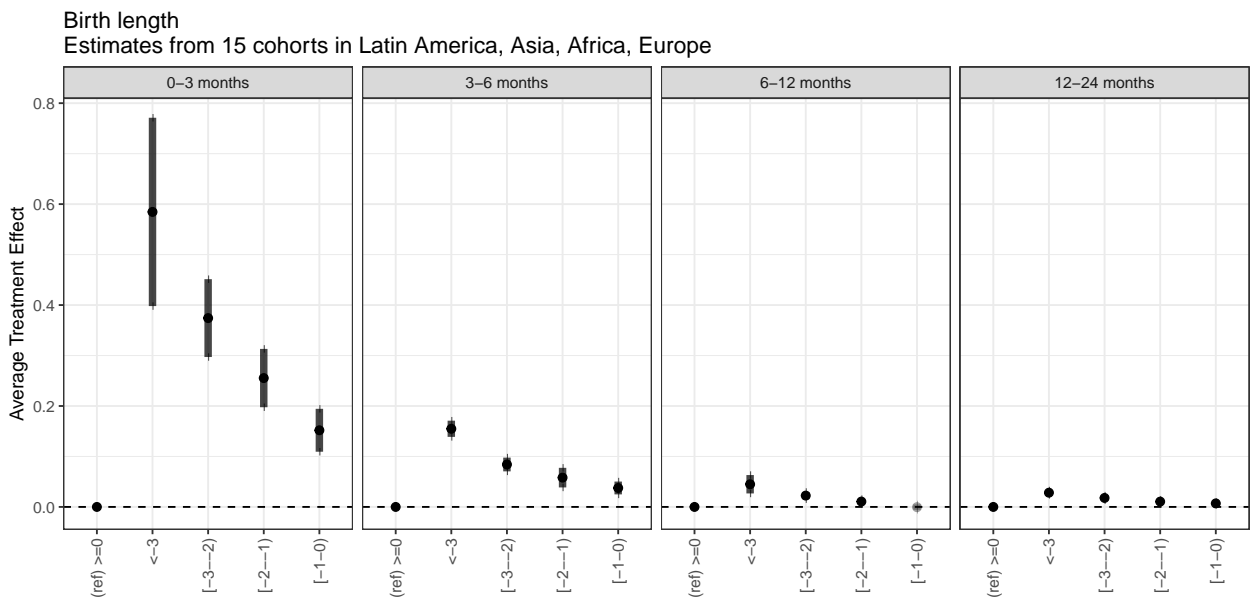
Contents

Average treatment effect pooled across cohorts	1
HAZ growth velocity	1
Length growth velocity	13
Appendix 1 - Average treatmetn effect stratified by cohort	26
HAZ growth velocity	26
Length growth velocity	50

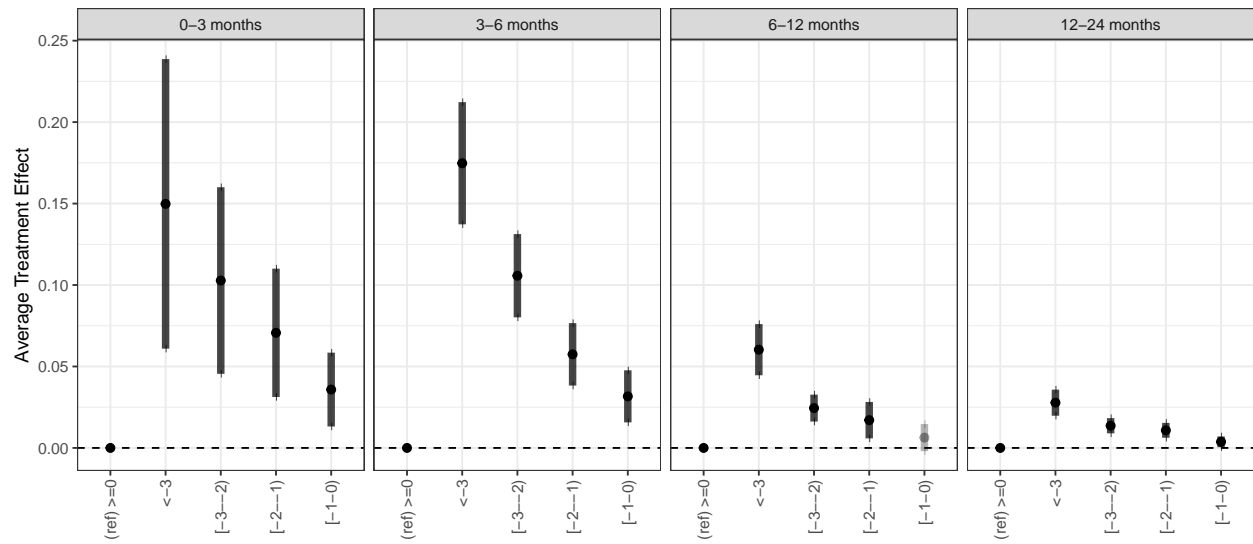
Average treatment effect pooled across cohorts

HAZ growth velocity

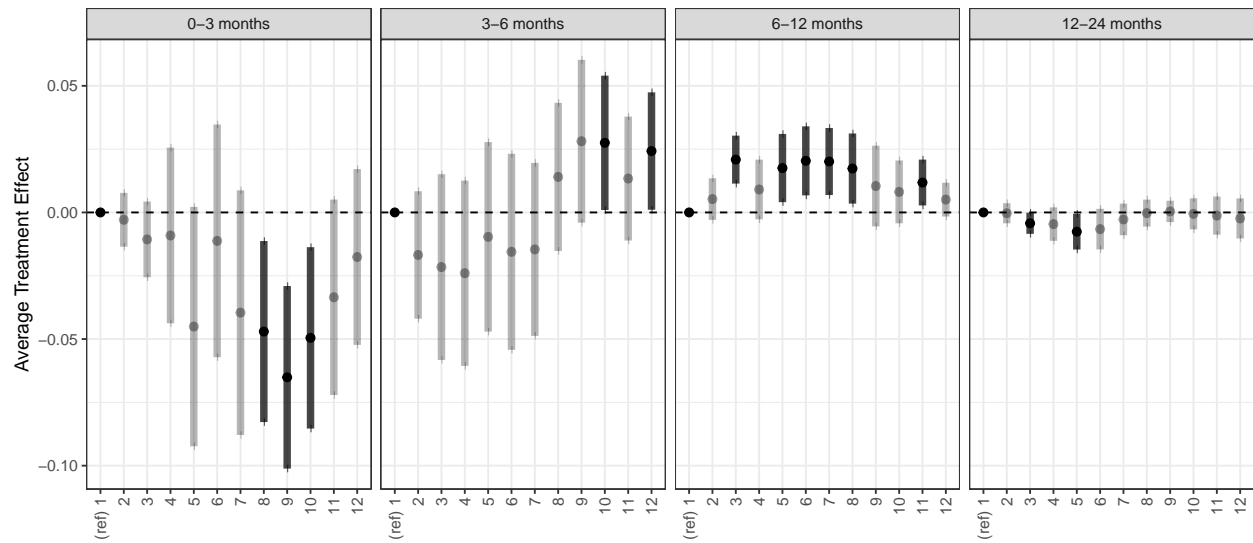
Child characteristics



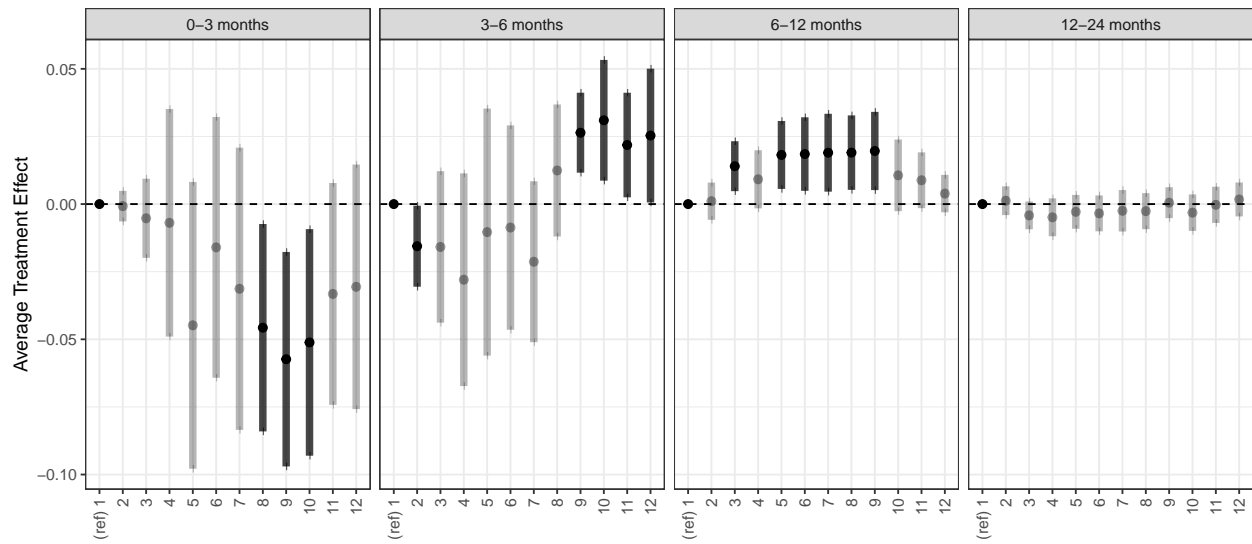
Birthweight
Estimates from 15 cohorts in Asia, Latin America, Africa, Europe



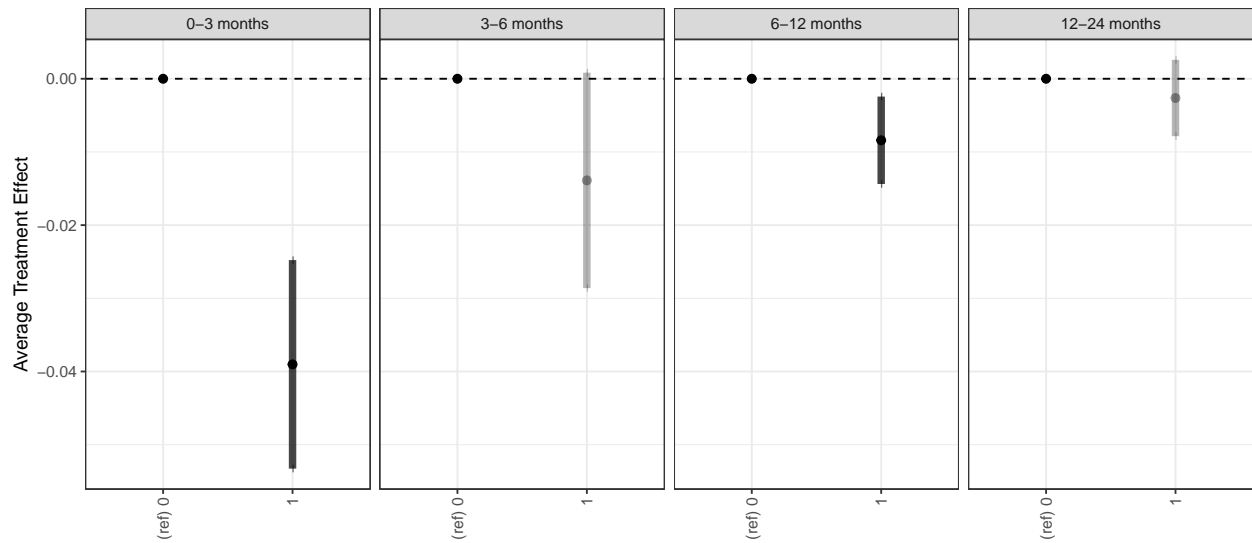
Calendar month of birth
Estimates from 20 cohorts in Asia, Latin America, Africa, Europe



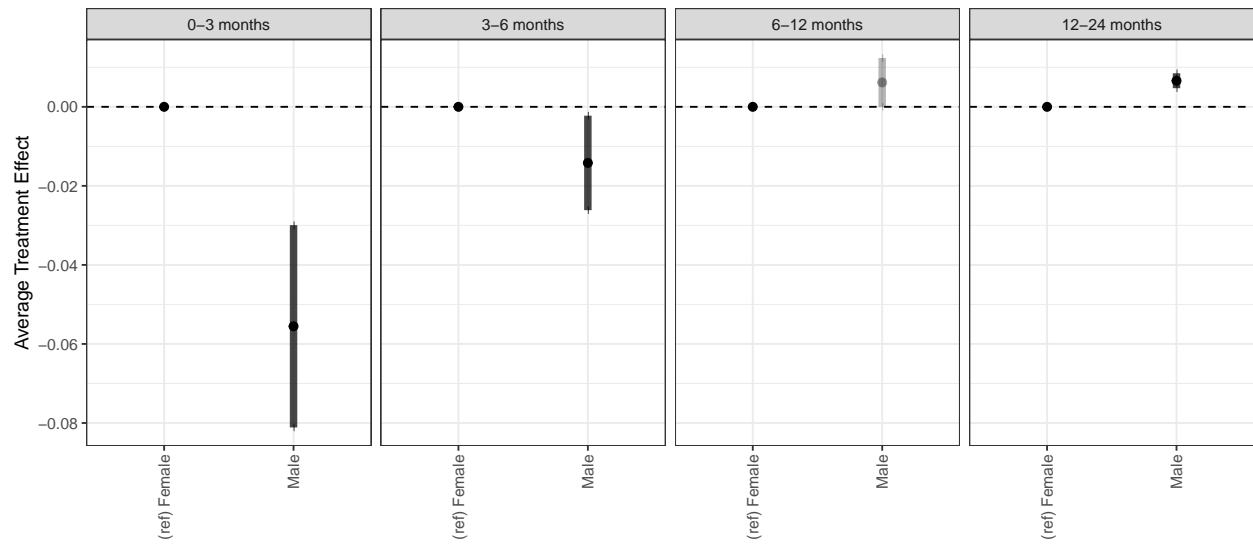
Calendar month of measurement
Estimates from 20 cohorts in Asia, Latin America, Africa, Europe



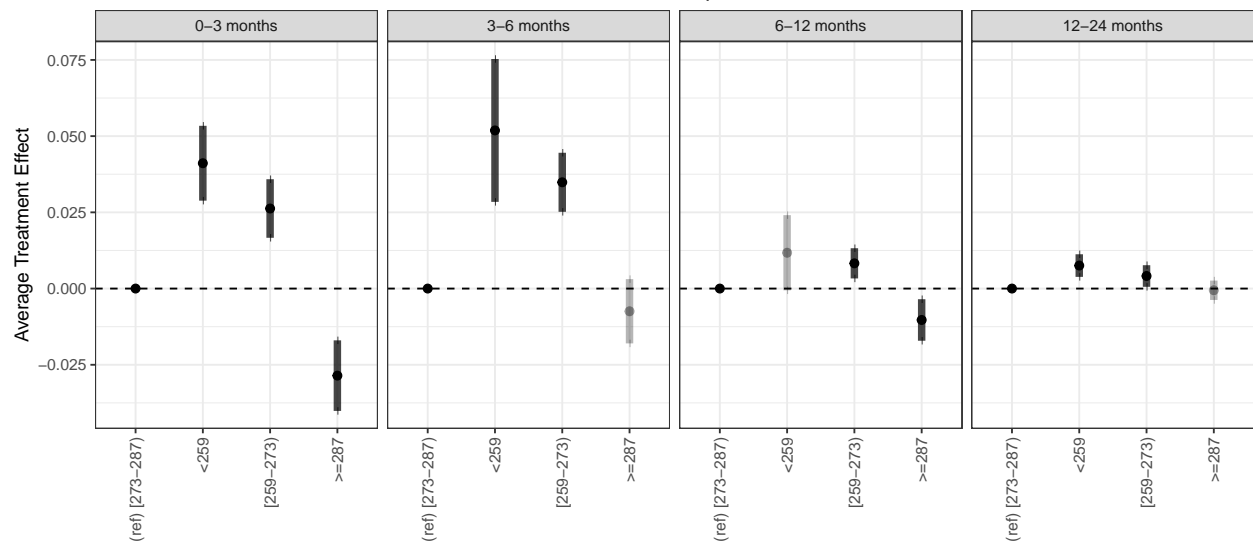
Child delivered at home
Estimates from 11 cohorts in Asia, Africa



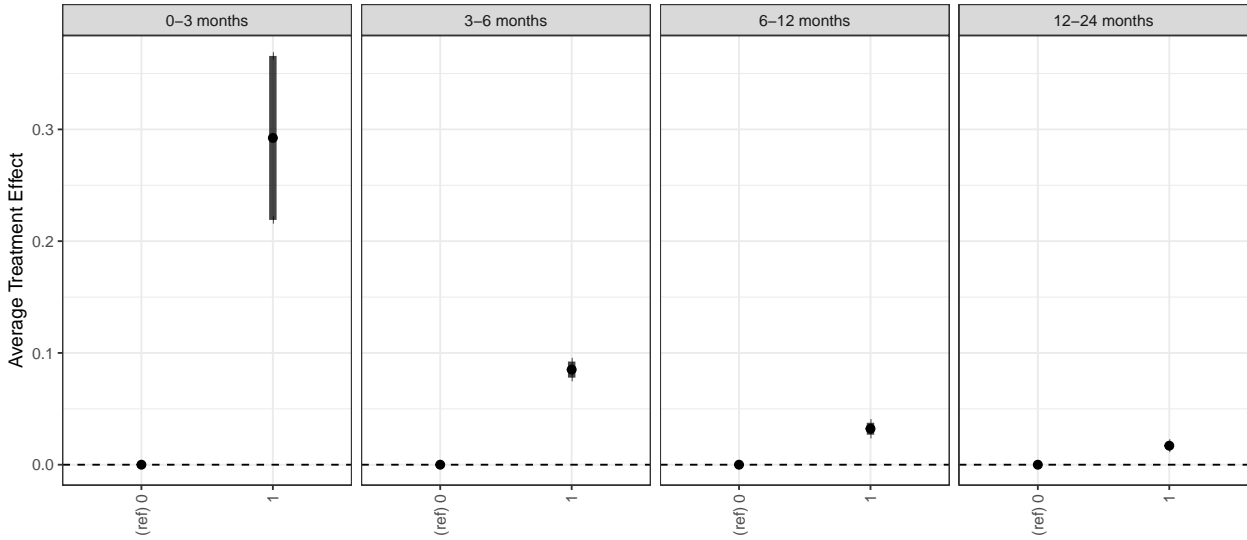
Child's sex
Estimates from 38 cohorts in Asia, Latin America, Africa, Europe



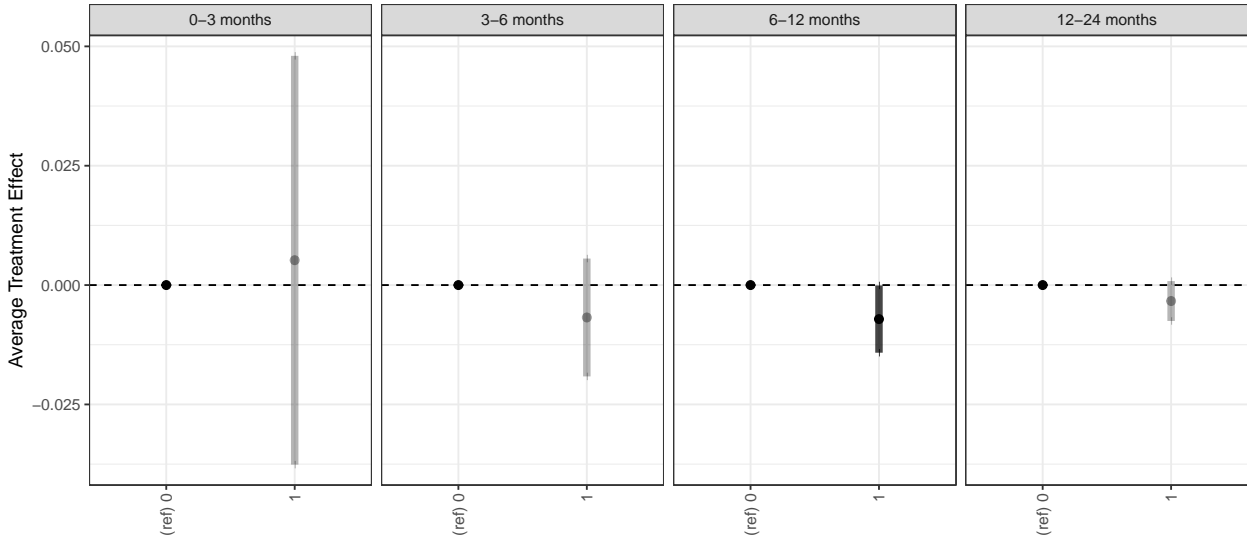
Gestational age at birth in days
Estimates from 8 cohorts in Asia, Latin America, Africa, Europe



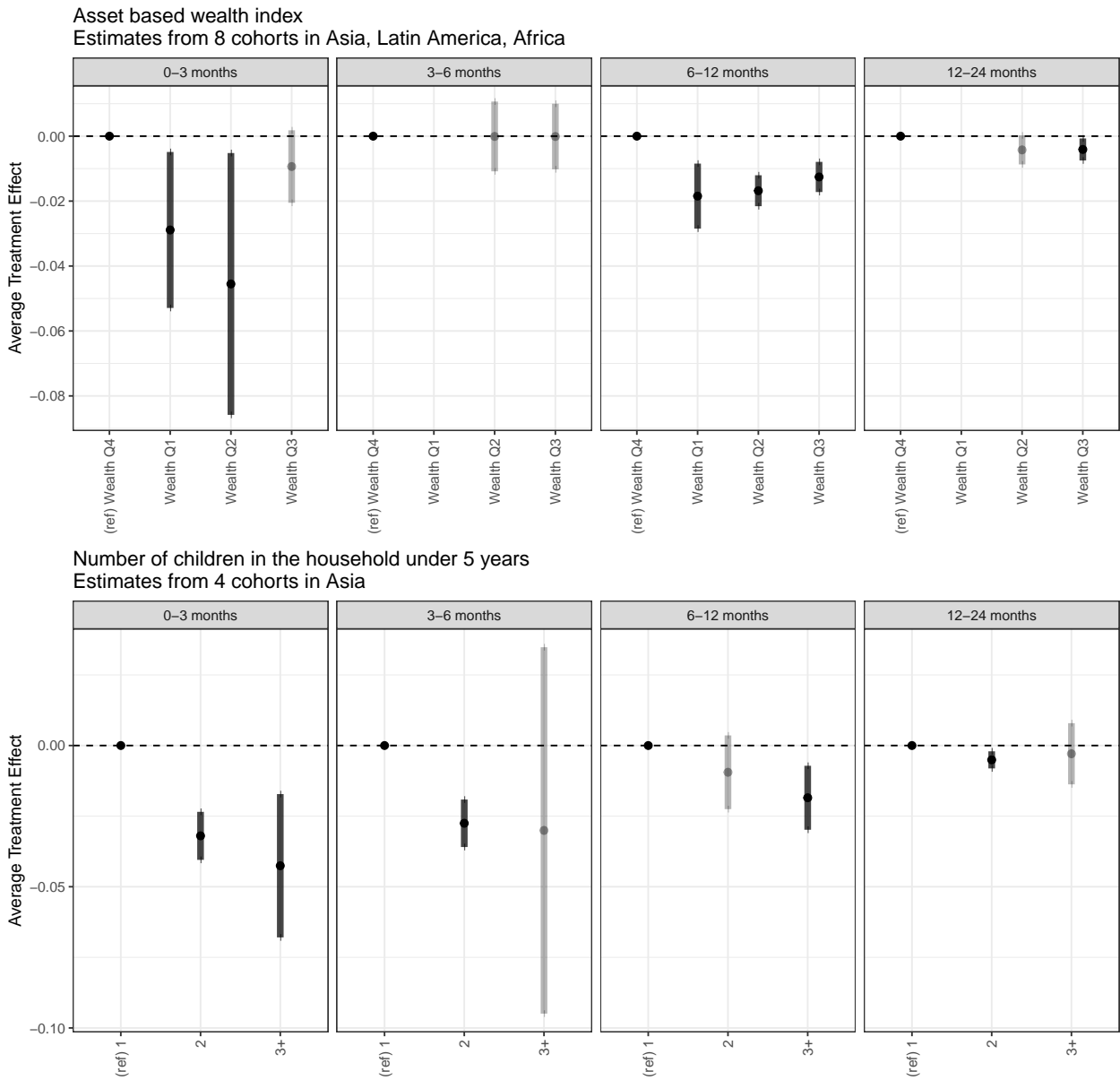
Stunted at enrollment
Estimates from 30 cohorts in Asia, Africa, Latin America, Europe



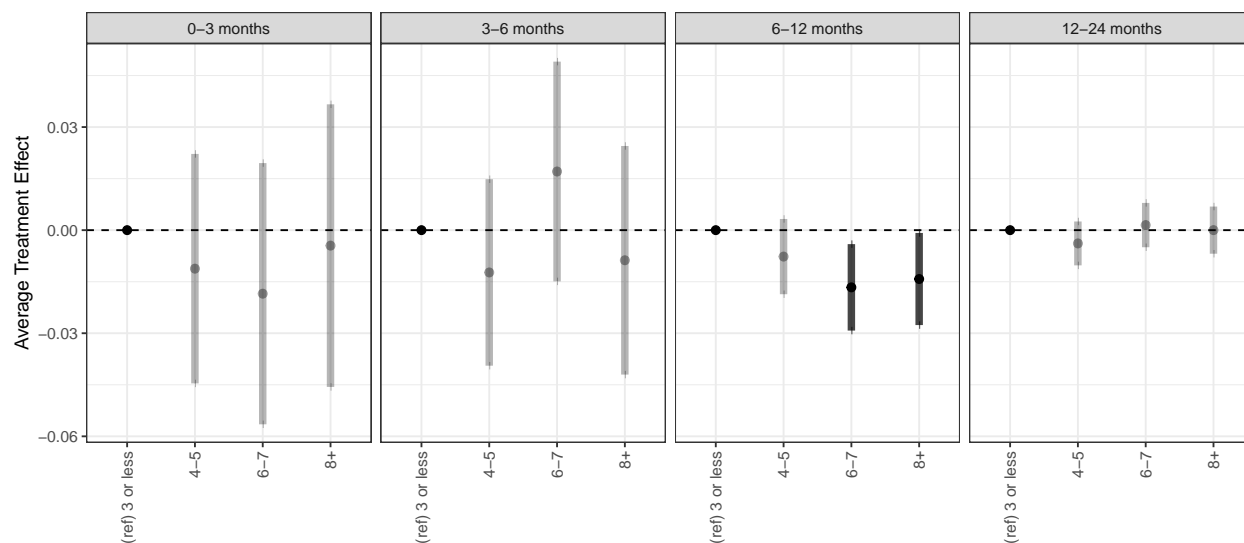
Vaginal delivery
Estimates from 8 cohorts in Asia, Europe, Africa



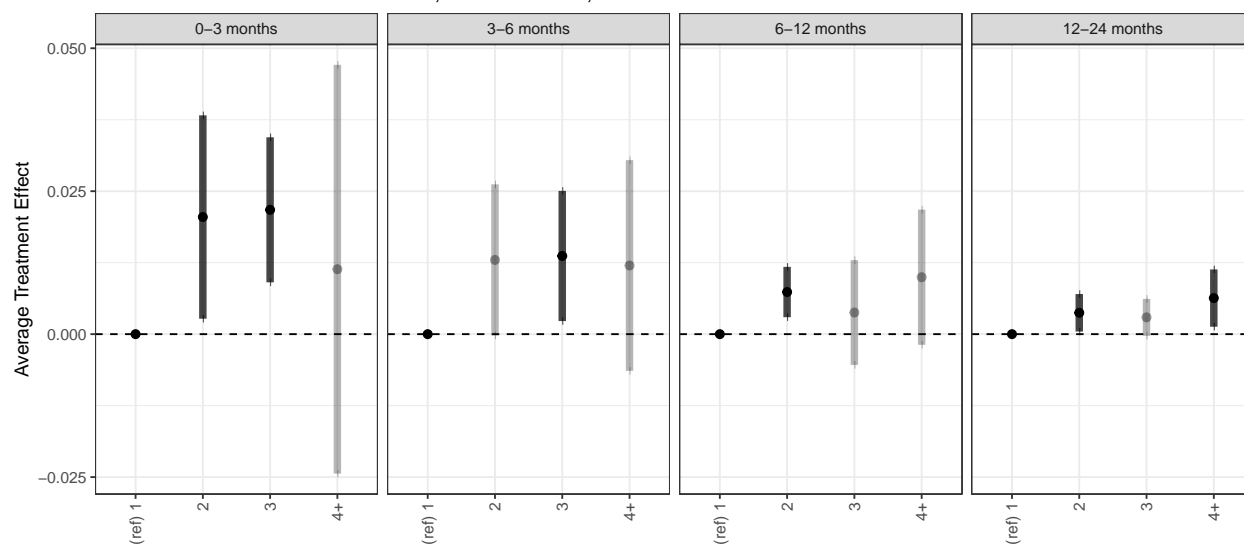
Household characteristics



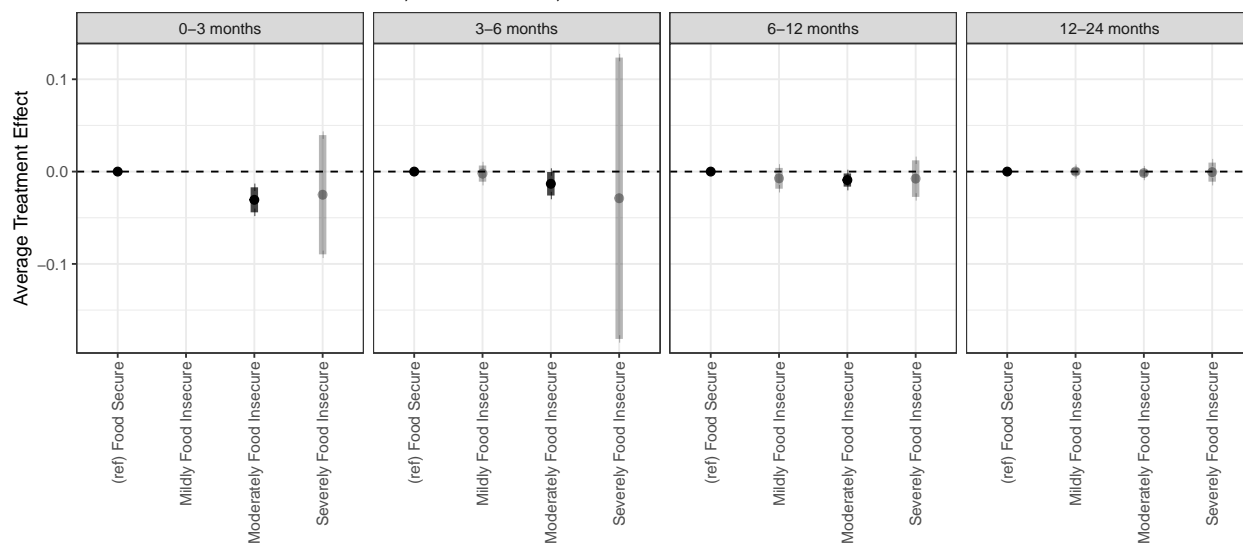
Number of people in the household
Estimates from 4 cohorts in Asia



Number of rooms in household
Estimates from 16 cohorts in Asia, Latin America, Africa

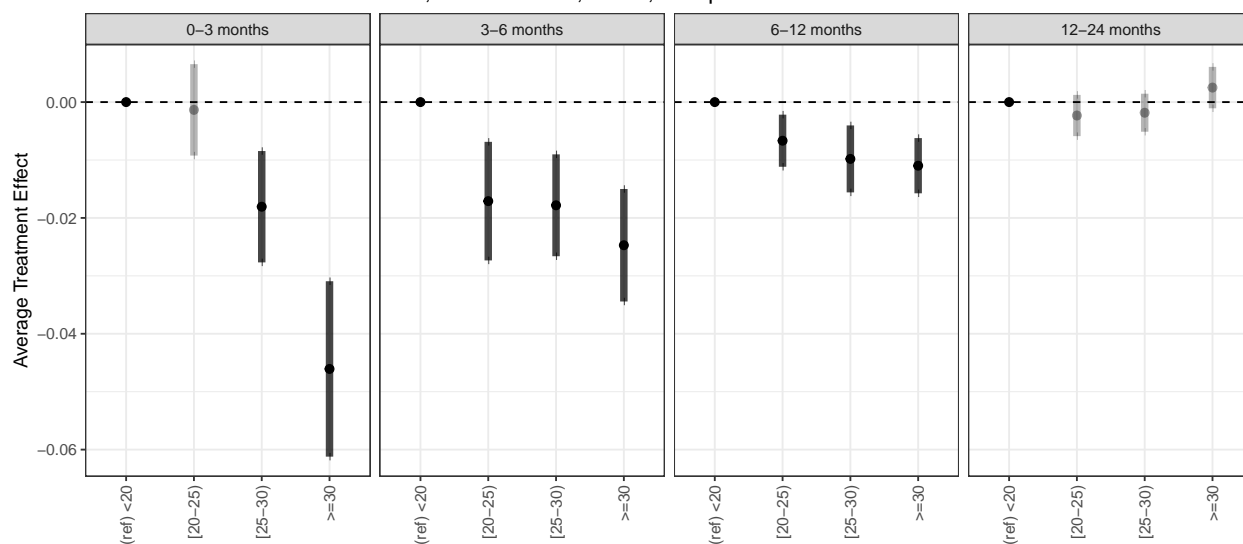


USAID Household Food Insecurity Access Scale (HFIAS) category
Estimates from 6 cohorts in Asia, Latin America, Africa

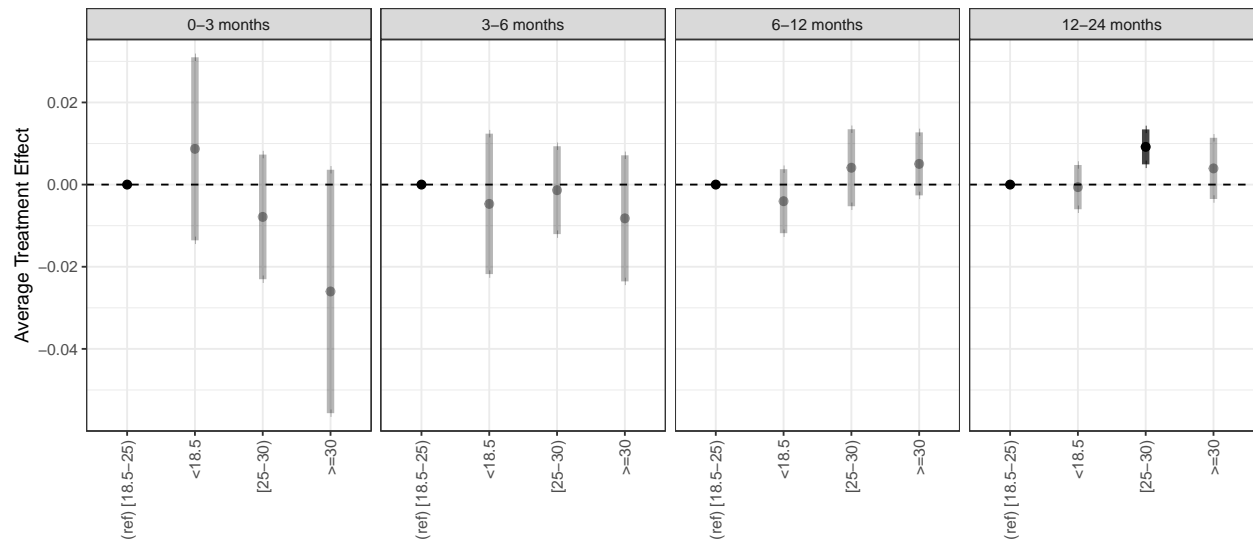


Maternal characteristics

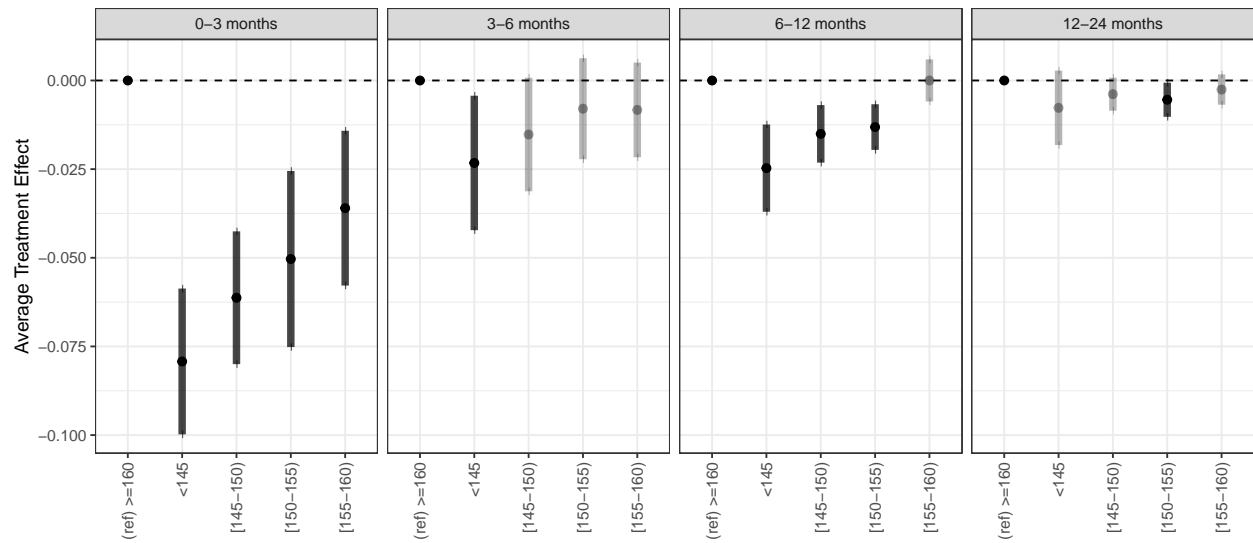
Maternal age
Estimates from 22 cohorts in Asia, Latin America, Africa, Europe



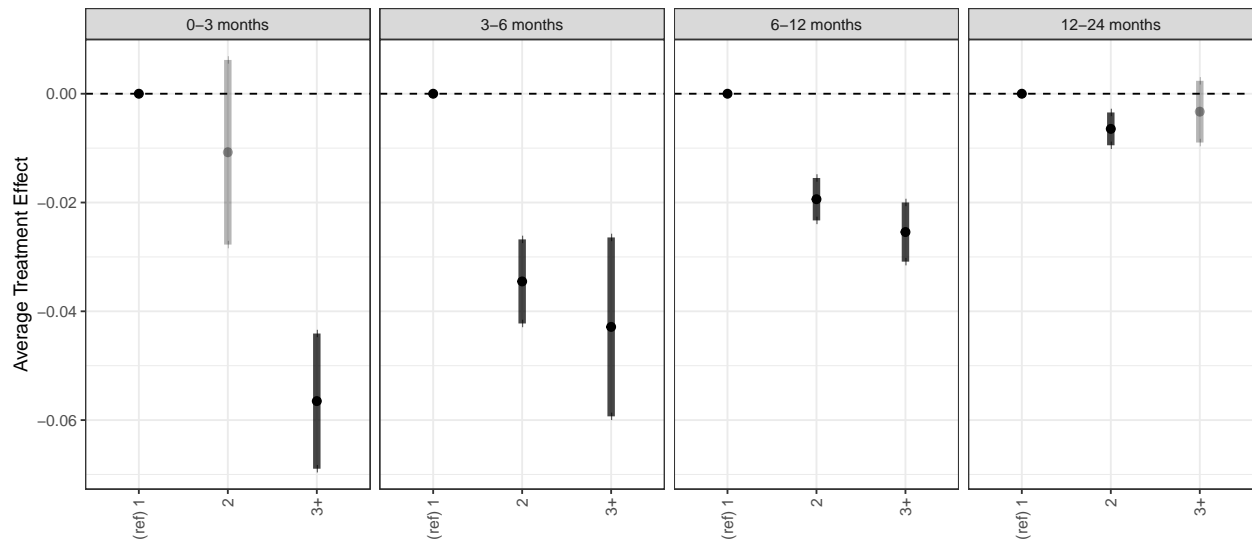
Maternal BMI
Estimates from 11 cohorts in Asia, Latin America, Africa, Europe



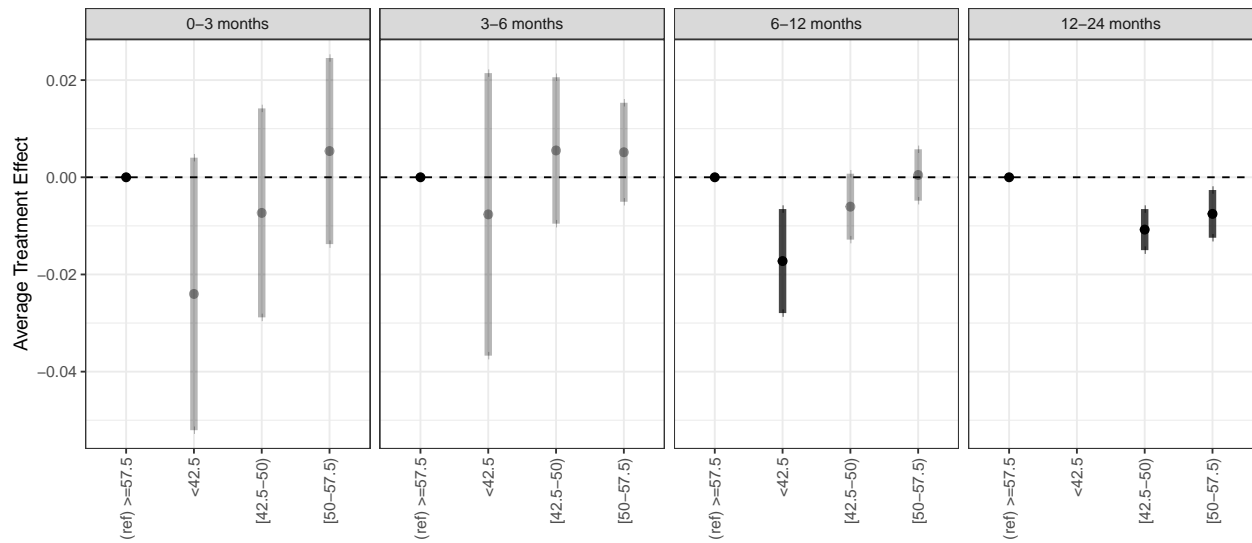
Maternal height
Estimates from 13 cohorts in Latin America, Asia, Africa



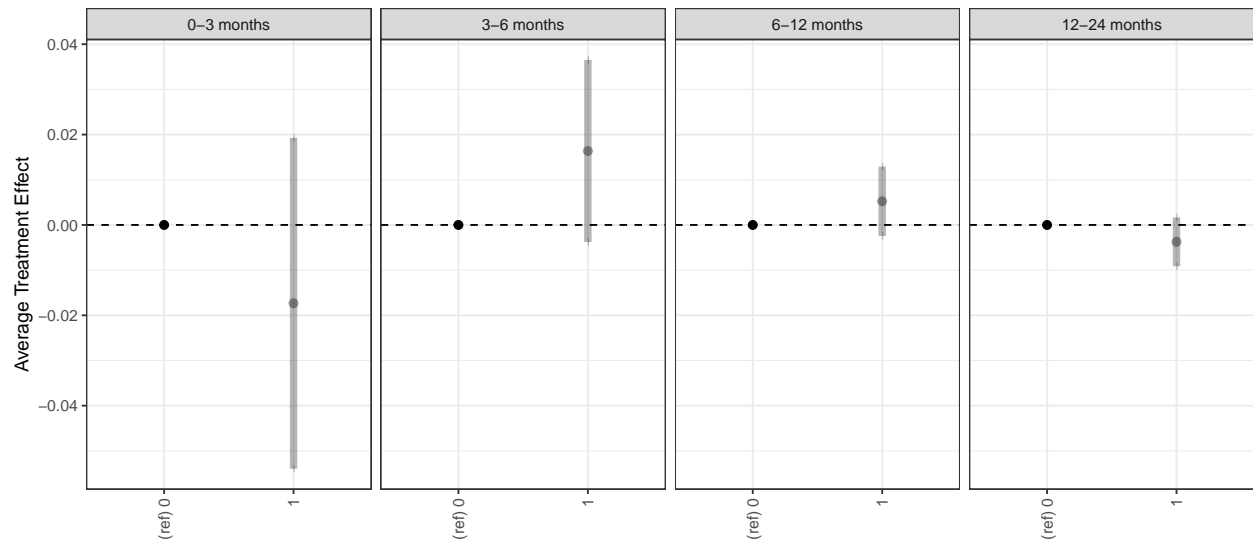
Maternal parity
Estimates from 8 cohorts in Latin America, Asia, Africa



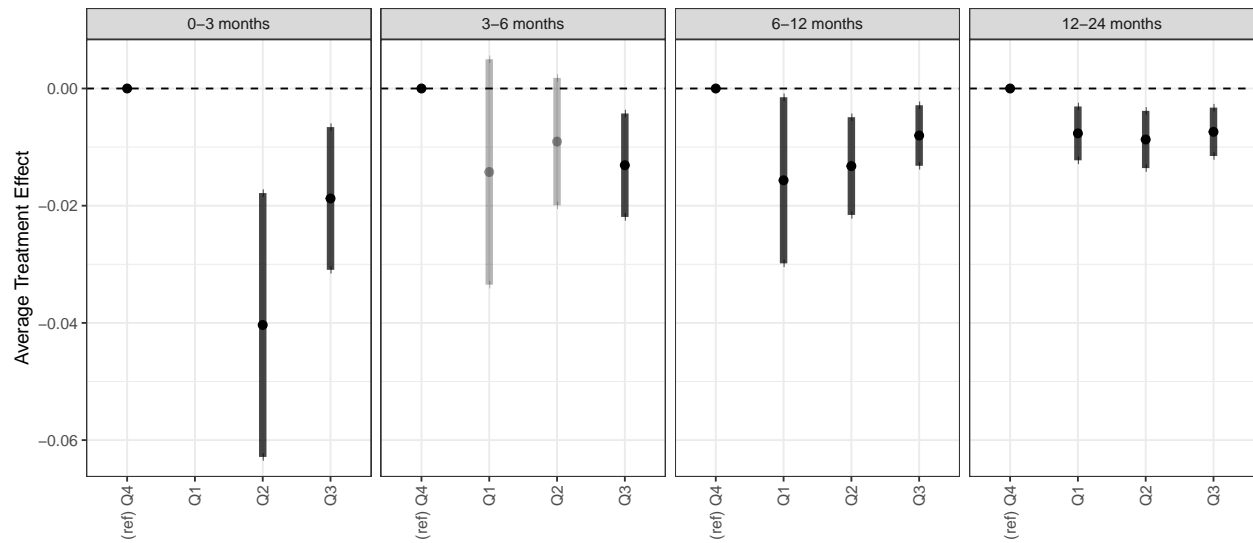
Maternal weight
Estimates from 15 cohorts in Africa, Asia, Latin America, Europe



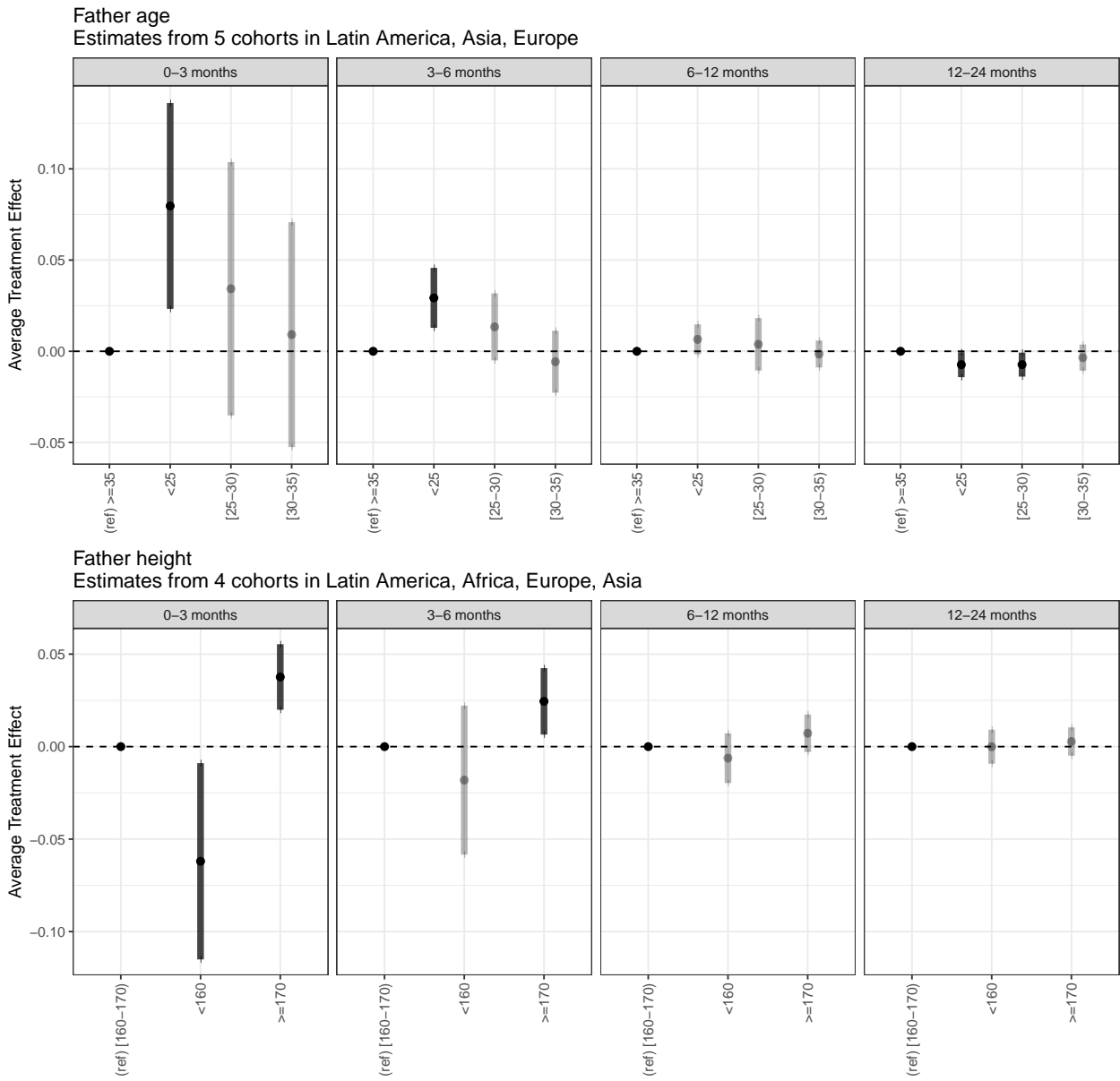
Mother is unmarried
Estimates from 8 cohorts in Latin America, Asia, Africa, Europe

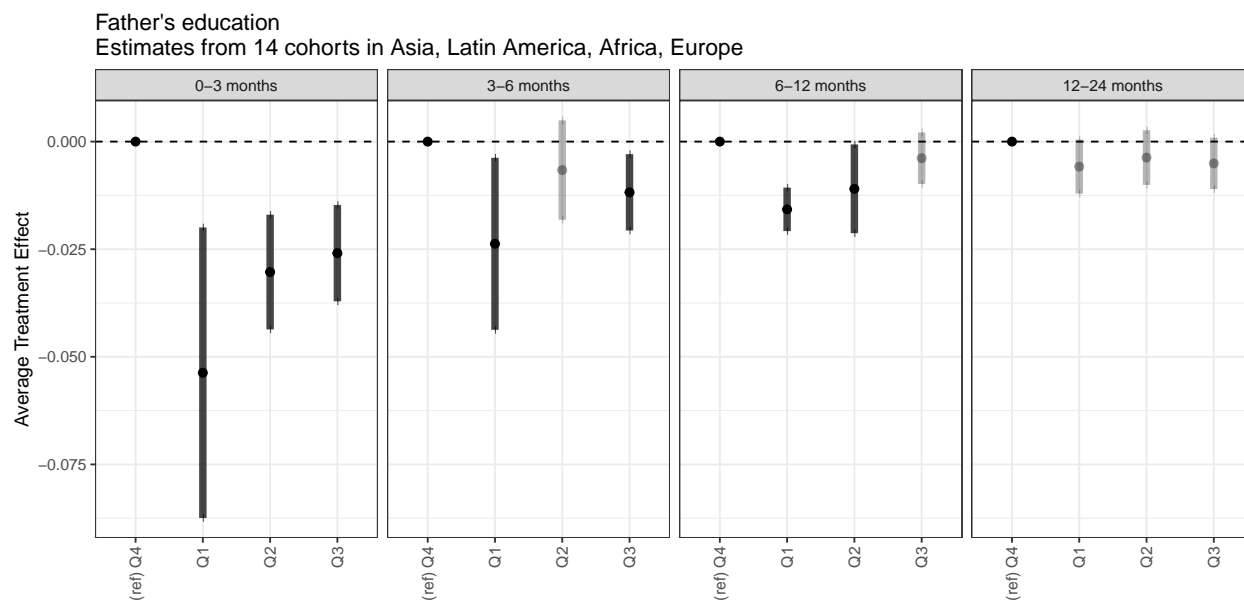


Mother's education
Estimates from 16 cohorts in Asia, Latin America, Africa, Europe



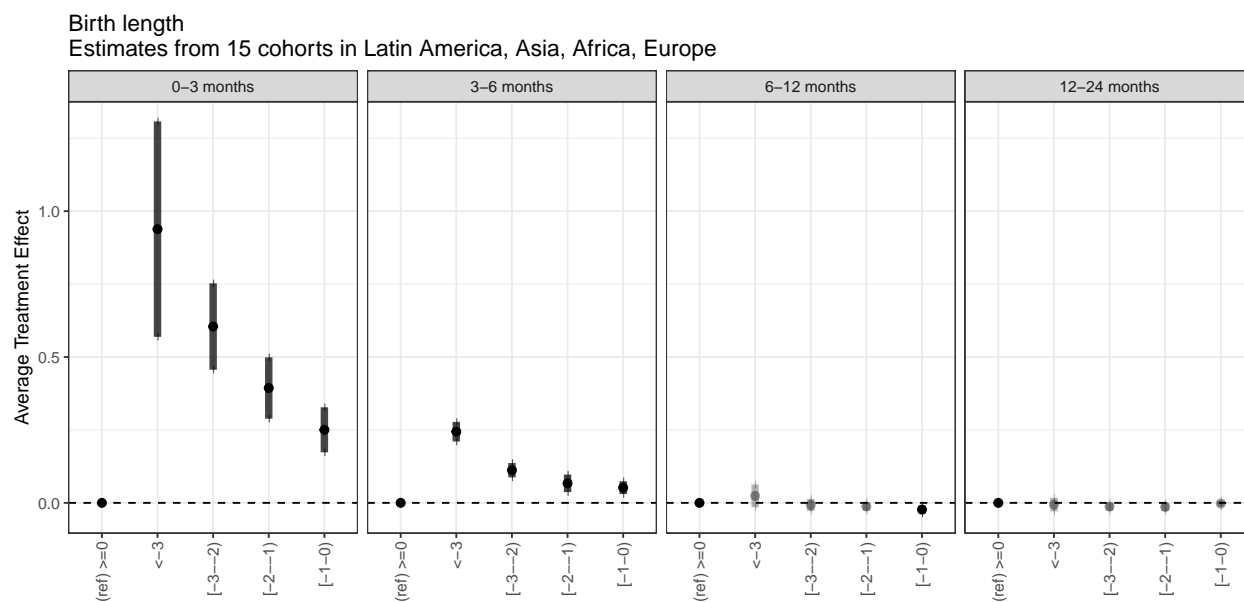
Paternal characteristics



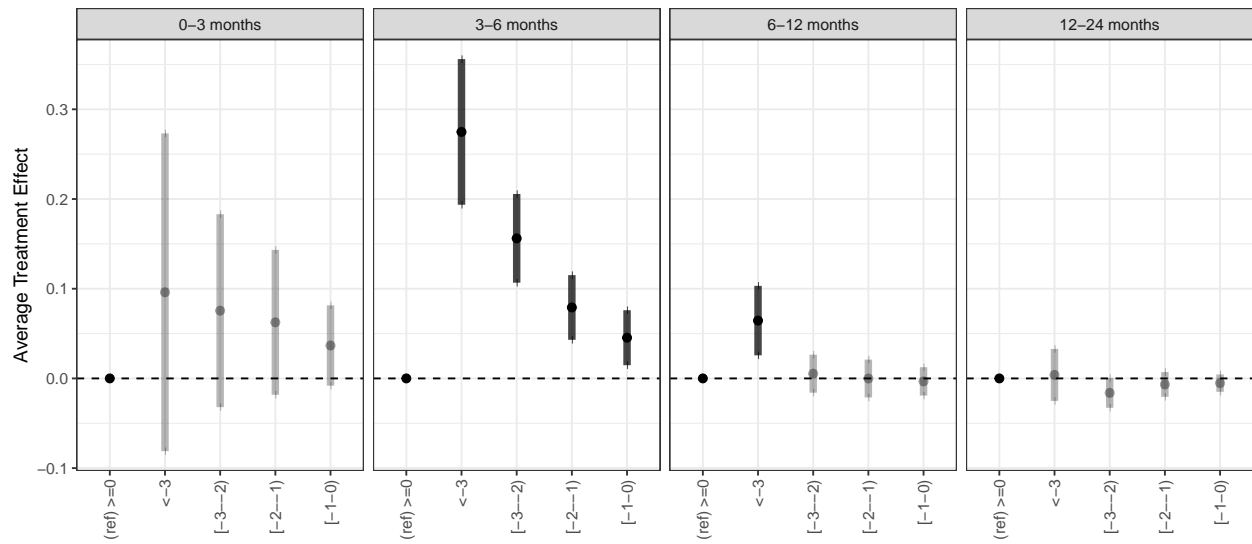


Length growth velocity

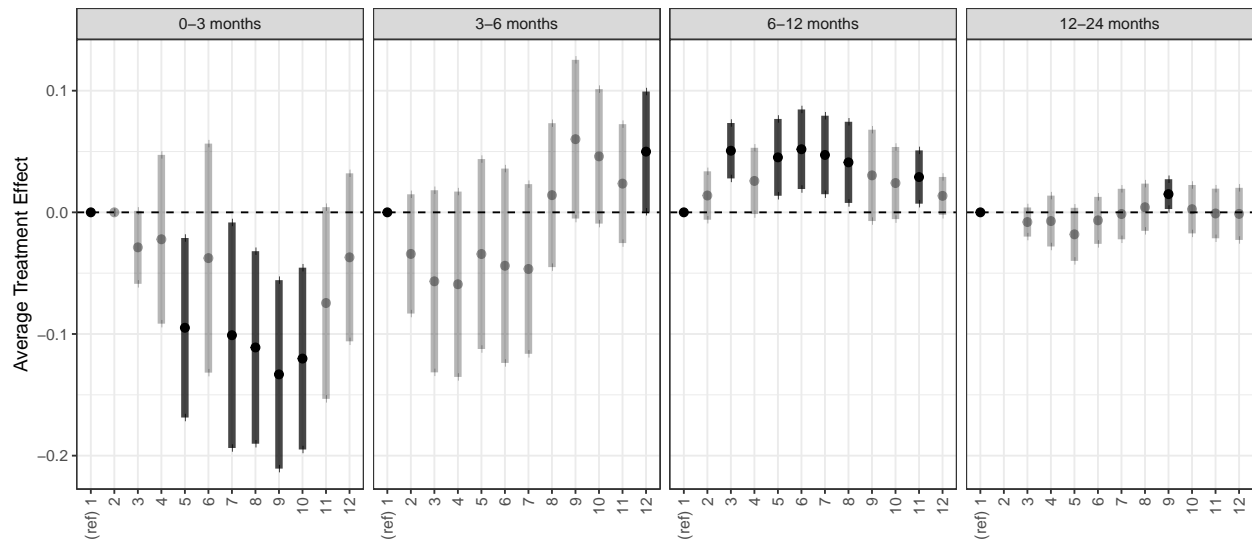
Child characteristics



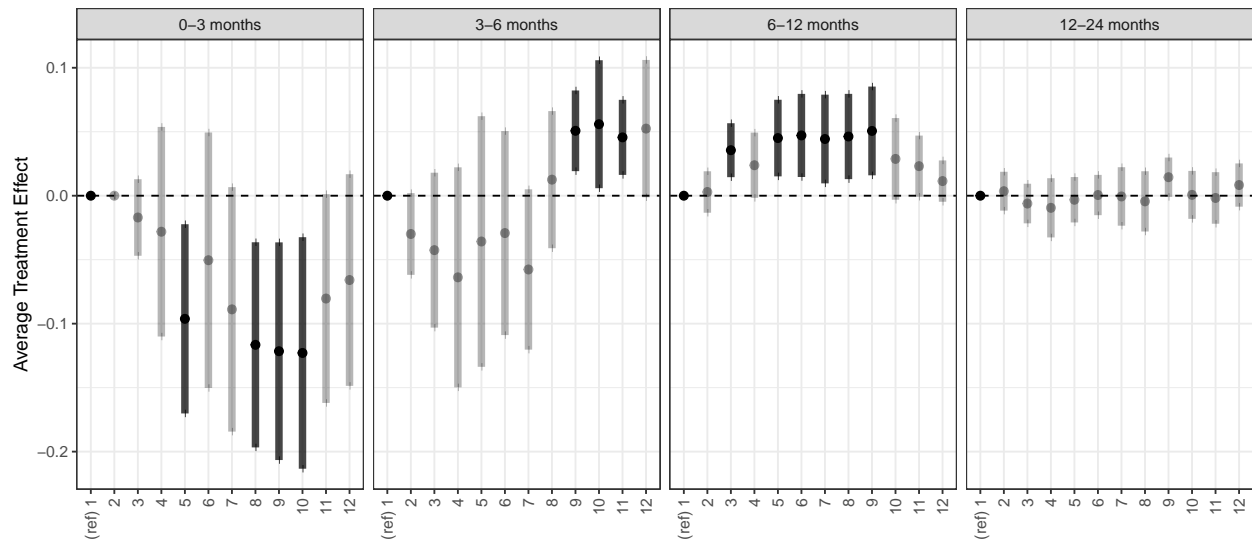
Birthweight
Estimates from 15 cohorts in Asia, Latin America, Africa, Europe



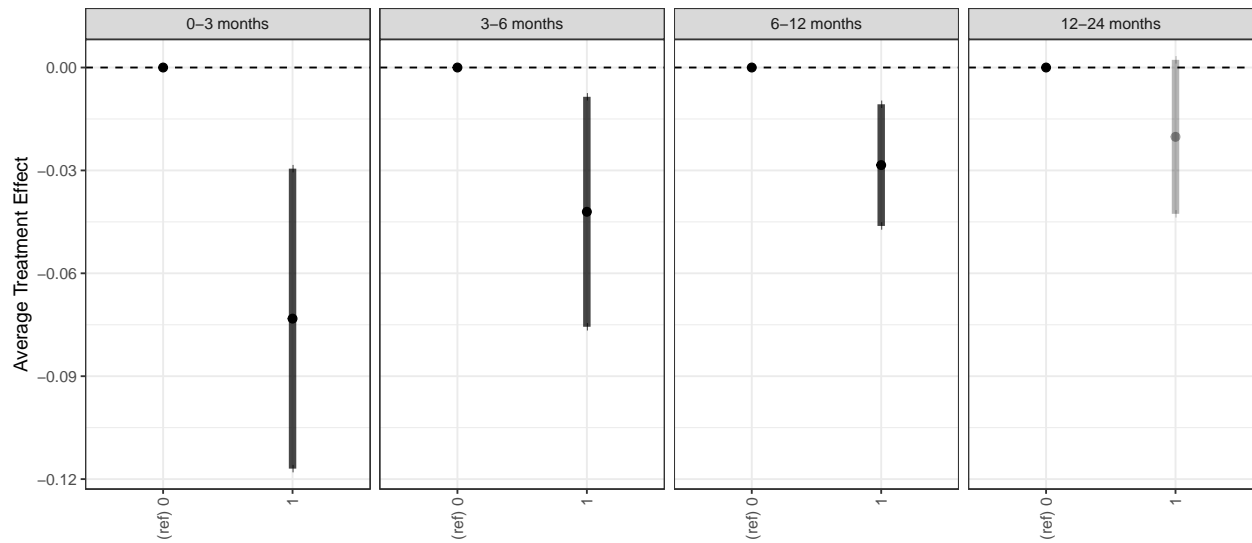
Calendar month of birth
Estimates from 20 cohorts in Asia, Latin America, Africa, Europe



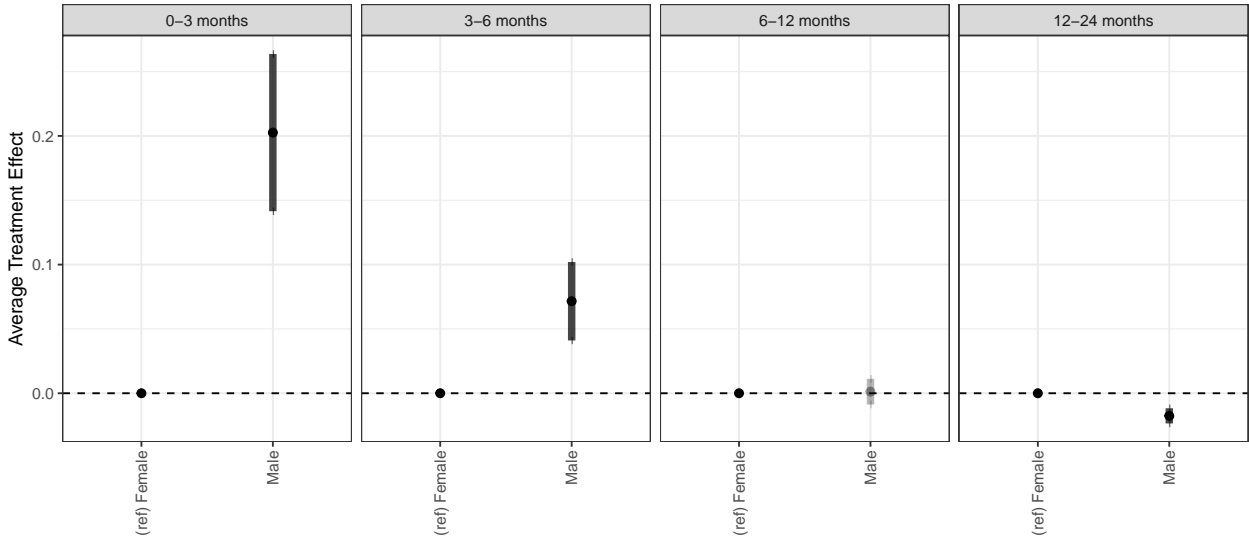
Calendar month of measurement
Estimates from 20 cohorts in Asia, Latin America, Africa, Europe



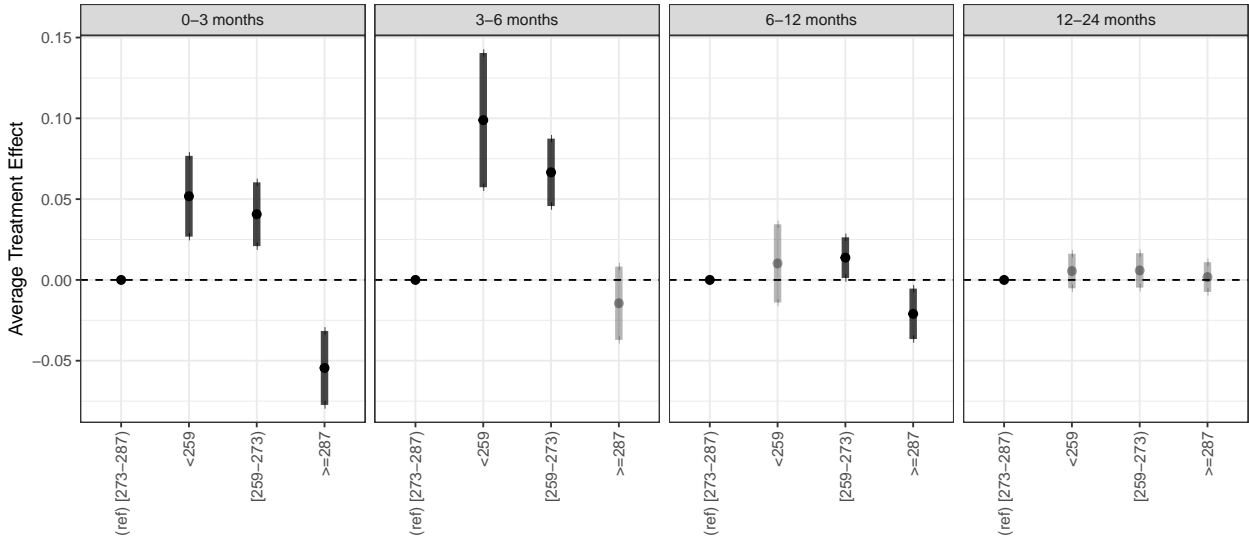
Child delivered at home
Estimates from 11 cohorts in Asia, Africa



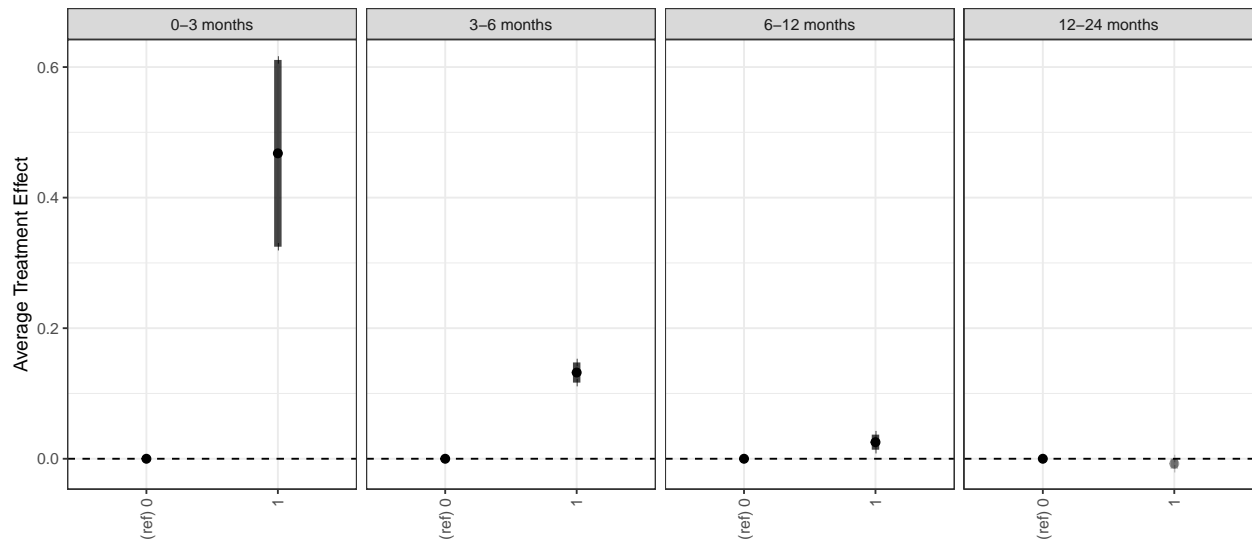
Child's sex
Estimates from 38 cohorts in Asia, Latin America, Africa, Europe



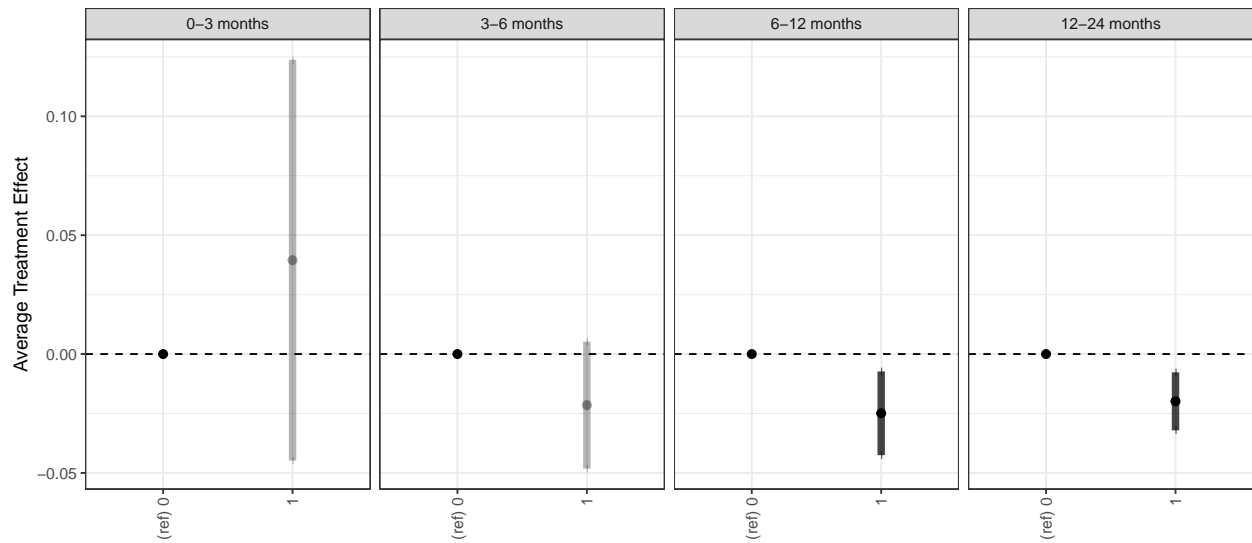
Gestational age at birth in days
Estimates from 8 cohorts in Asia, Latin America, Africa, Europe



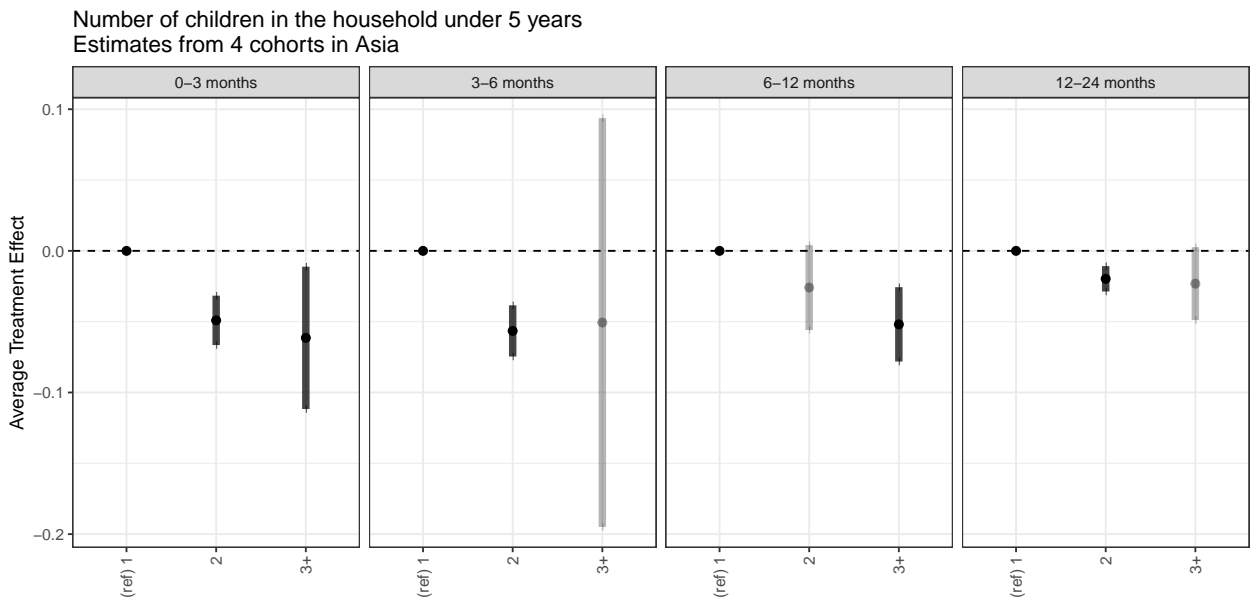
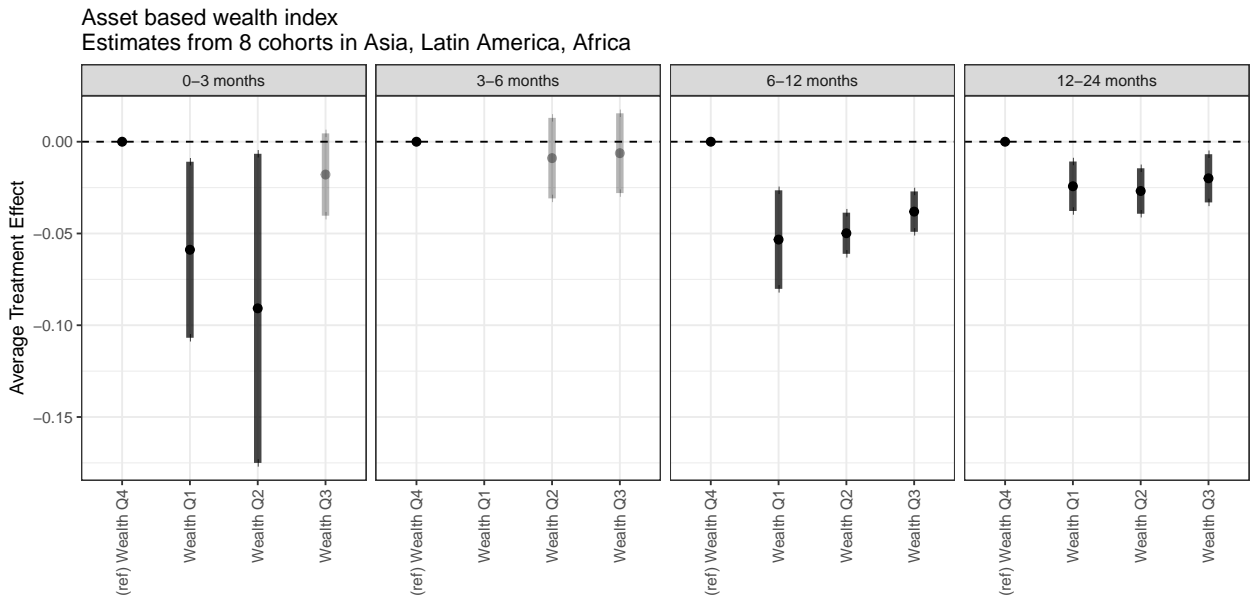
Stunted at enrollment
Estimates from 30 cohorts in Asia, Africa, Latin America, Europe



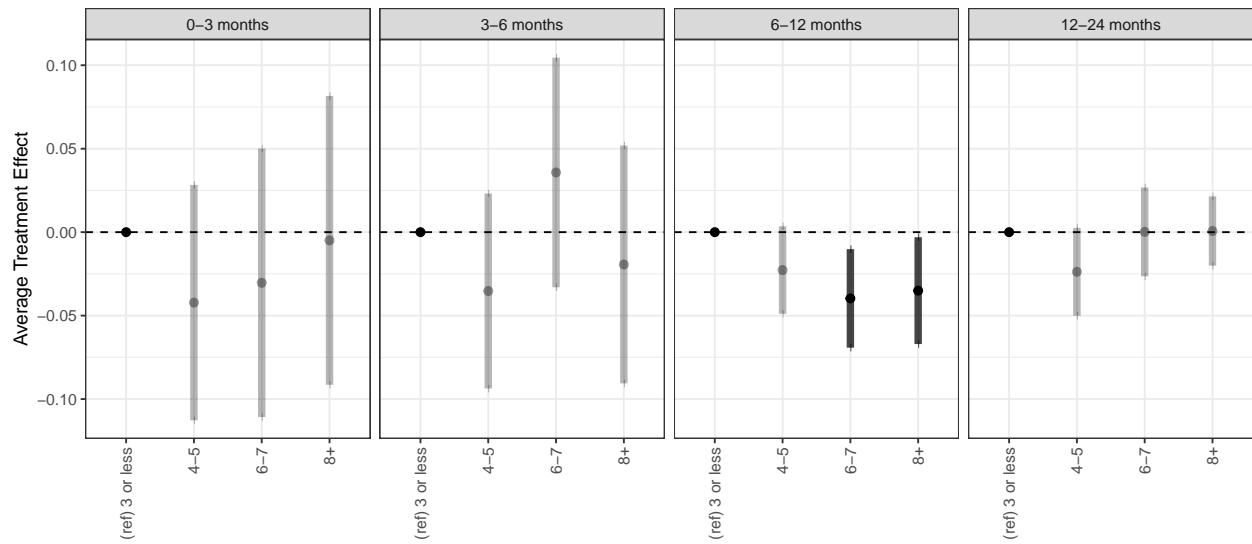
Vaginal delivery
Estimates from 8 cohorts in Asia, Europe, Africa



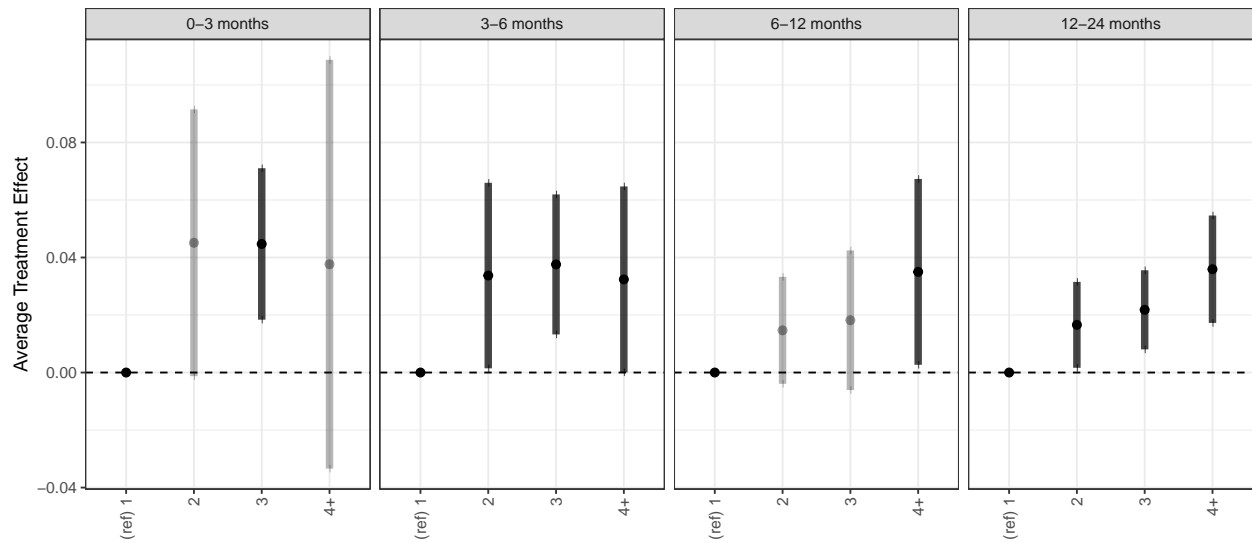
Household characteristics



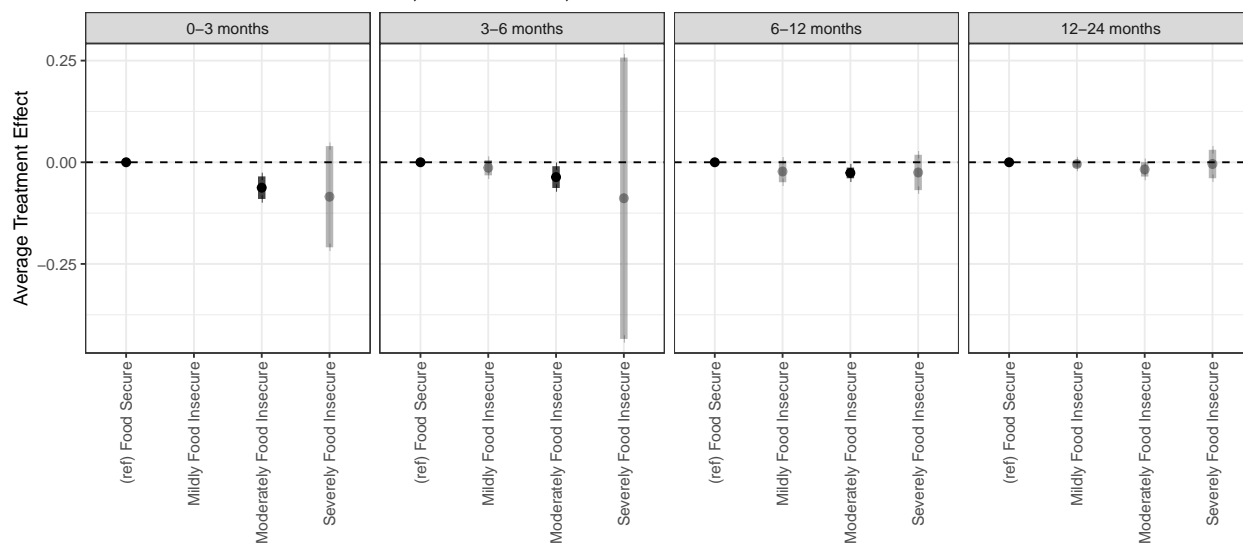
Number of people in the household
Estimates from 4 cohorts in Asia



Number of rooms in household
Estimates from 16 cohorts in Asia, Latin America, Africa

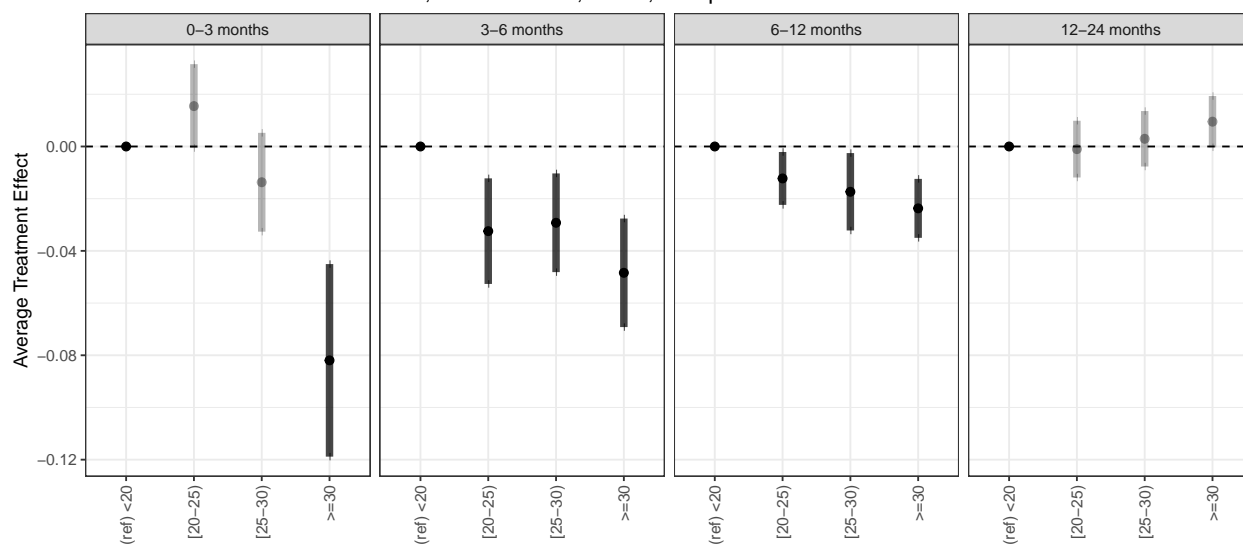


USAID Household Food Insecurity Access Scale (HFIAS) category
Estimates from 6 cohorts in Asia, Latin America, Africa

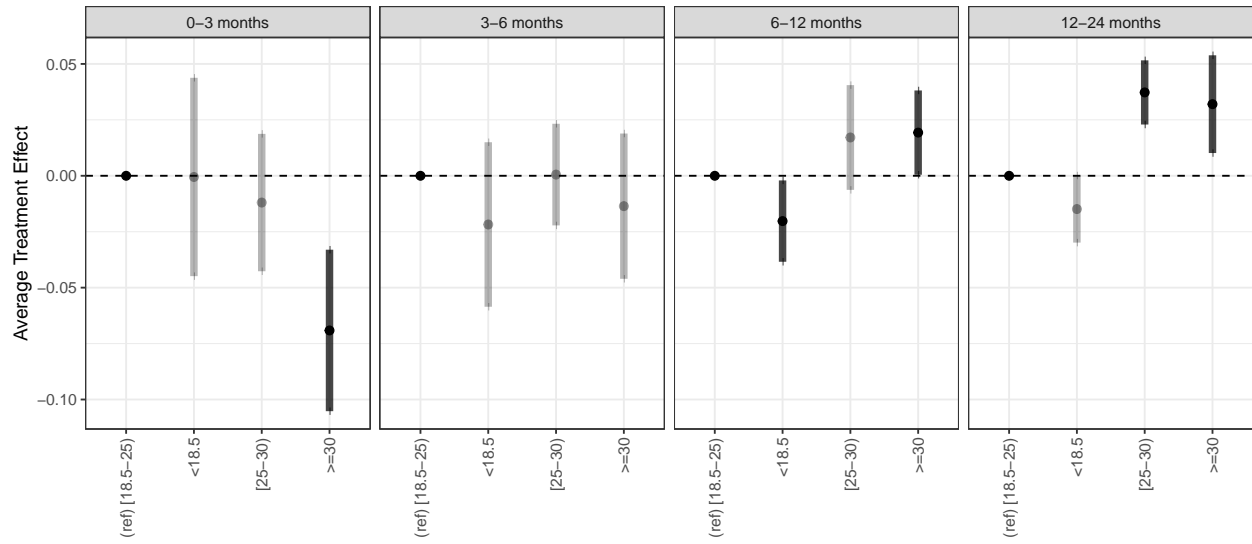


Maternal characteristics

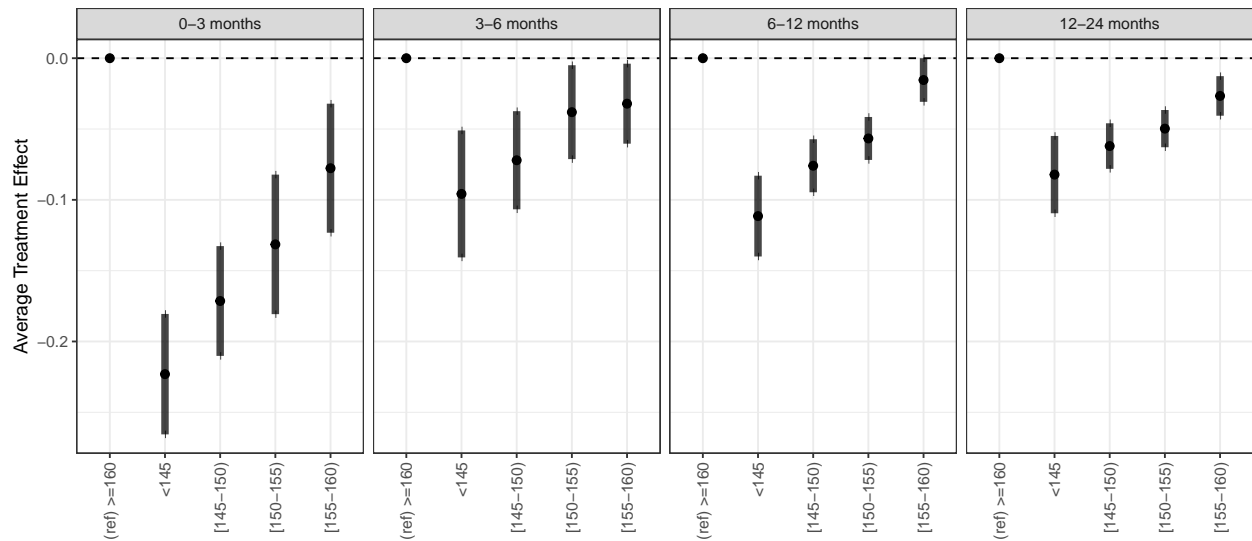
Maternal age
Estimates from 22 cohorts in Asia, Latin America, Africa, Europe



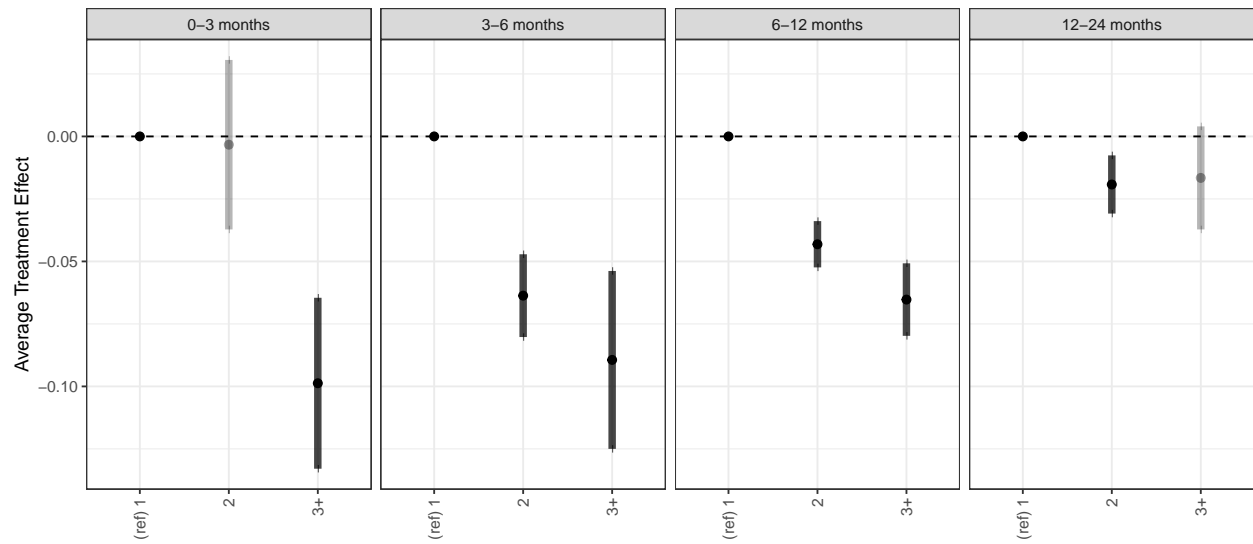
Maternal BMI
Estimates from 11 cohorts in Asia, Latin America, Africa, Europe



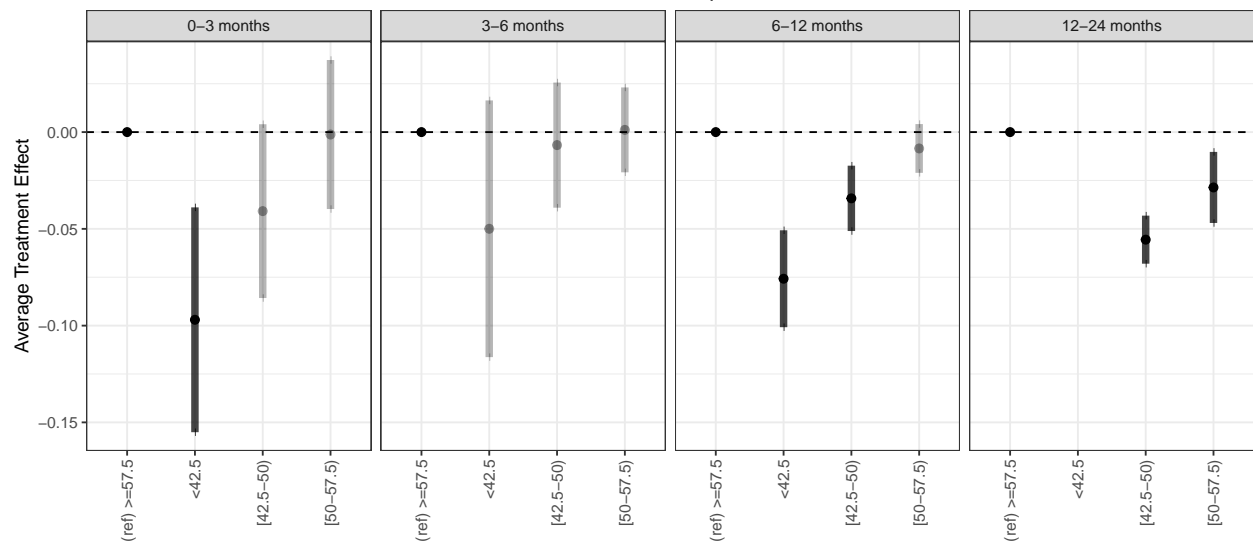
Maternal height
Estimates from 13 cohorts in Latin America, Asia, Africa



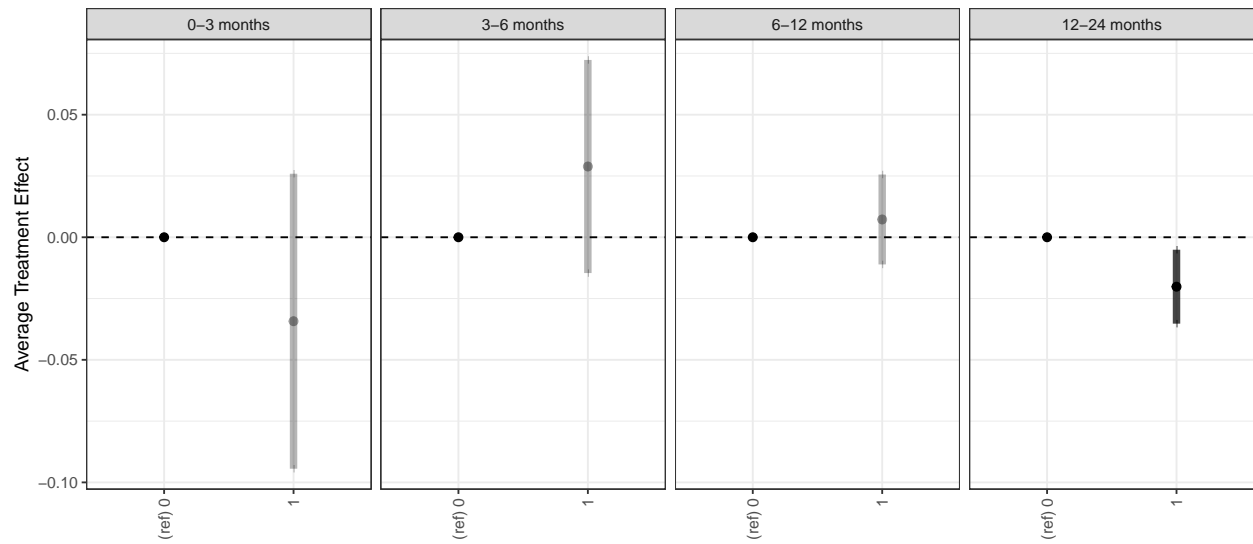
Maternal parity
Estimates from 8 cohorts in Latin America, Asia, Africa



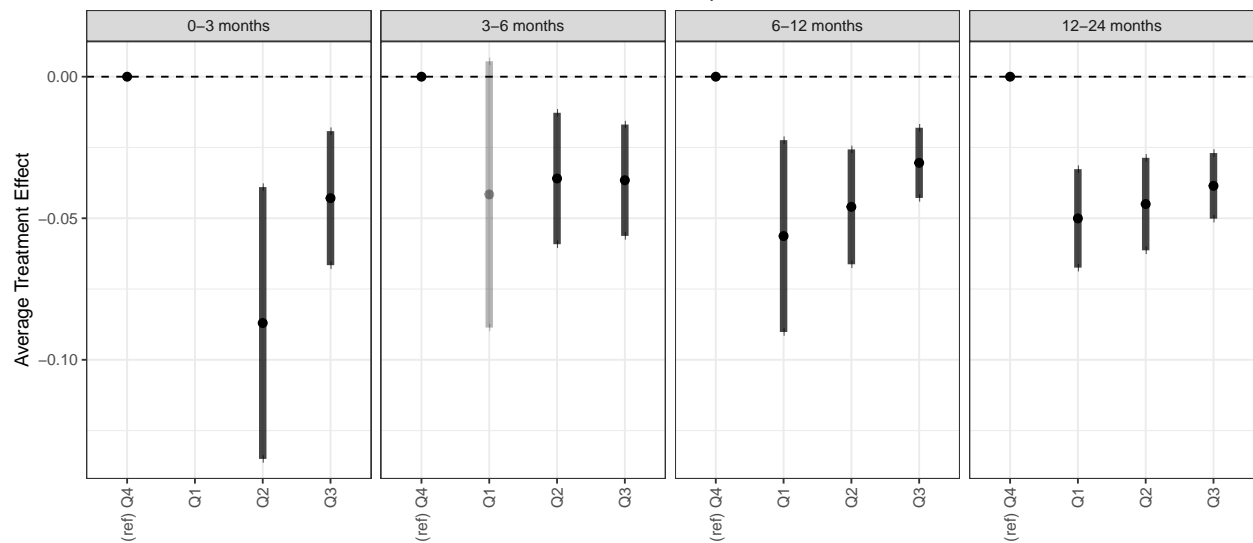
Maternal weight
Estimates from 15 cohorts in Africa, Asia, Latin America, Europe



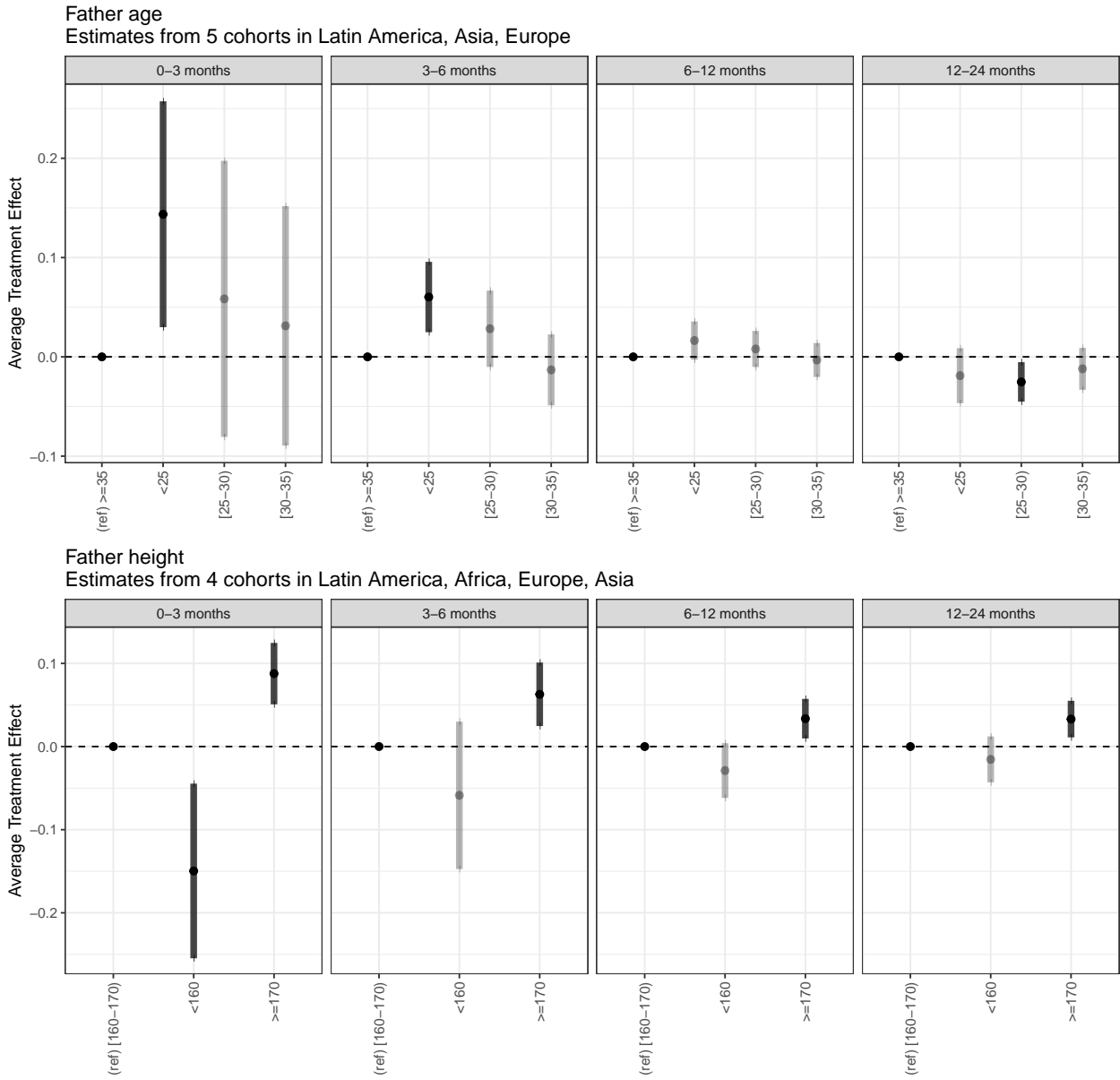
Mother is unmarried
Estimates from 8 cohorts in Latin America, Asia, Africa, Europe



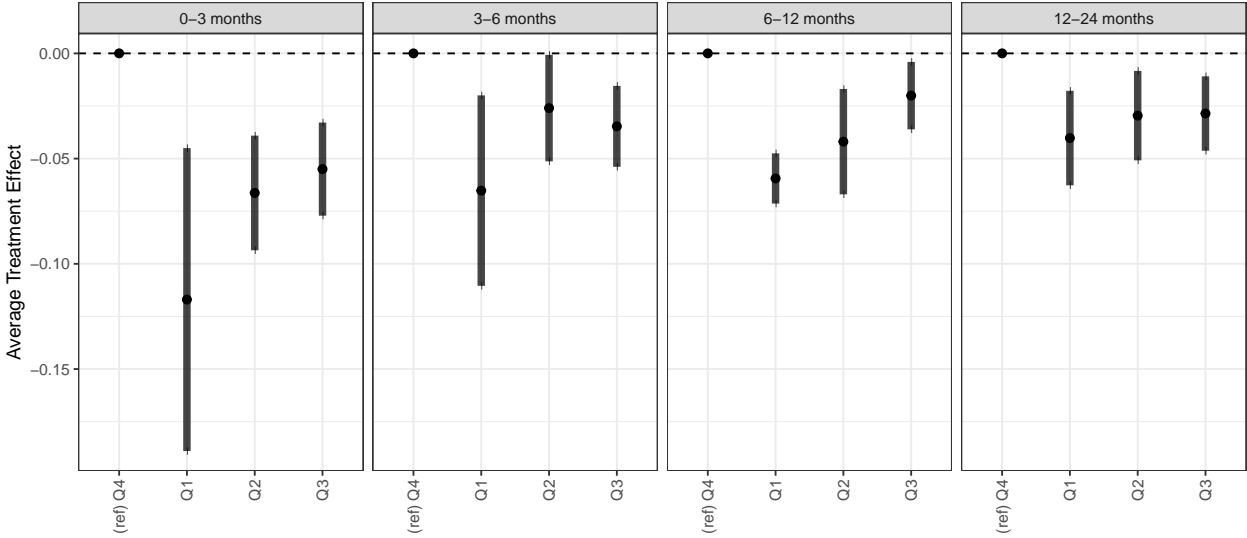
Mother's education
Estimates from 16 cohorts in Asia, Latin America, Africa, Europe



Paternal characteristics



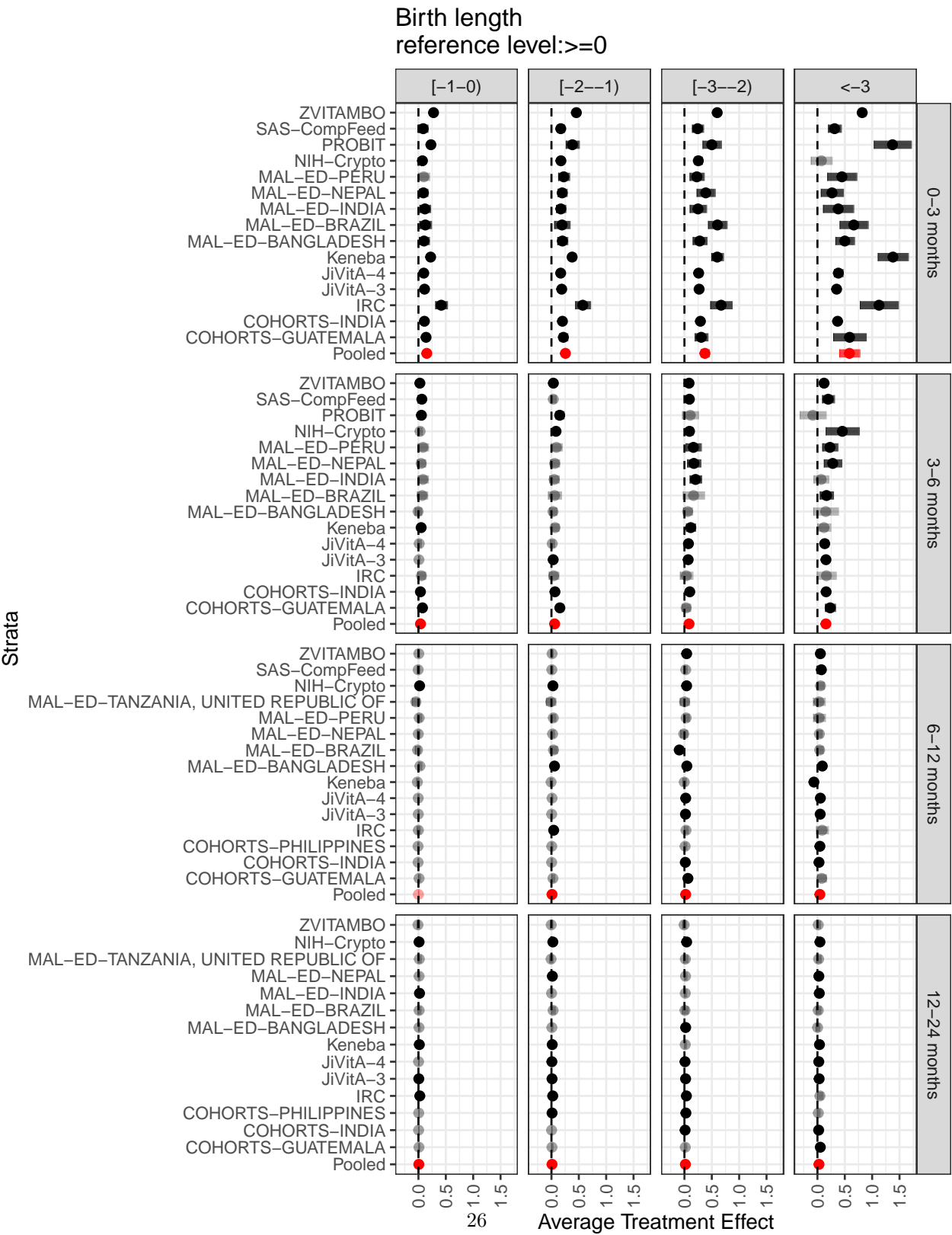
Father's education
Estimates from 14 cohorts in Asia, Latin America, Africa, Europe

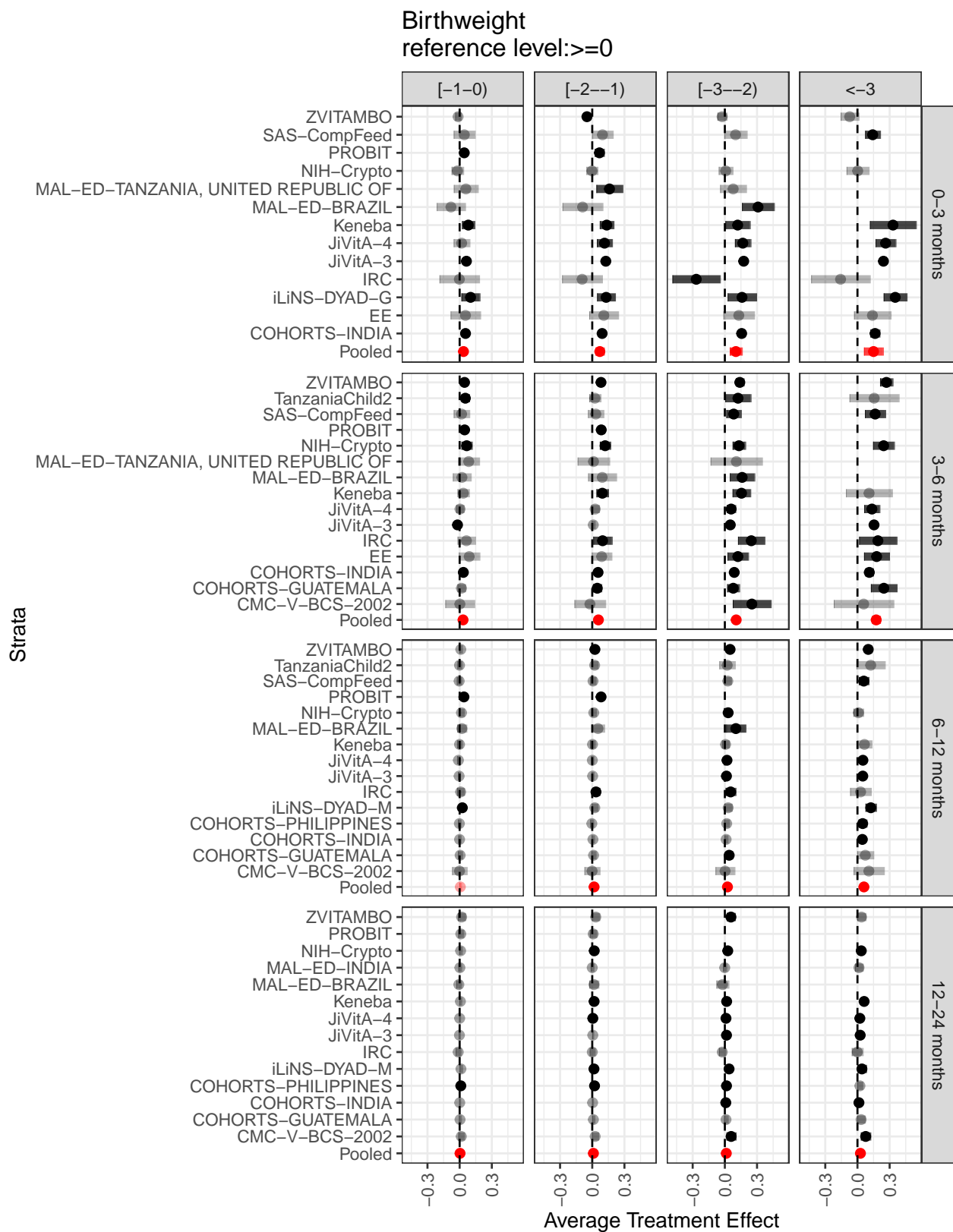


Appendix 1 - Average treatmetn effect stratified by cohort

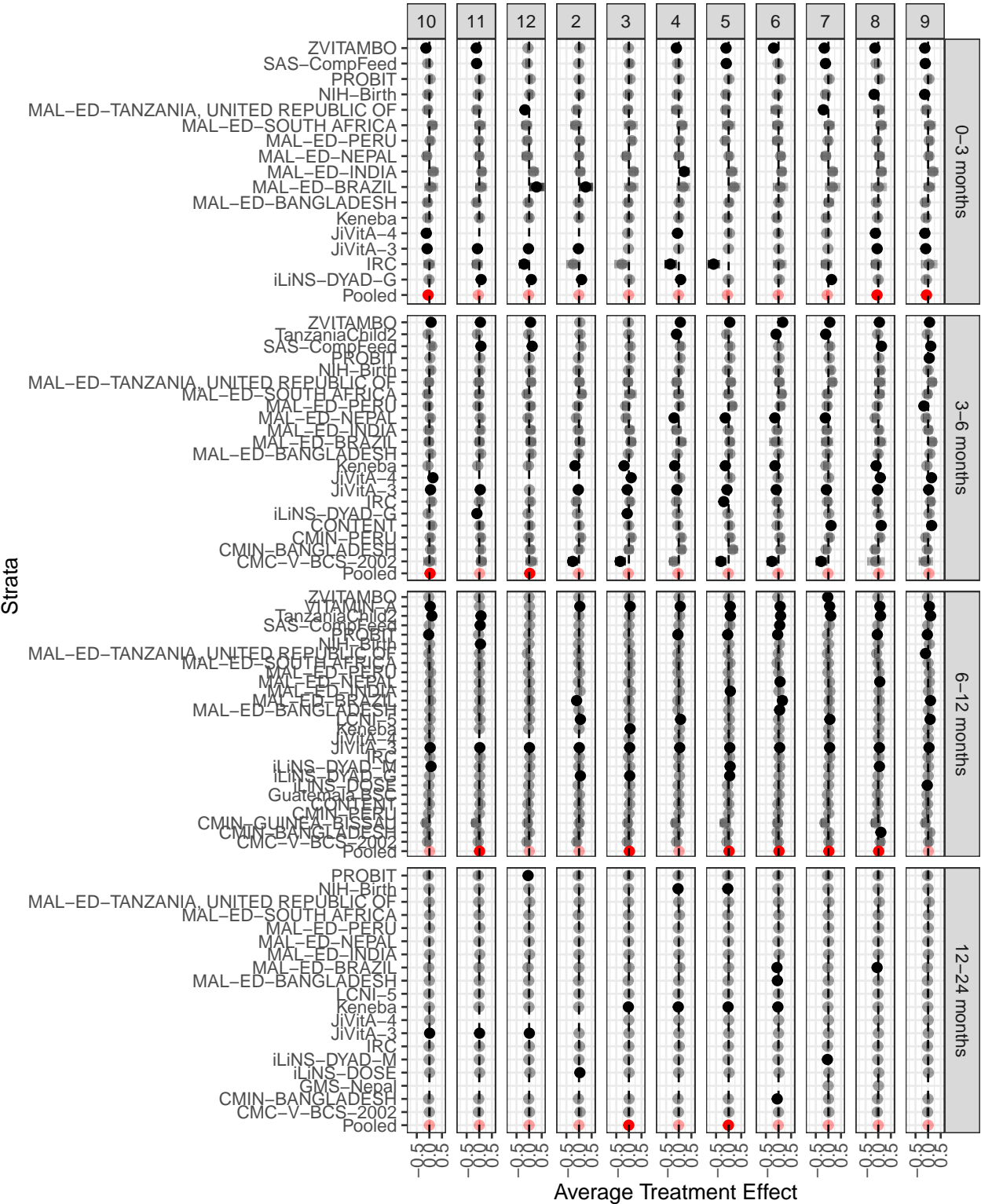
HAZ growth velocity

Child characteristics

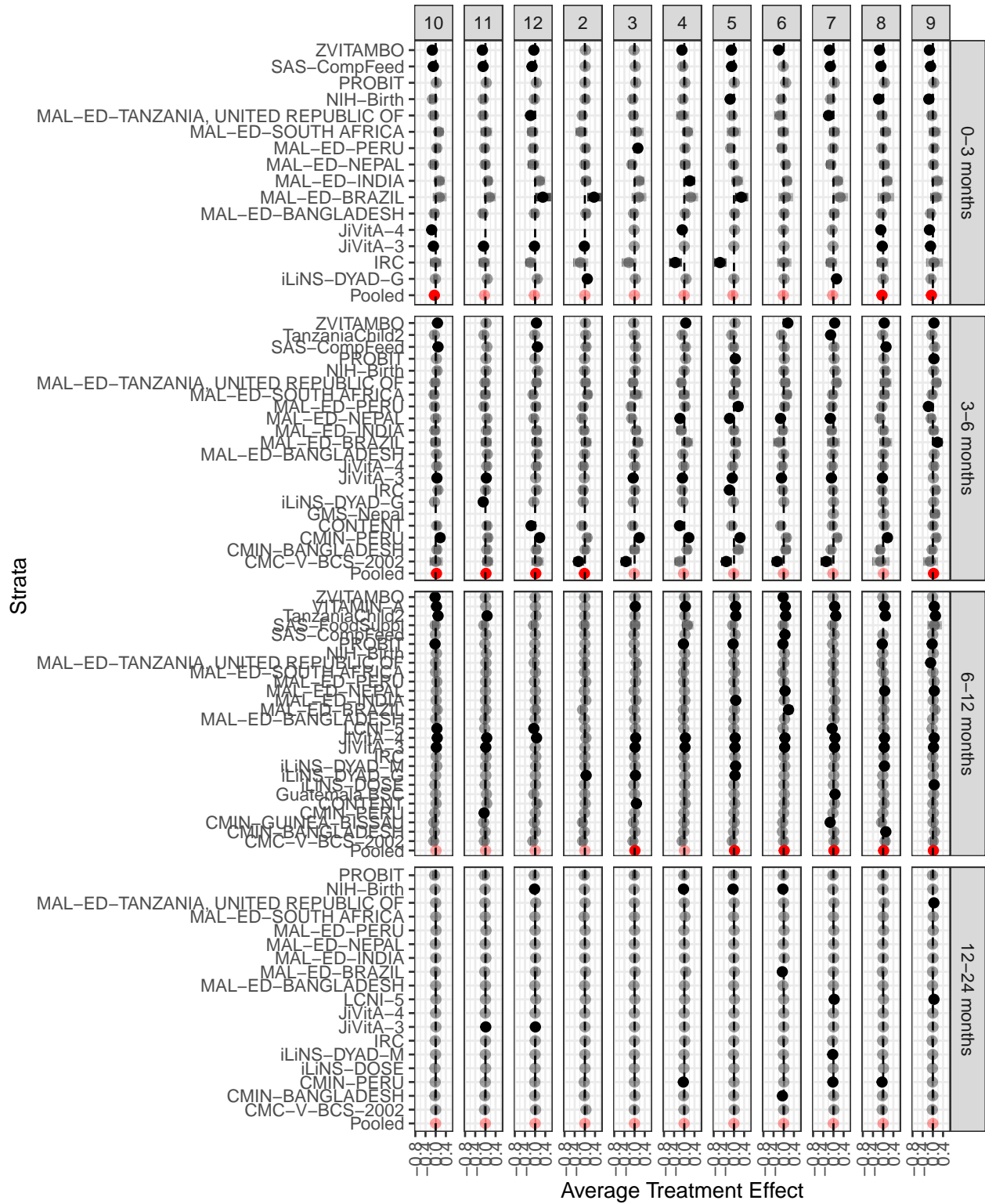




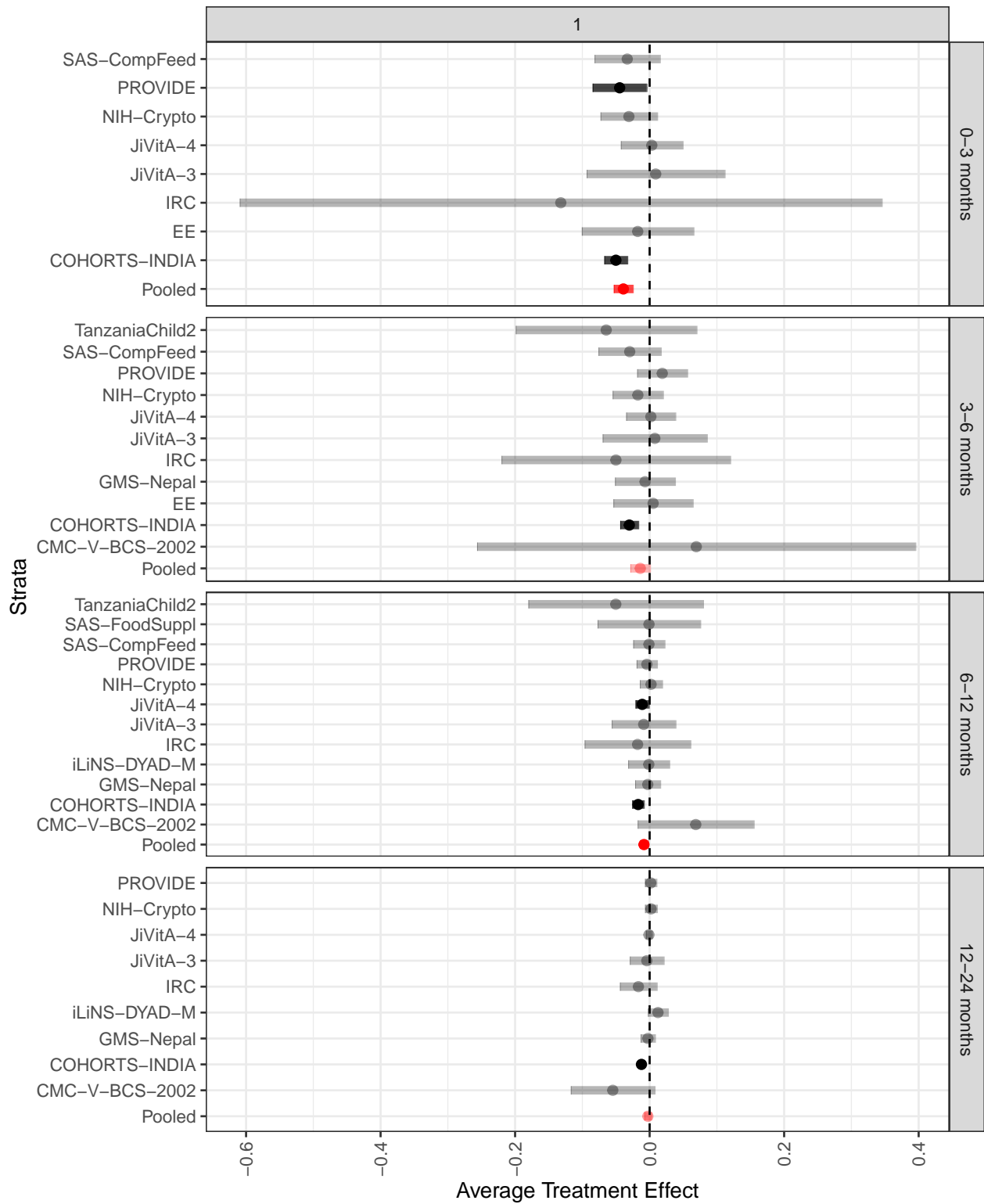
Calendar month of birth
reference level:1



Calendar month of measurement
reference level:1



Child delivered at home
reference level:0



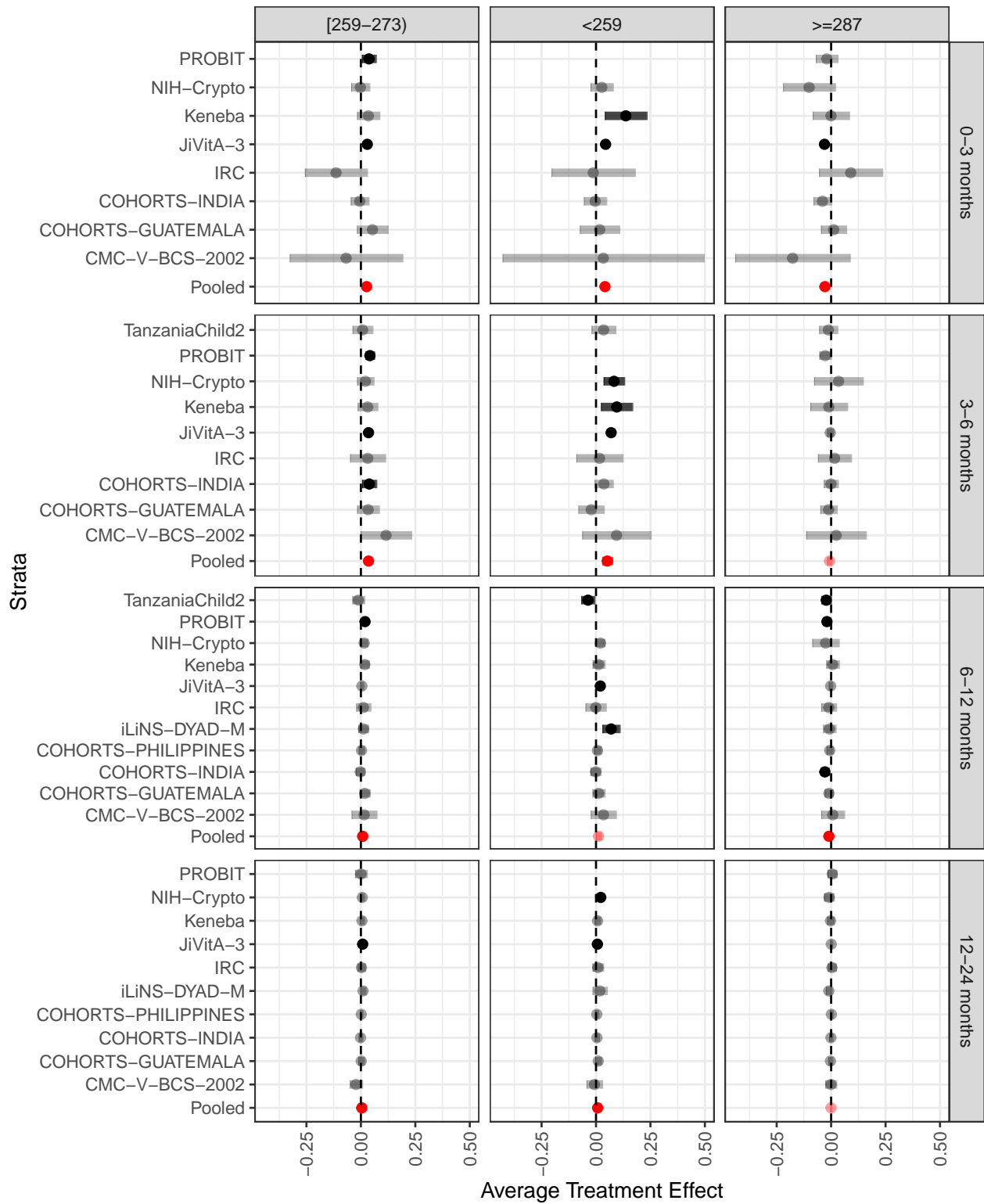
Number of Children	Frequency
0	1
1	2
2	3
3	4
4	5
5	6
6	7
7	8
8	9
9	10
10	11

Average Treatment Effect

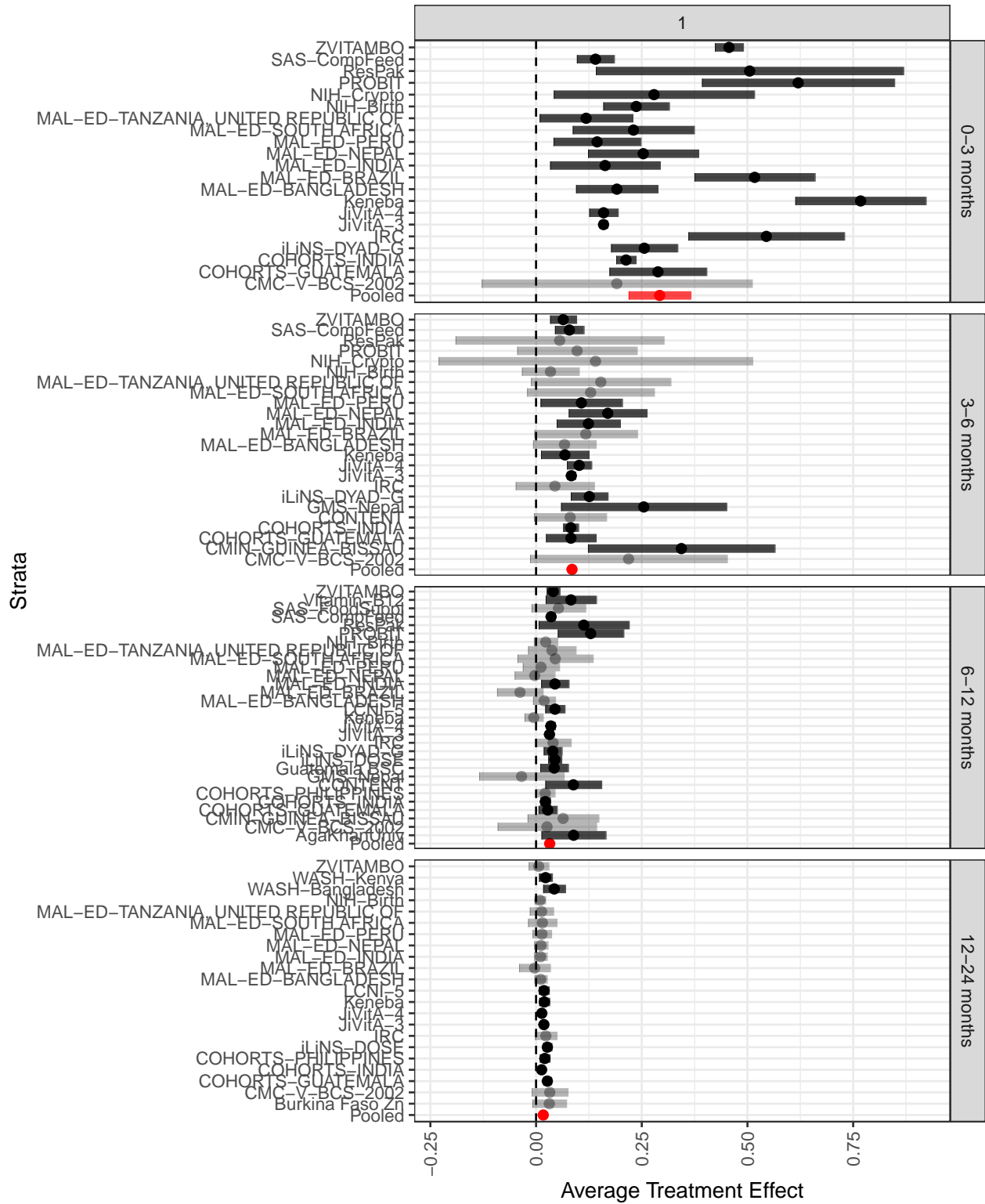
[illegible]

-0.50-

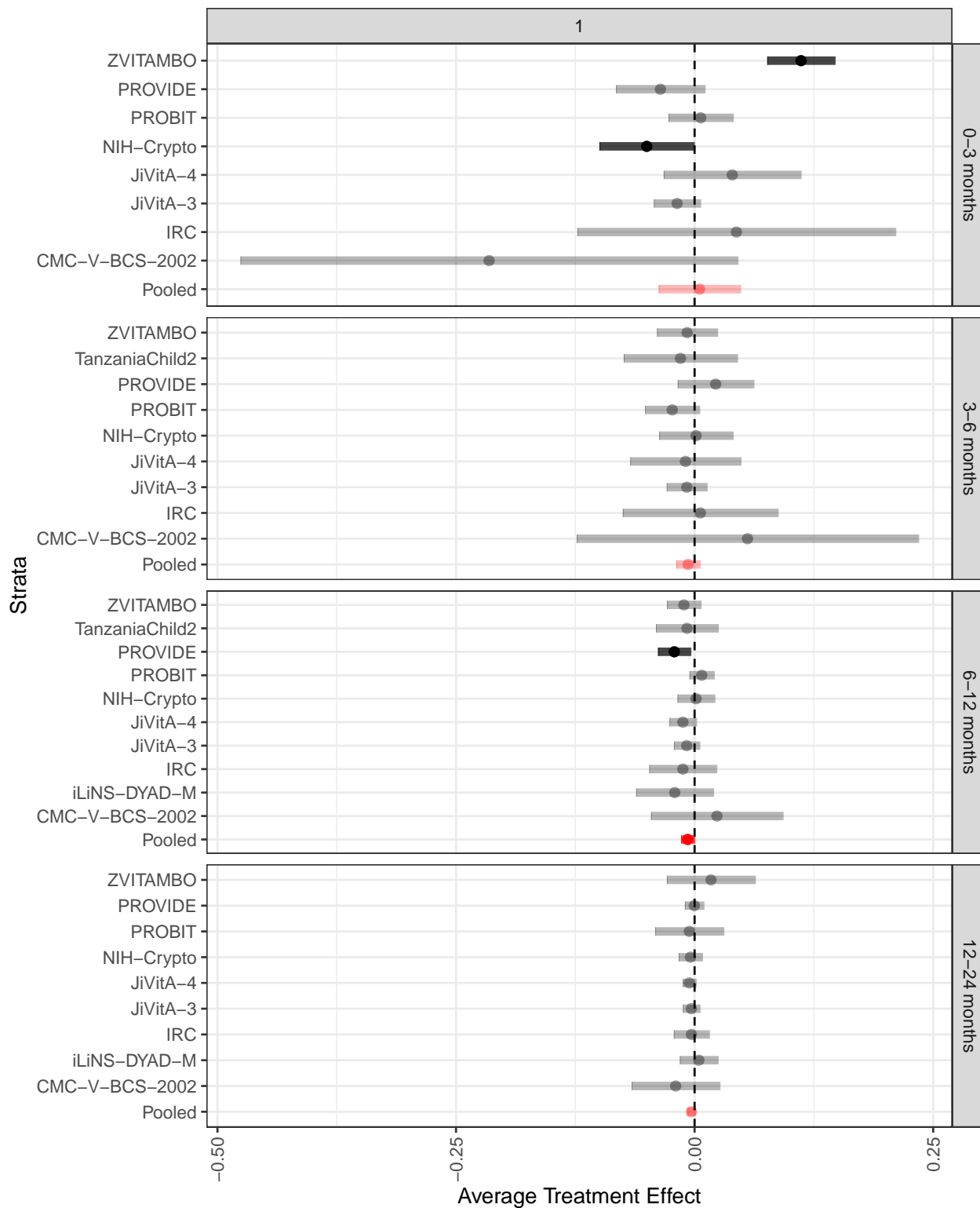
Gestational age at birth in days
reference level:[273–287)



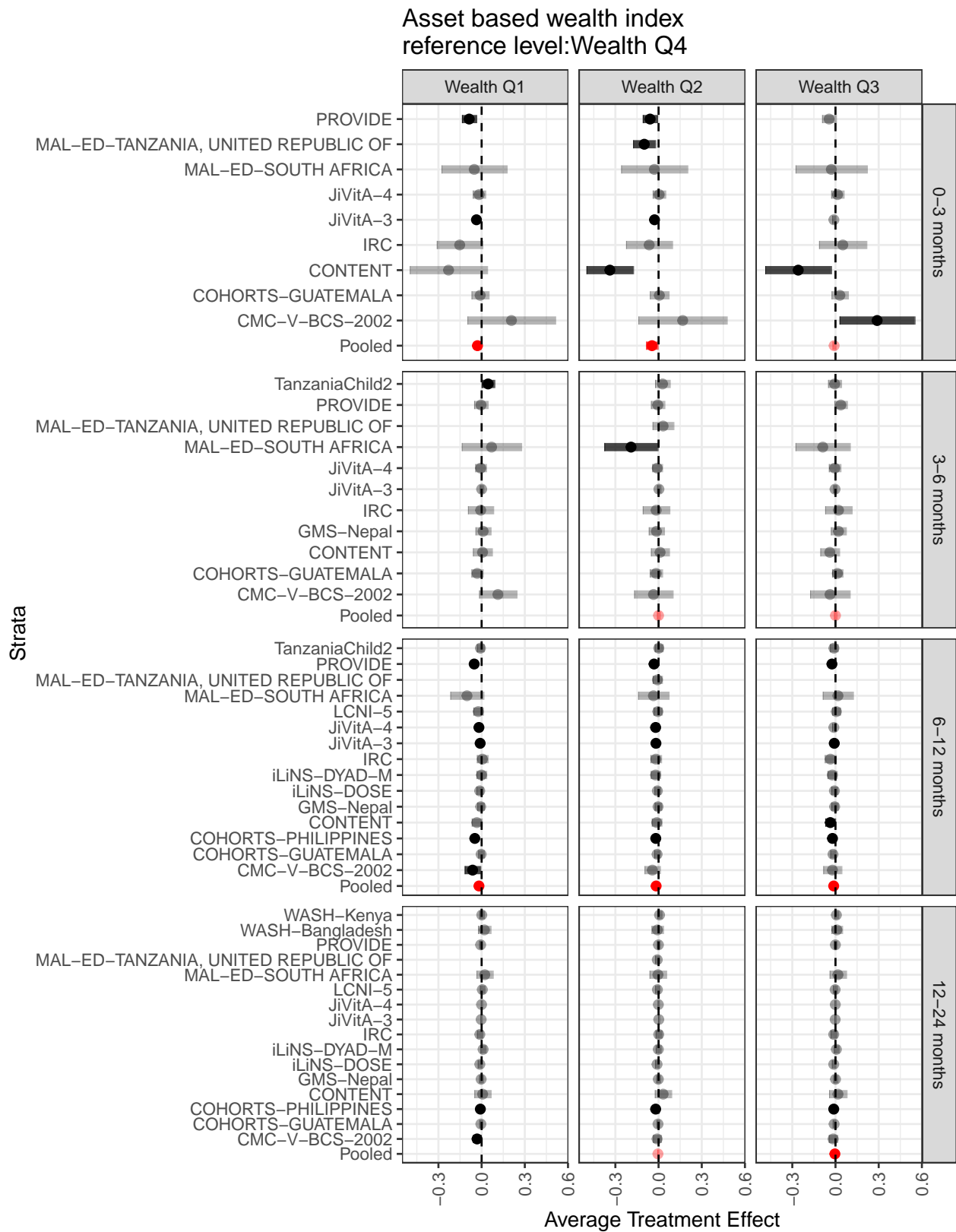
Stunted at enrollment
reference level:0



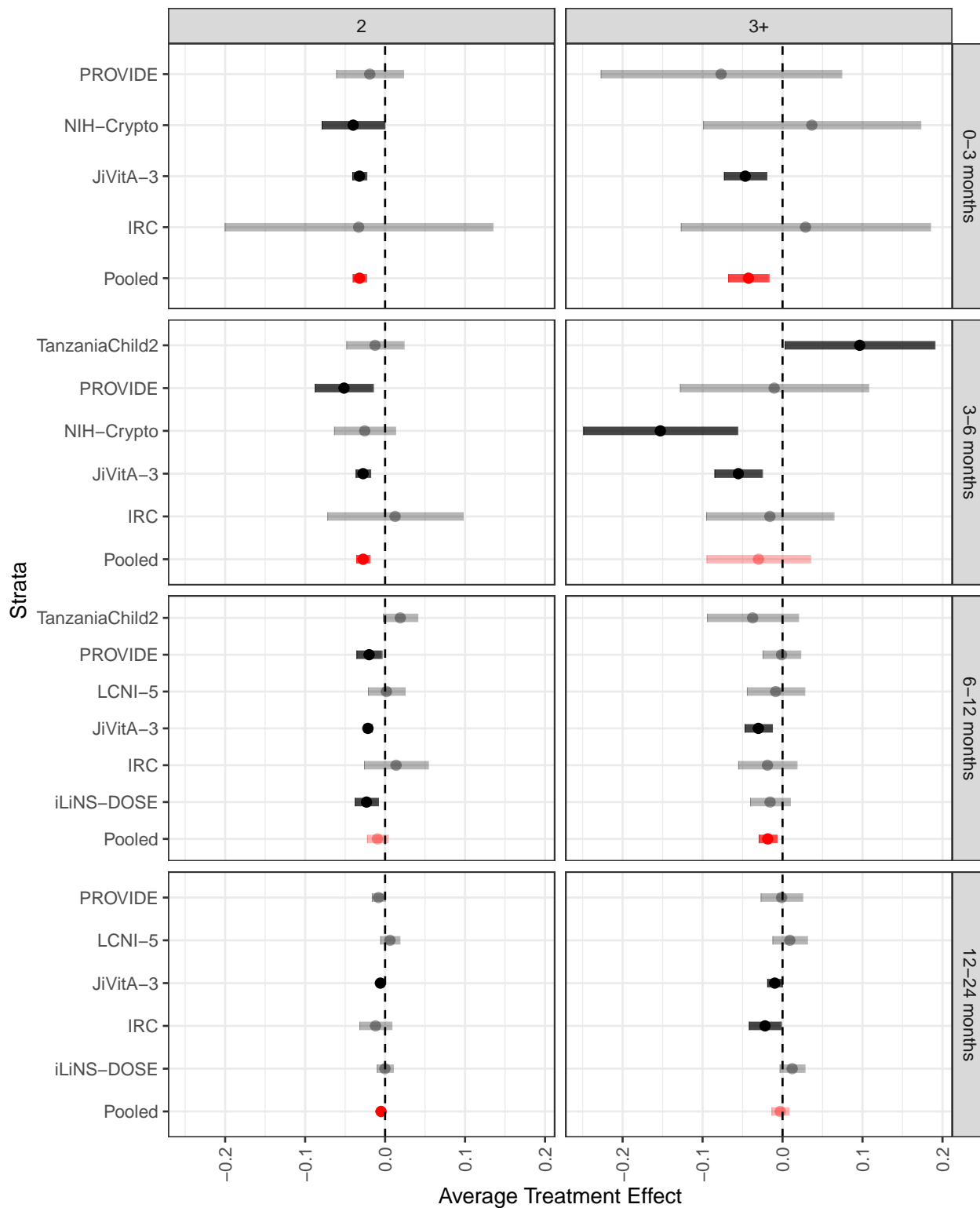
Vaginal delivery
reference level:0



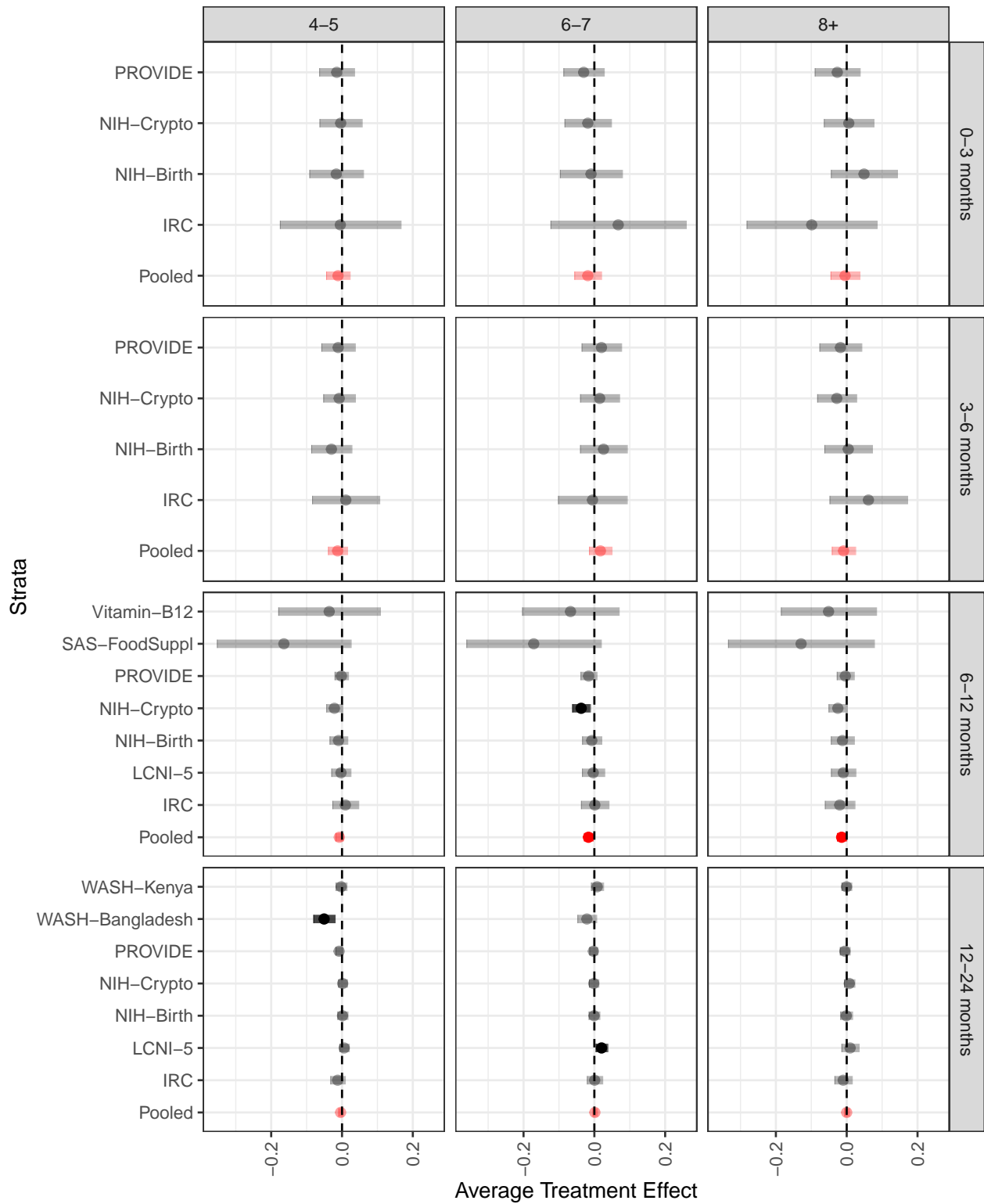
Household characteristics



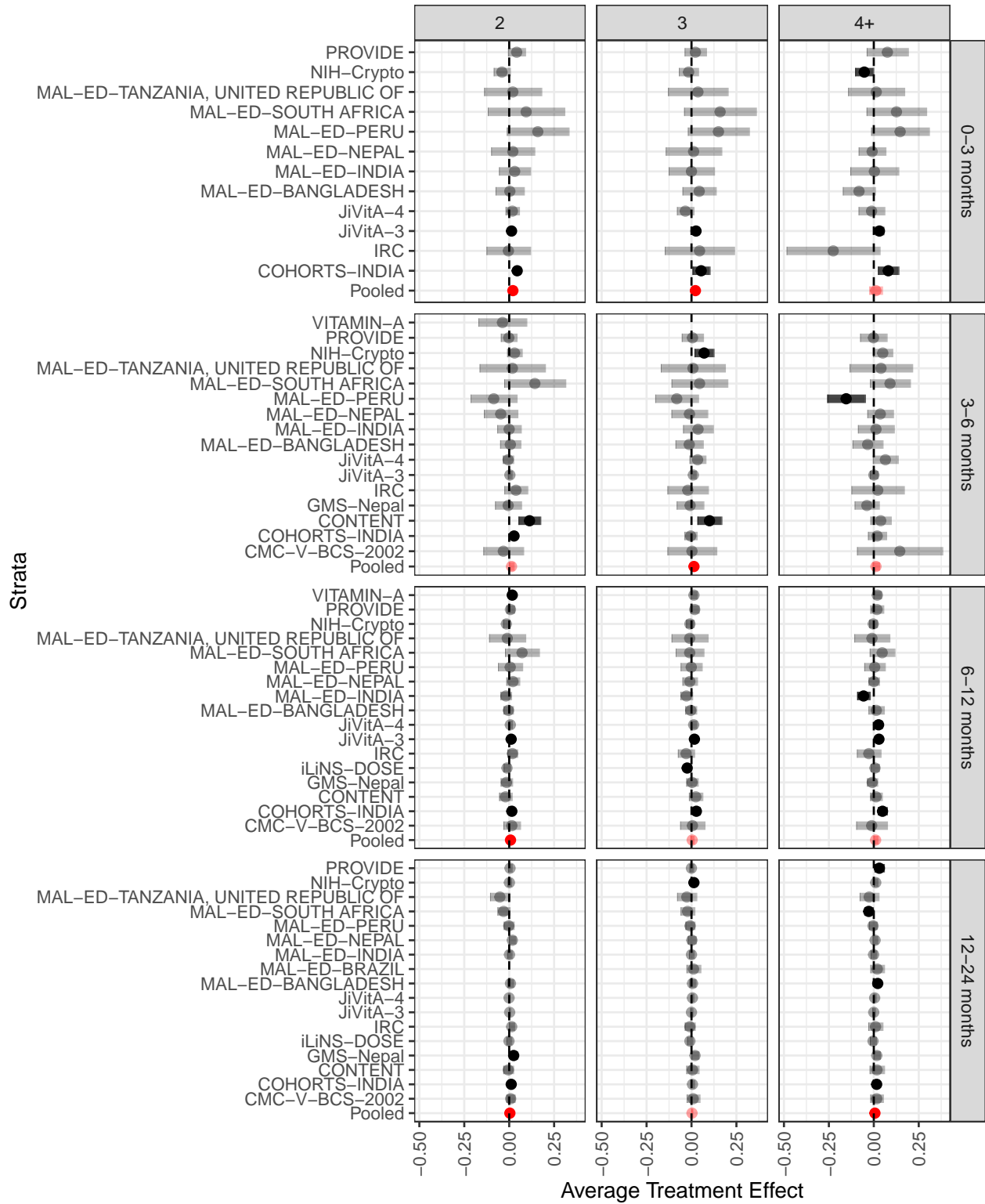
Number of children in the household under 5 years
reference level:1



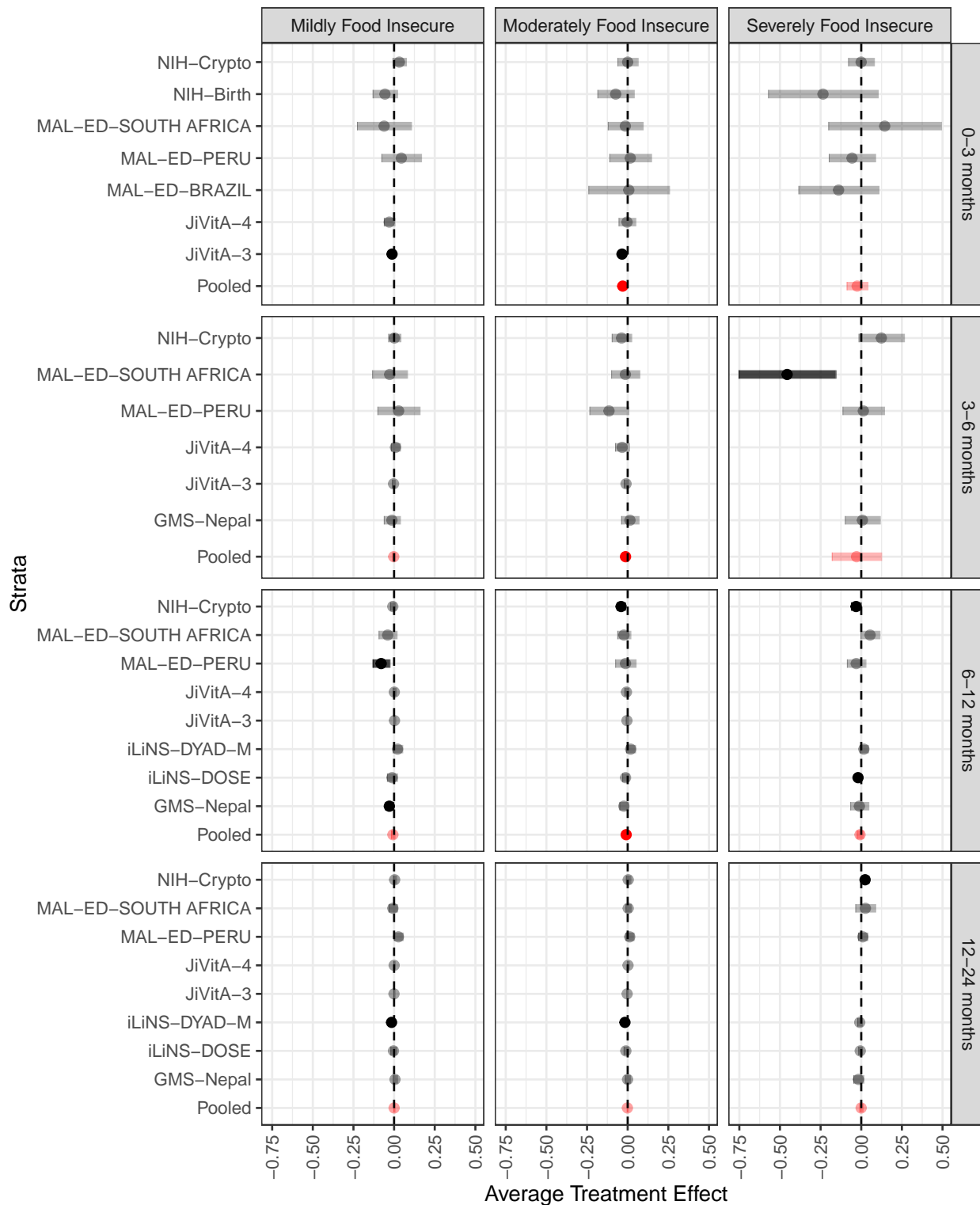
Number of people in the household
reference level:3 or less



Number of rooms in household
reference level:1

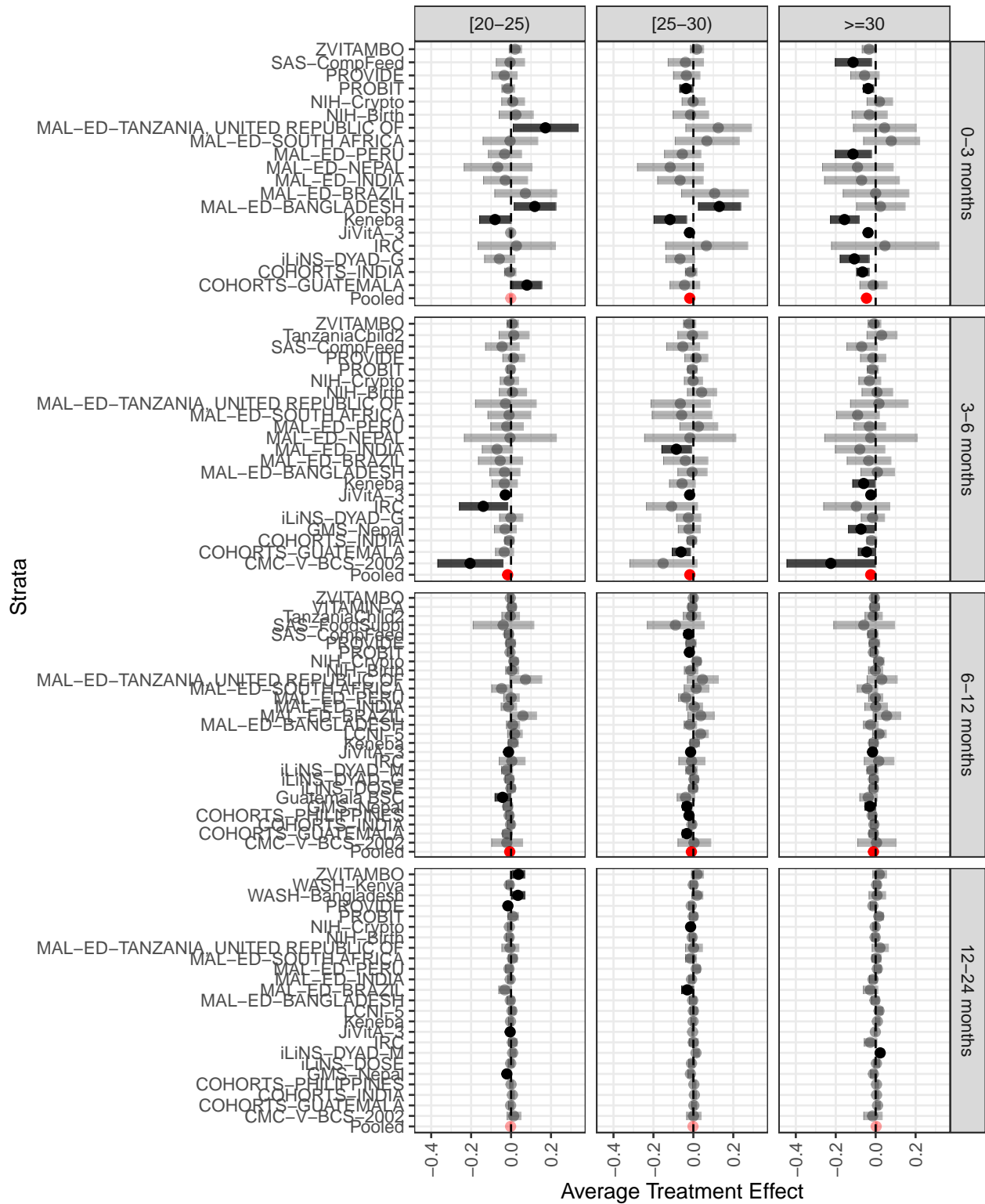


USAID Household Food Insecurity Access Scale (HFIAS) category
reference level: Food Secure

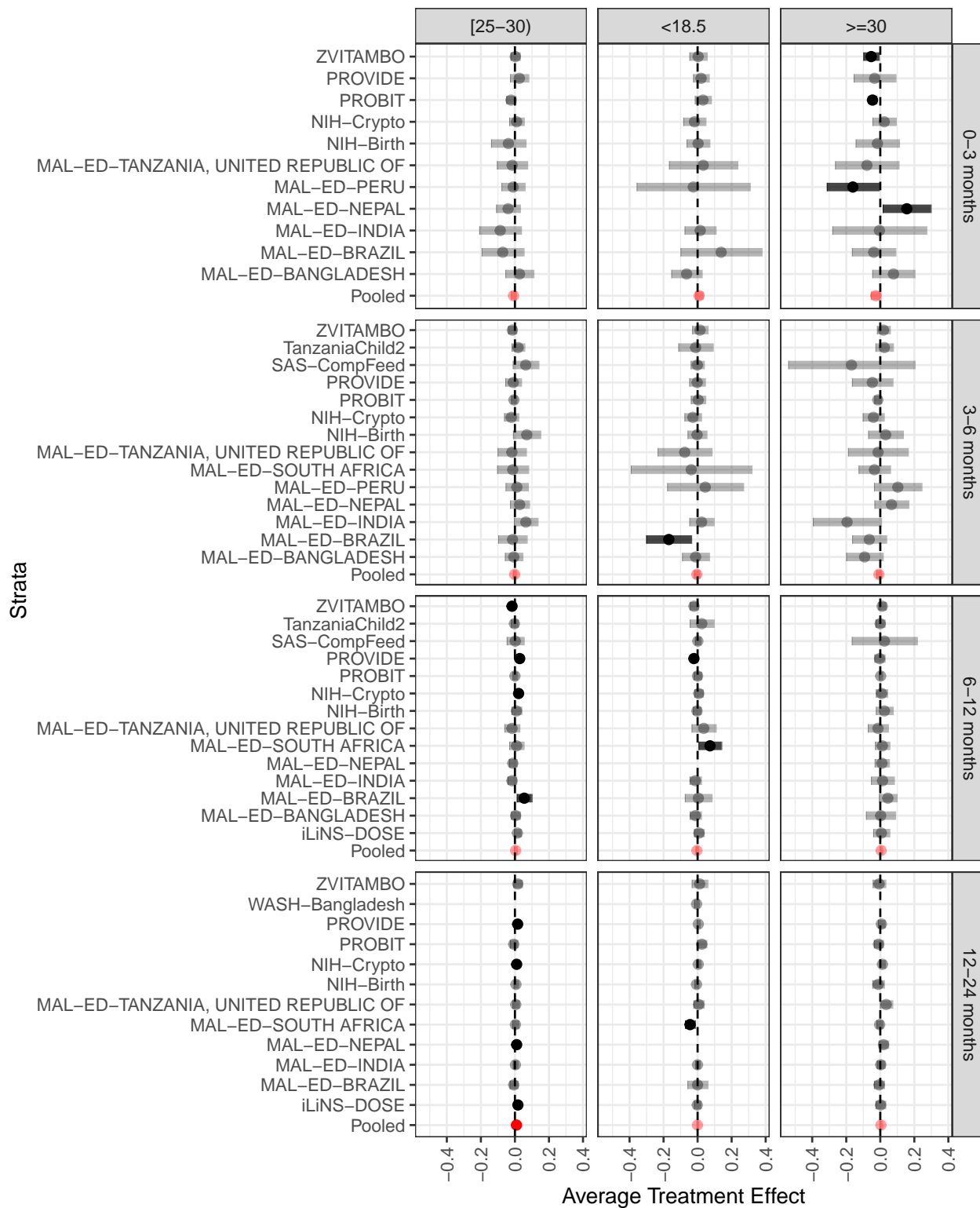


Maternal characteristics

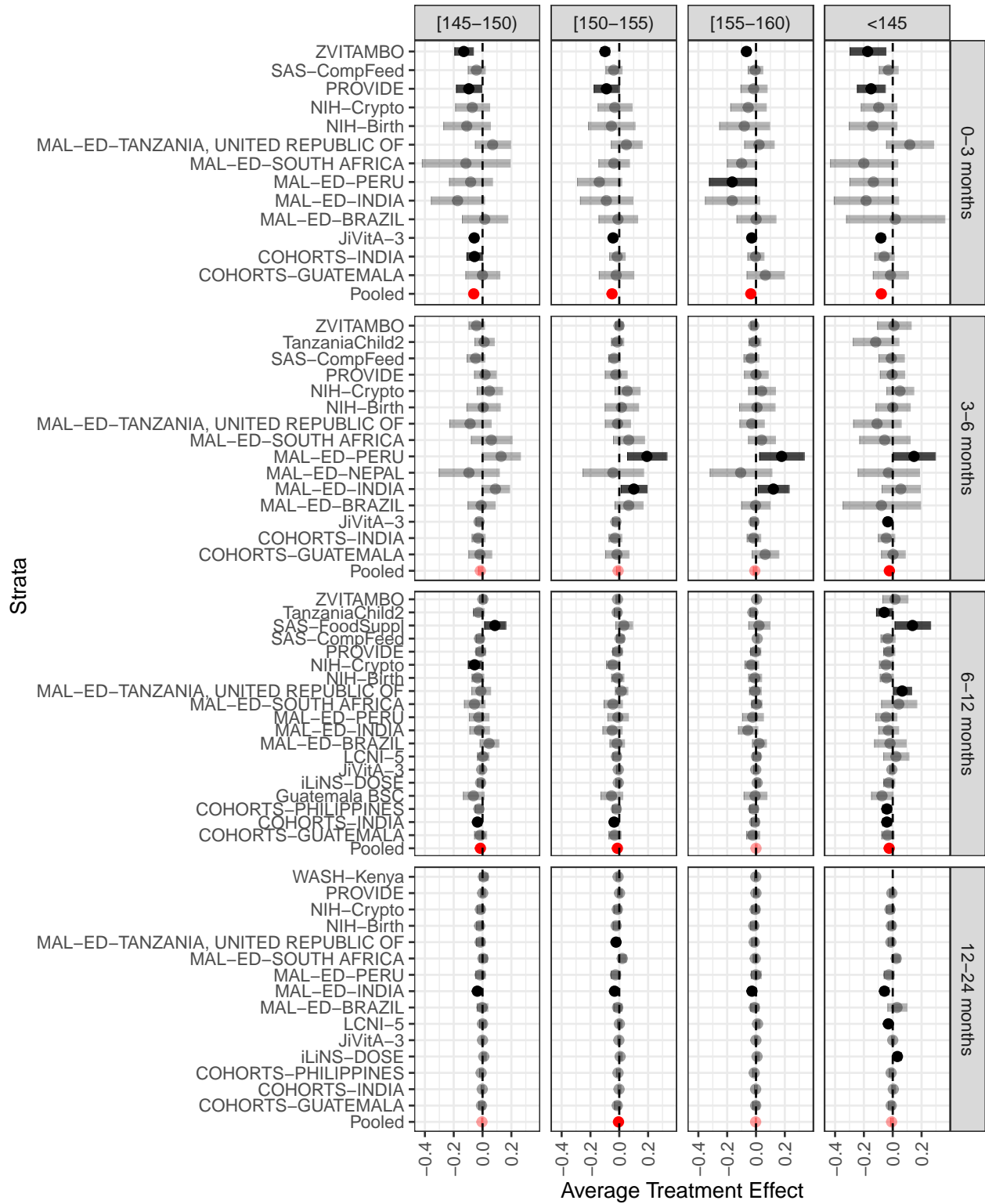
Maternal age
reference level: <20



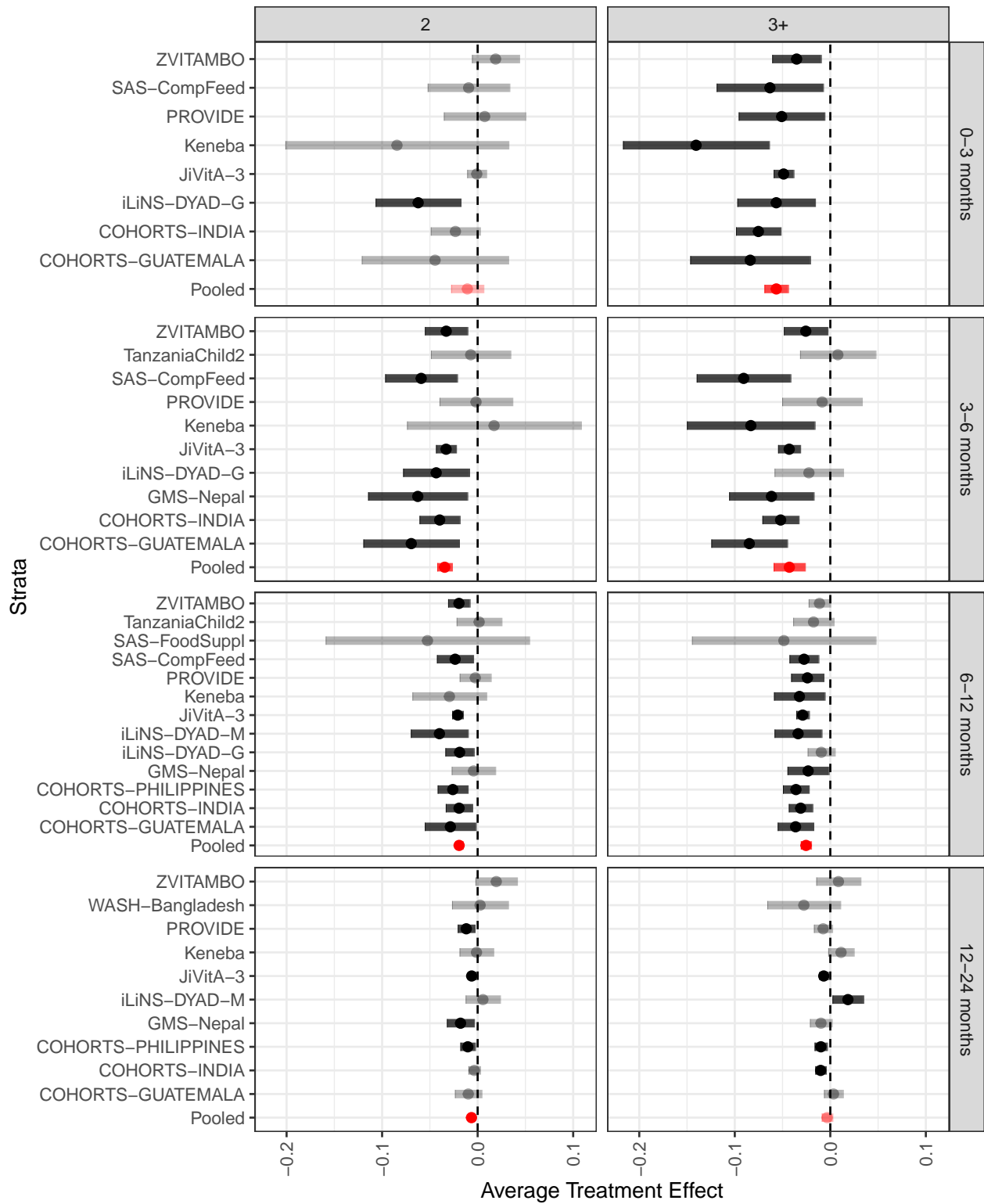
Maternal BMI
reference level:[18.5–25)



Maternal height
reference level: ≥ 160



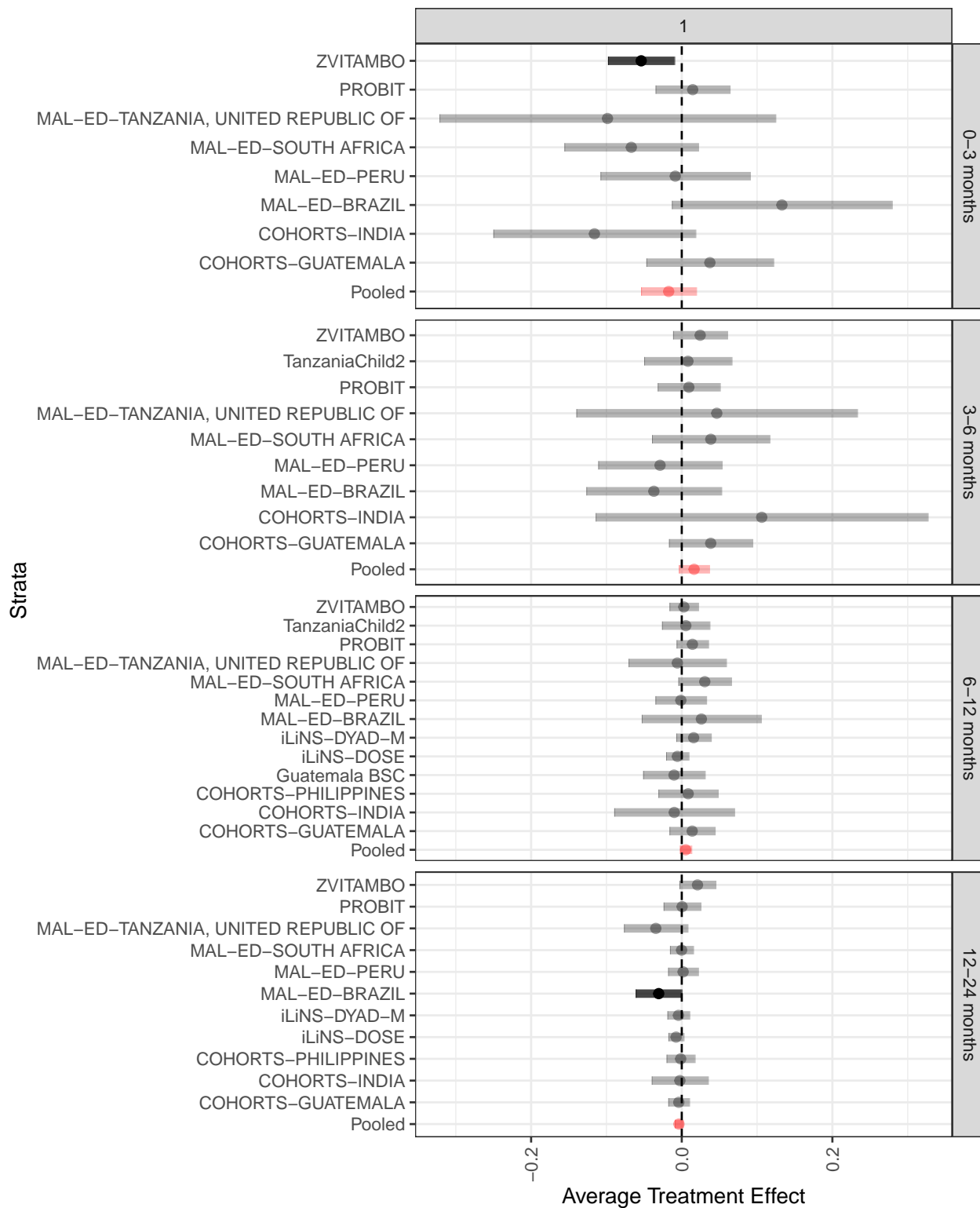
Maternal parity
reference level:1



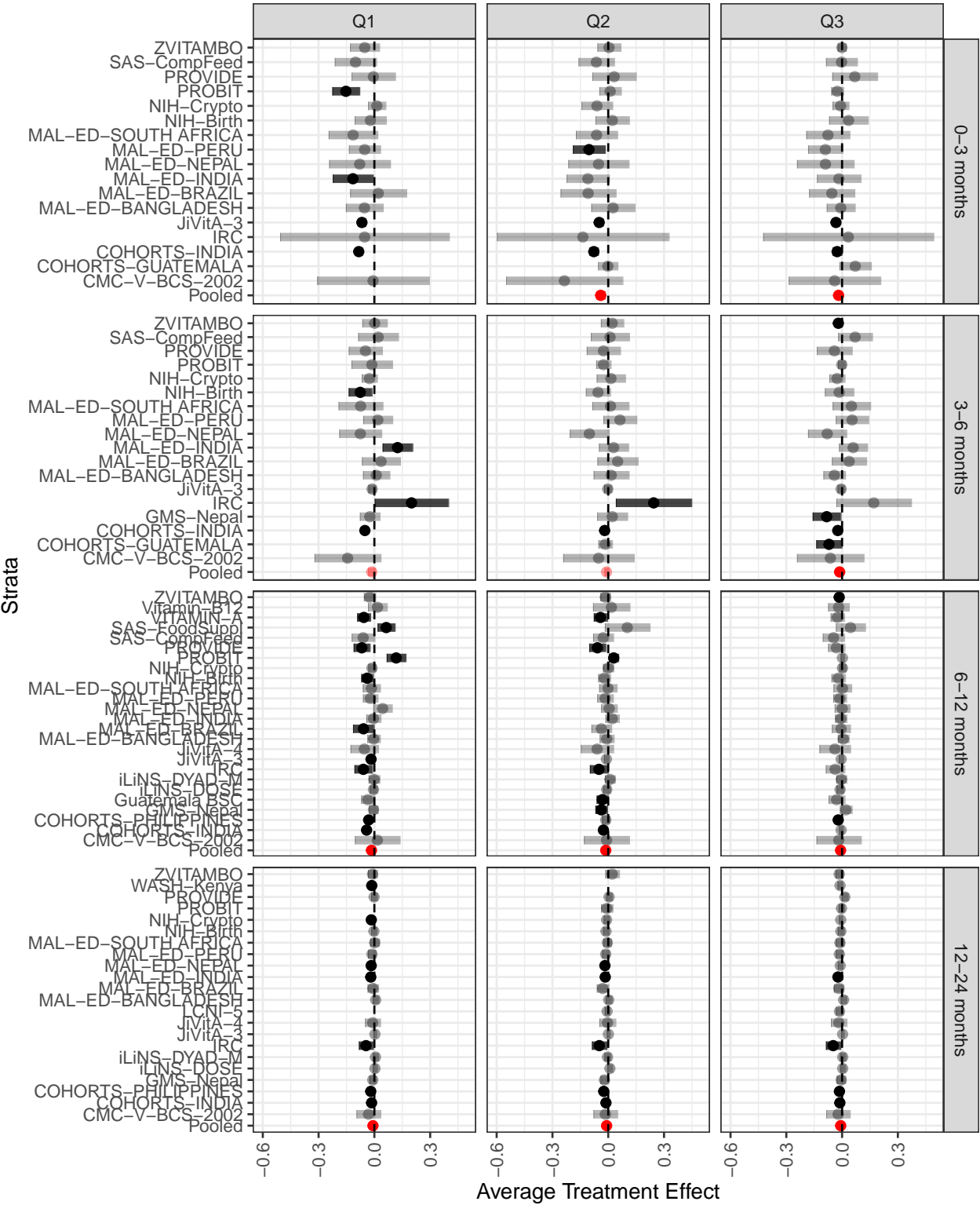
Maternal weight
reference level: ≥ 57.5



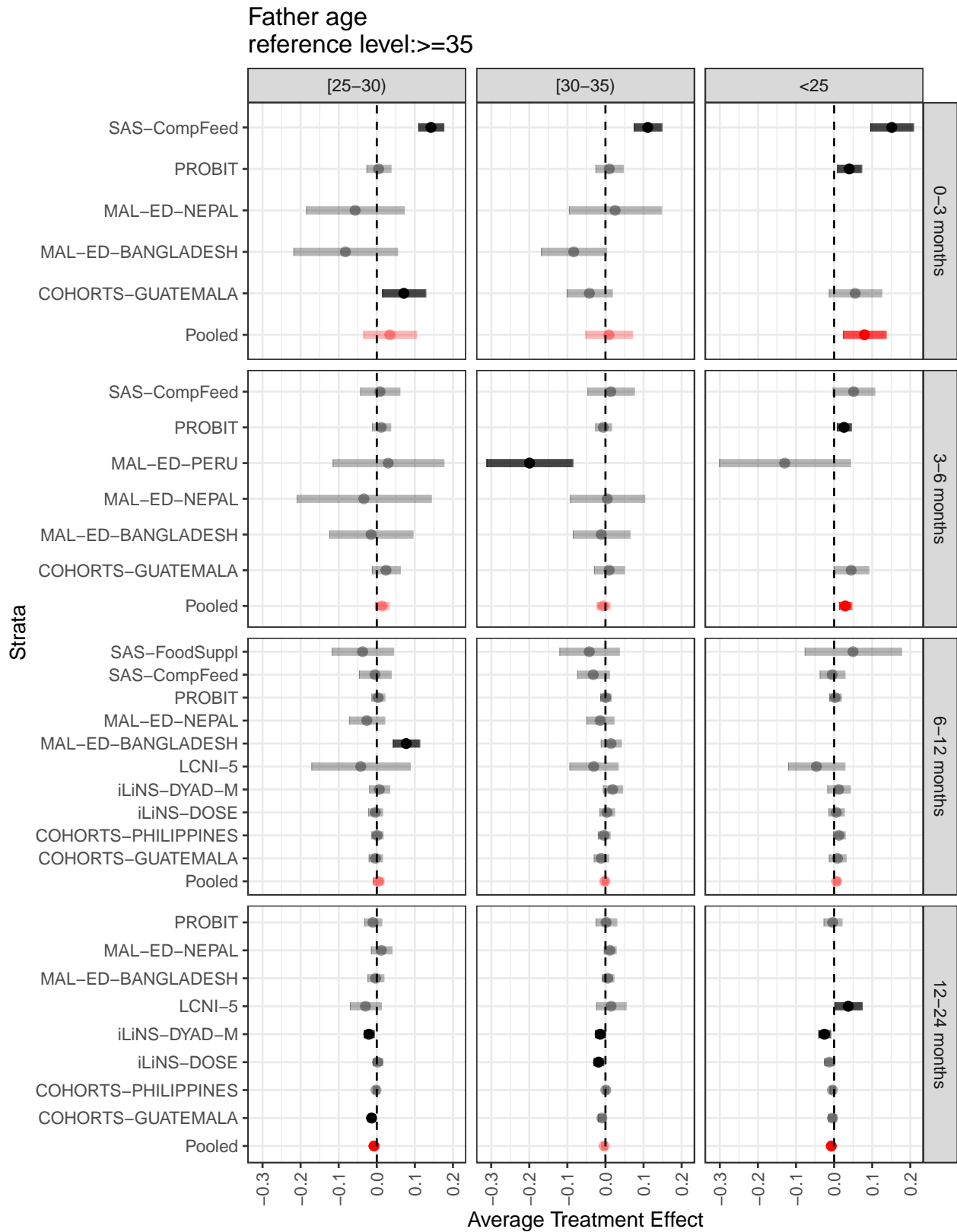
Mother is unmarried
reference level:0



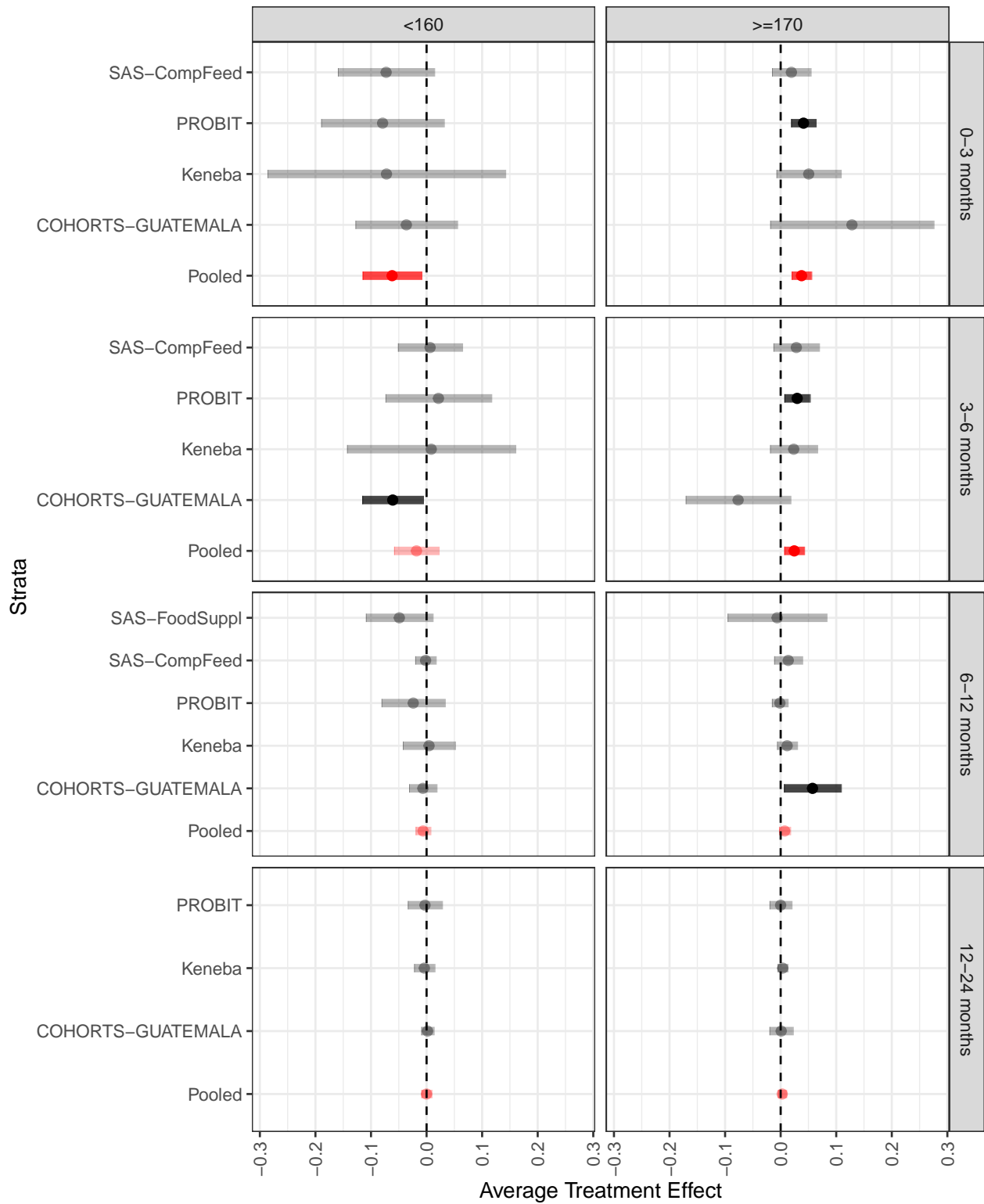
Mother's education
reference level:Q4



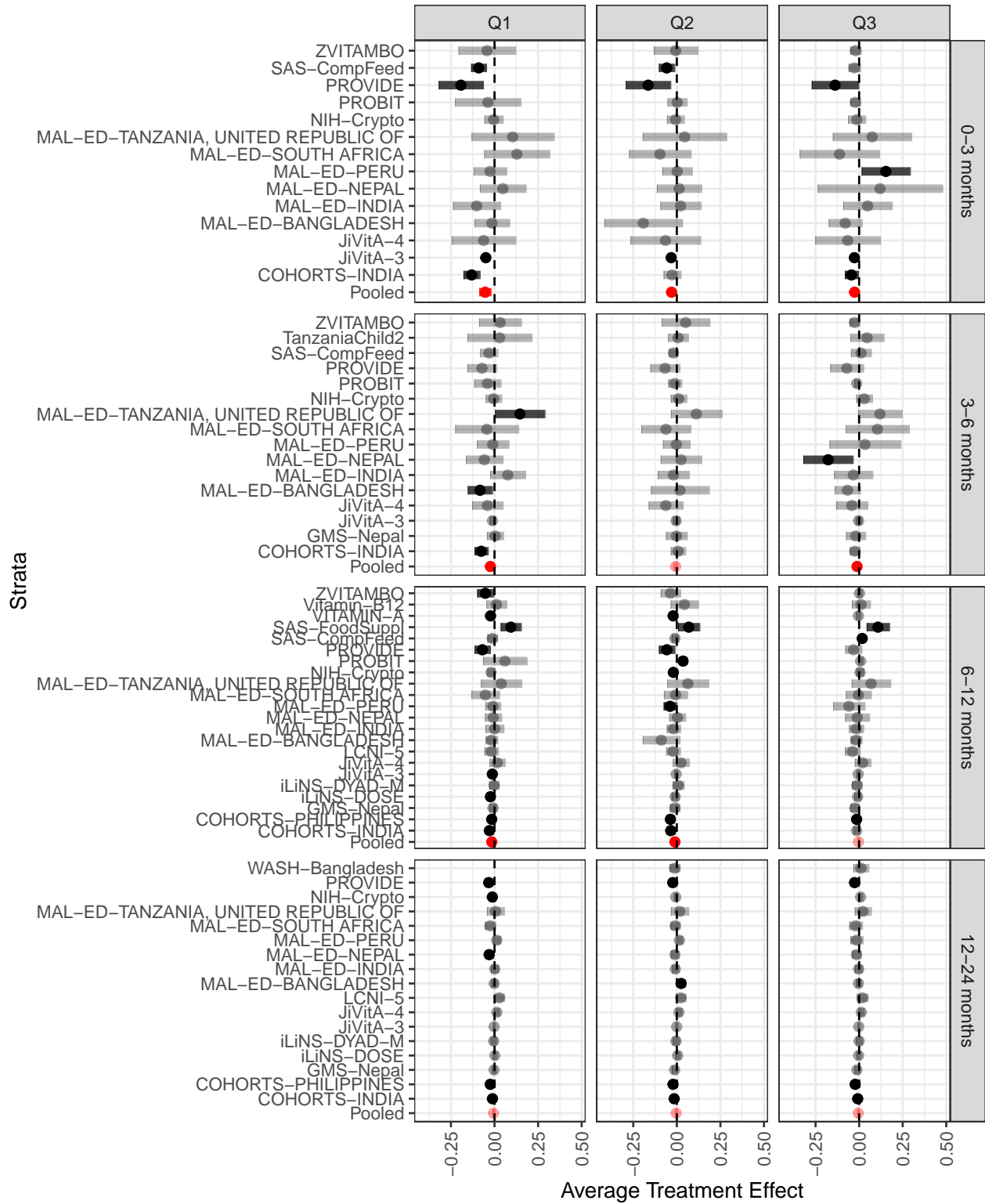
Paternal characteristics



Father height
reference level:[160–170)

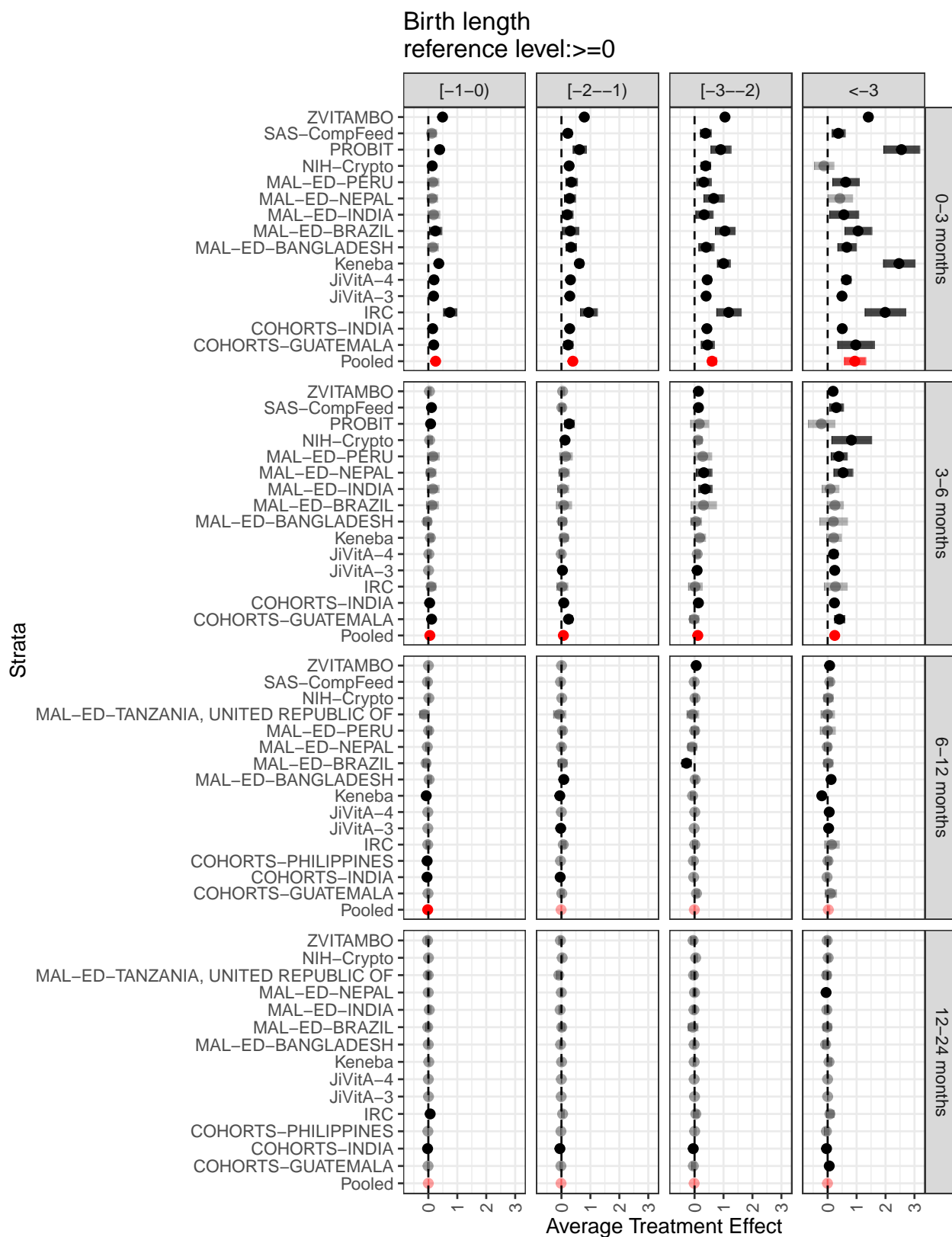


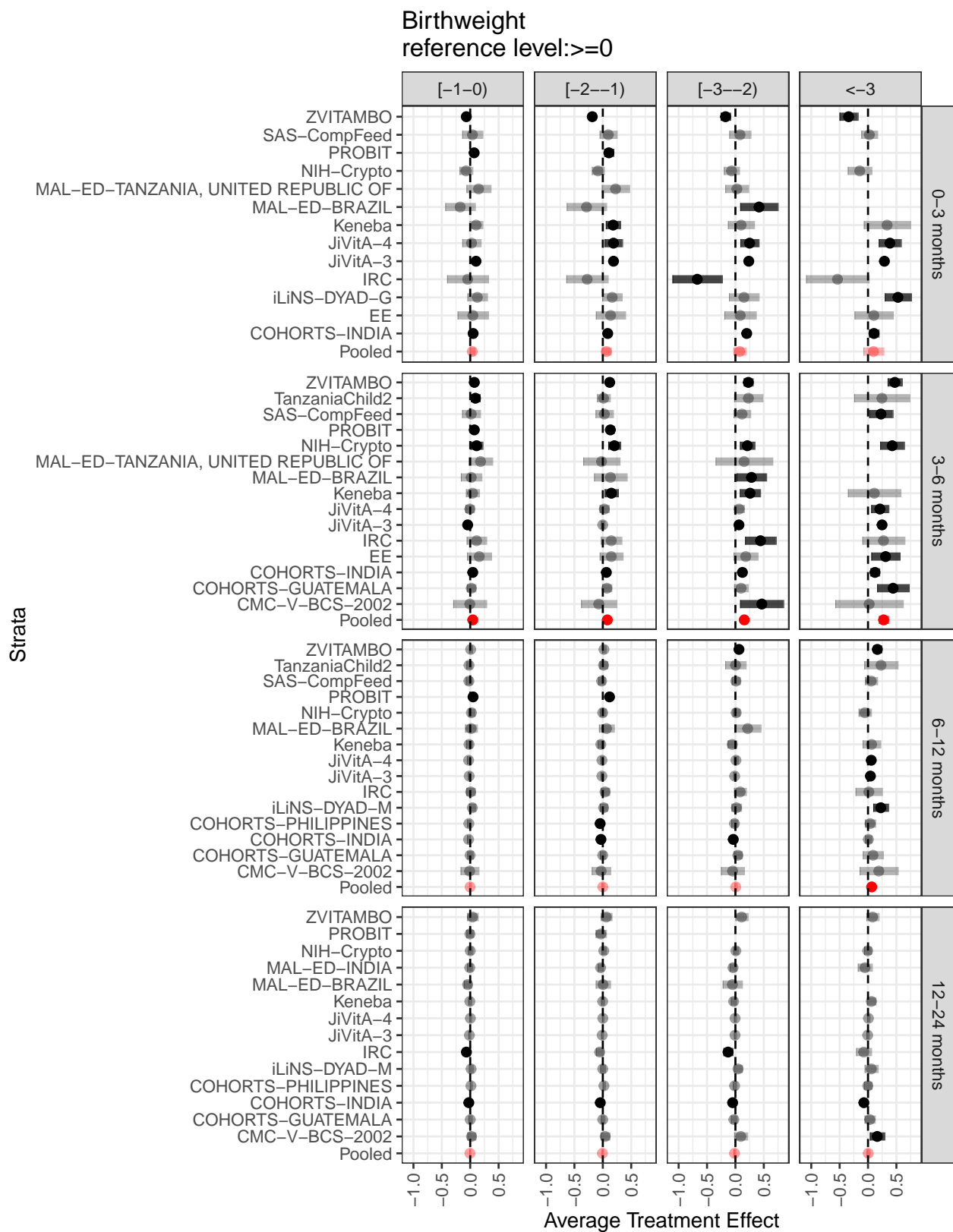
Father's education
reference level:Q4

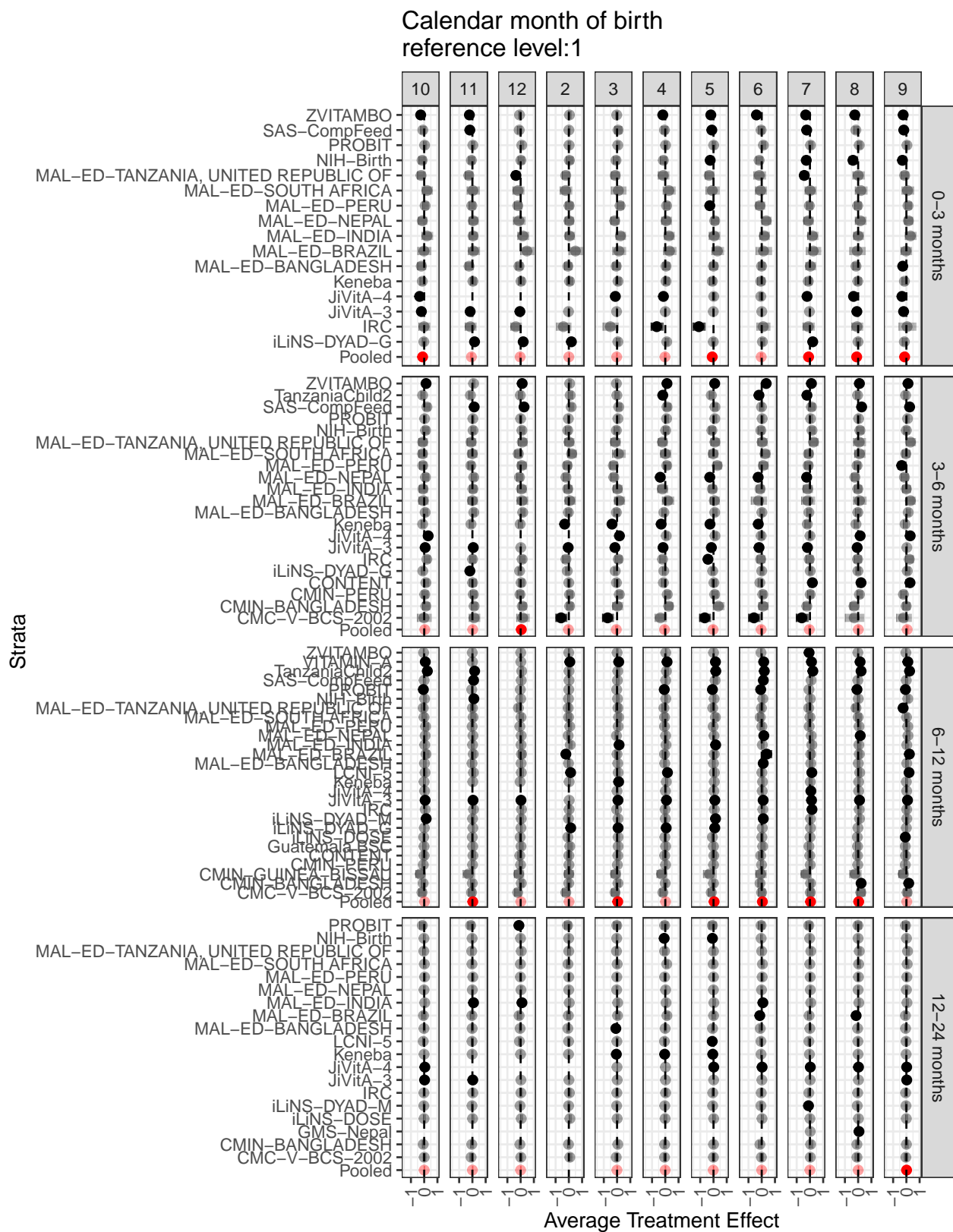


Length growth velocity

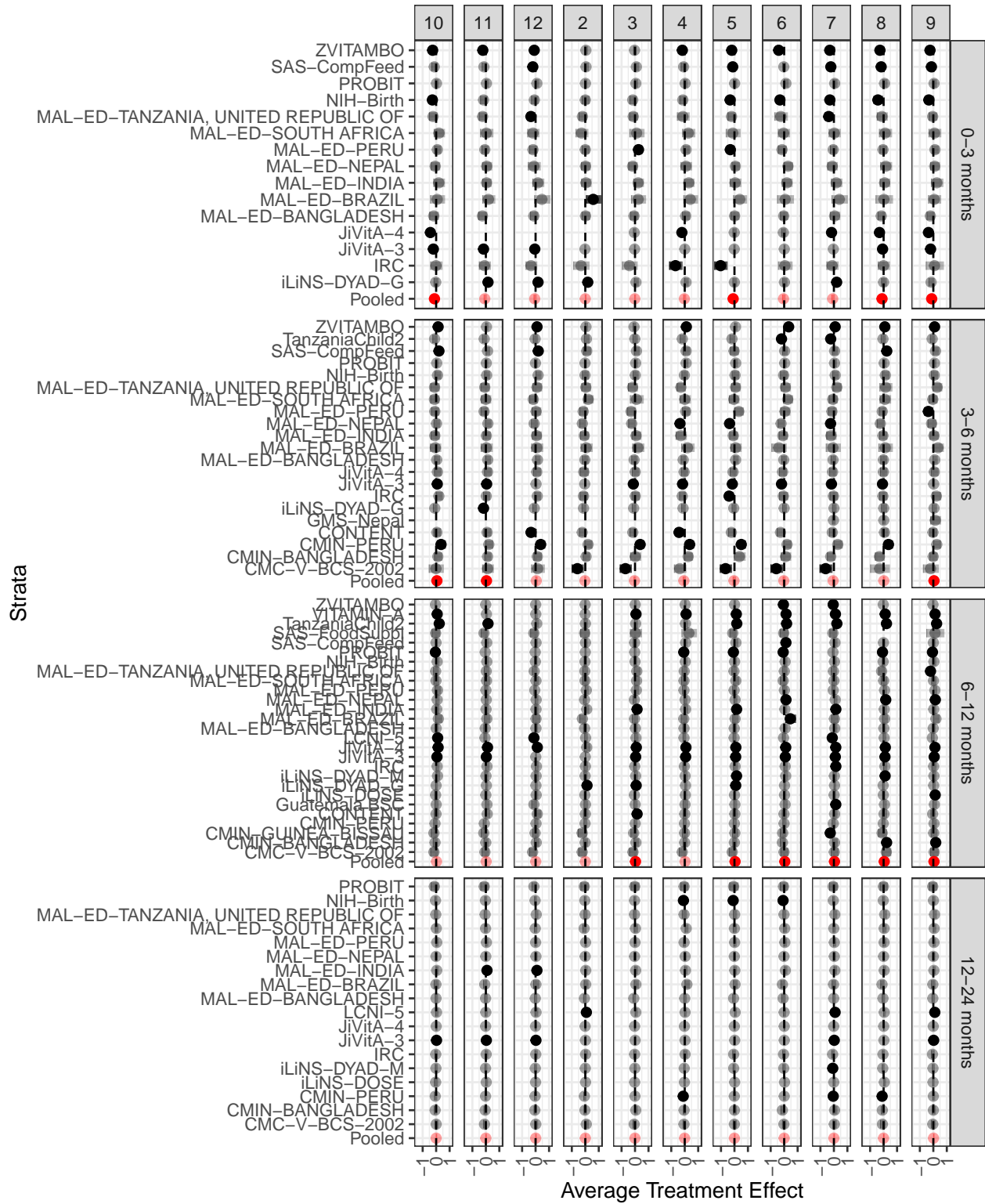
Child characteristics



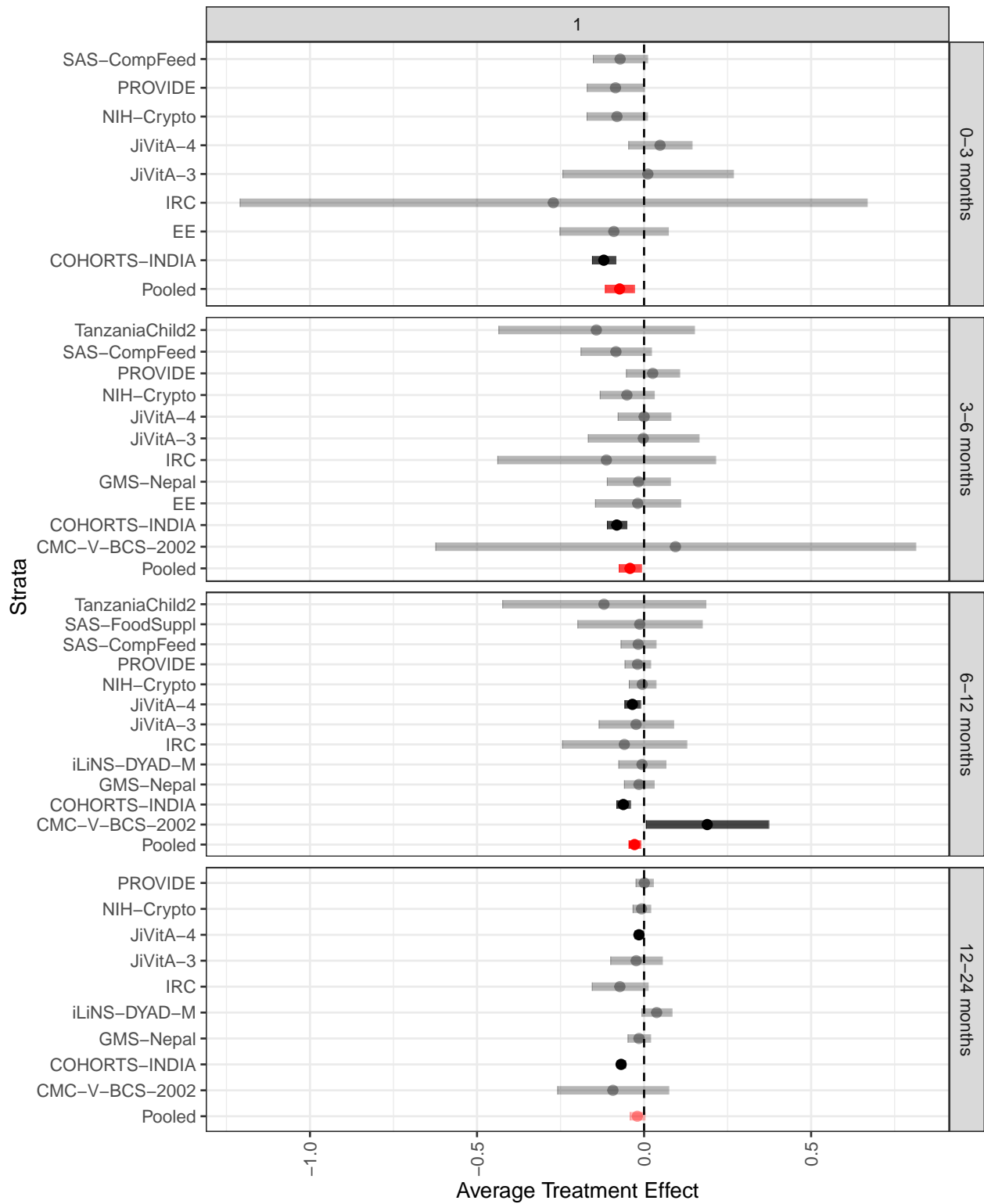




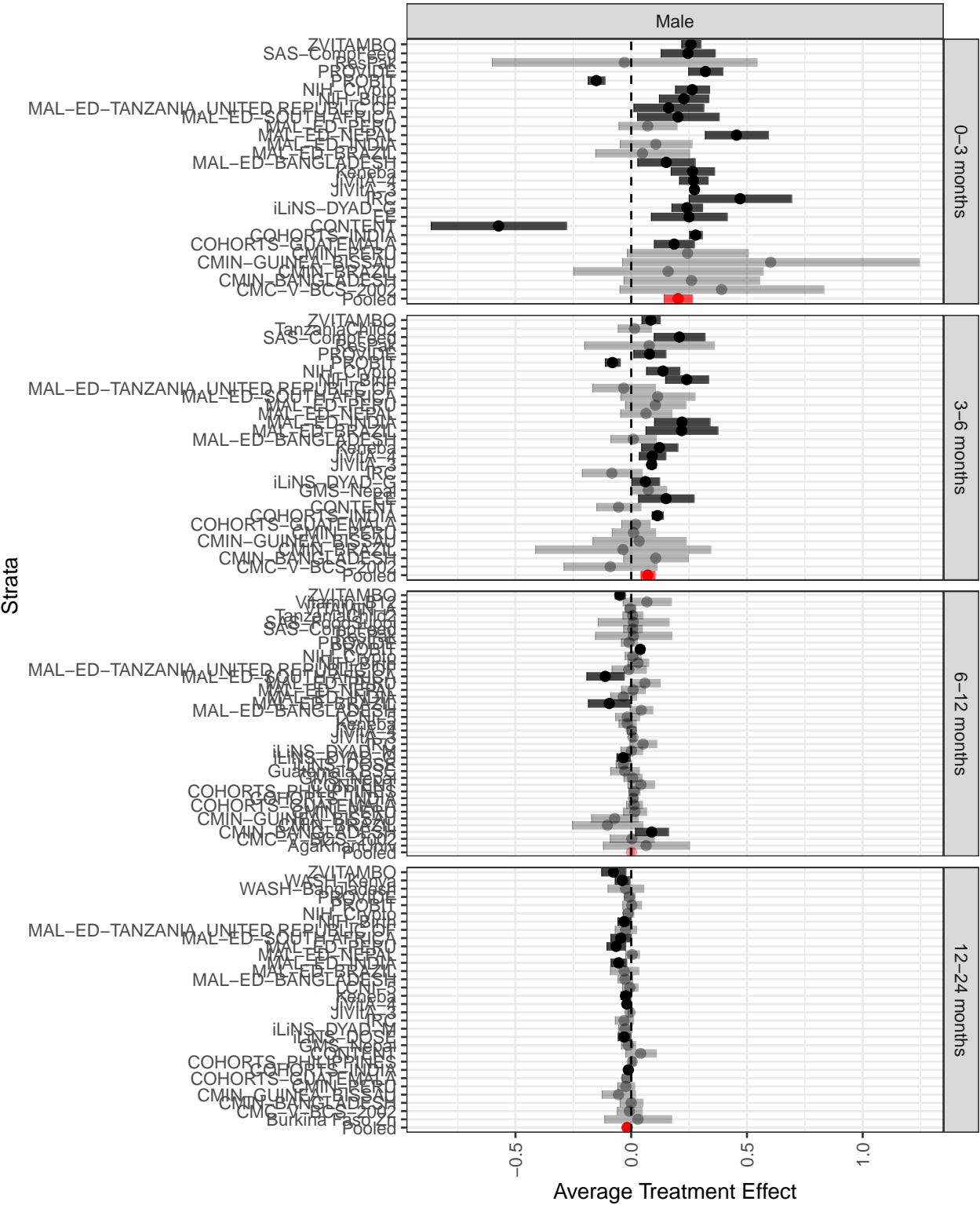
Calendar month of measurement
reference level:1



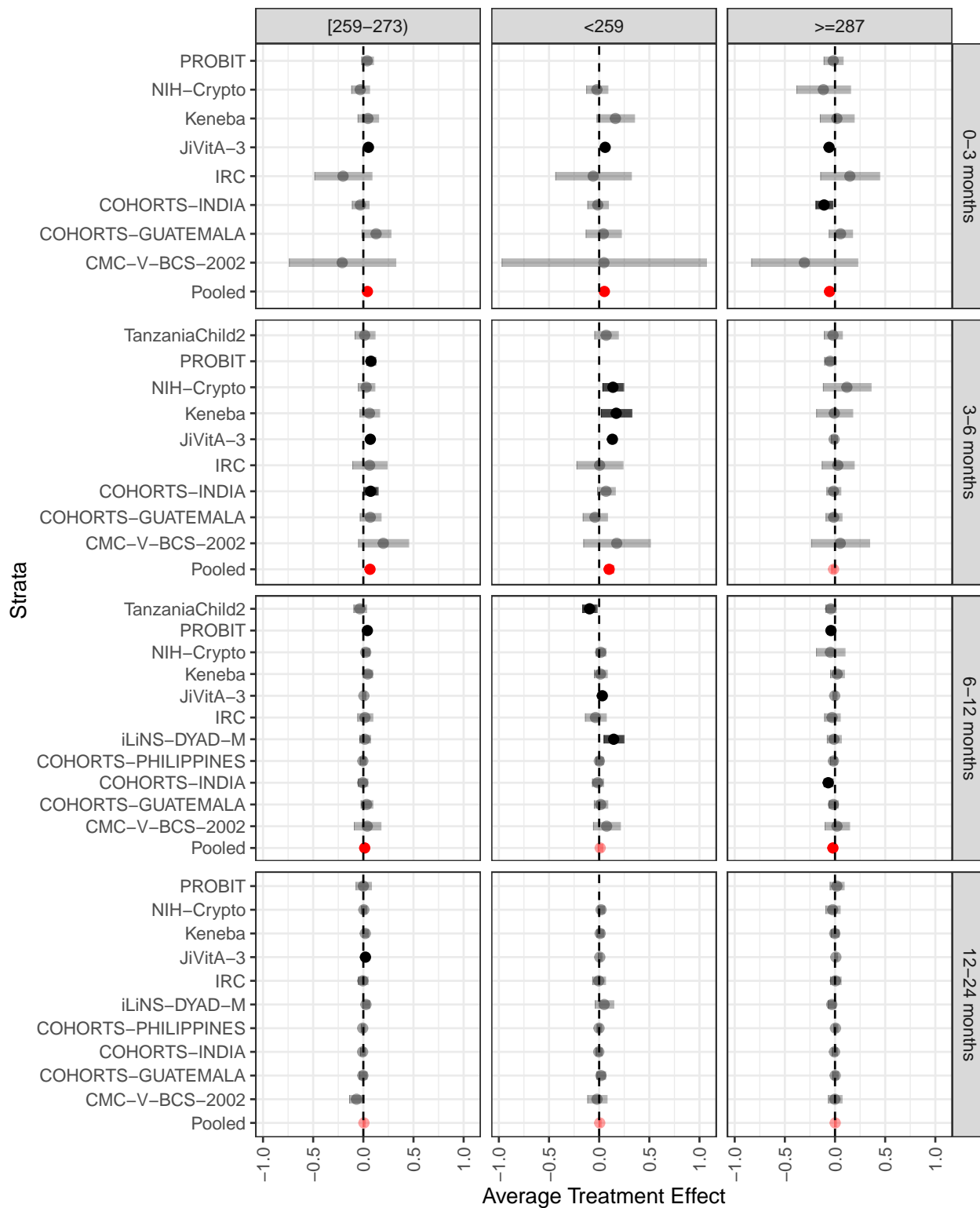
Child delivered at home
reference level:0



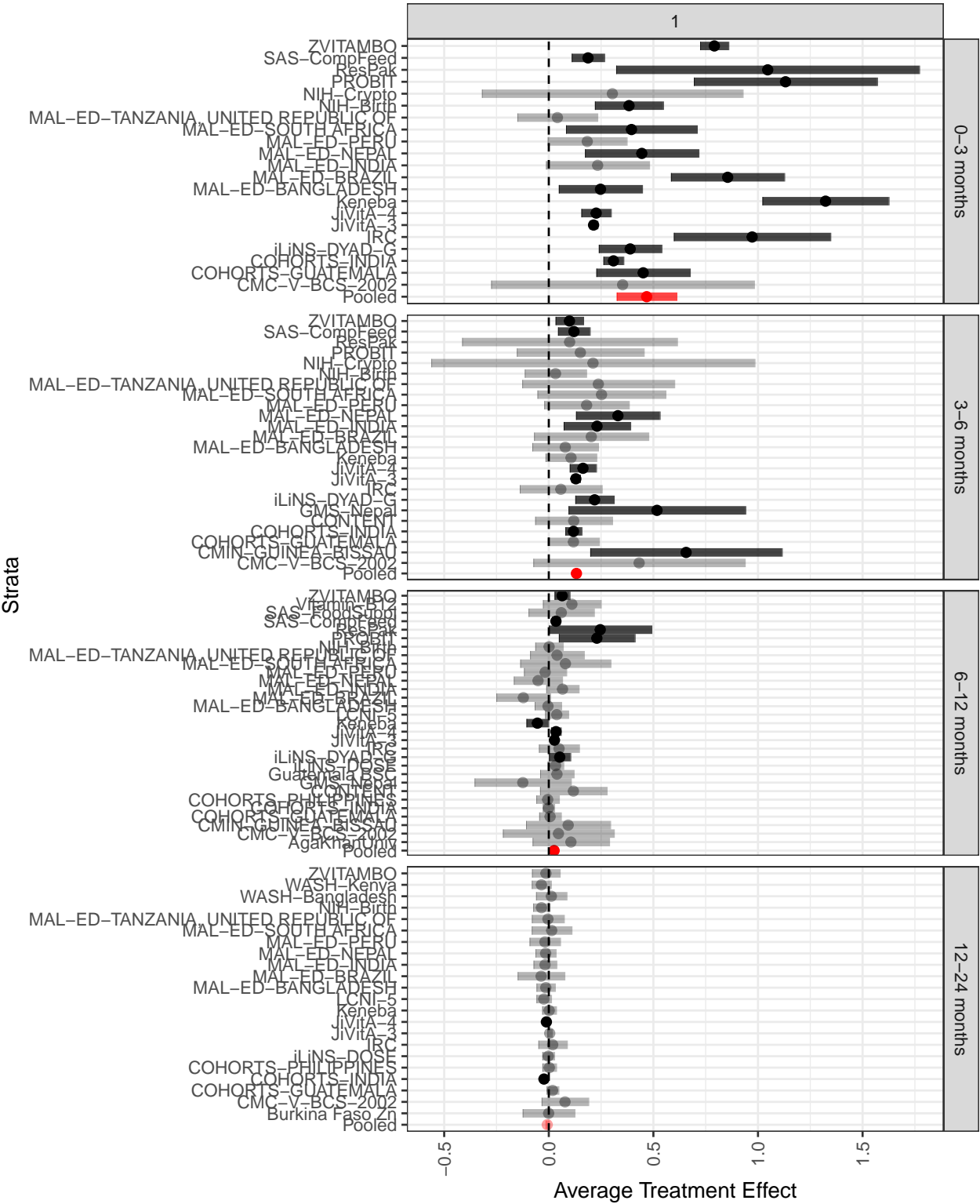
Child's sex
reference level:Female



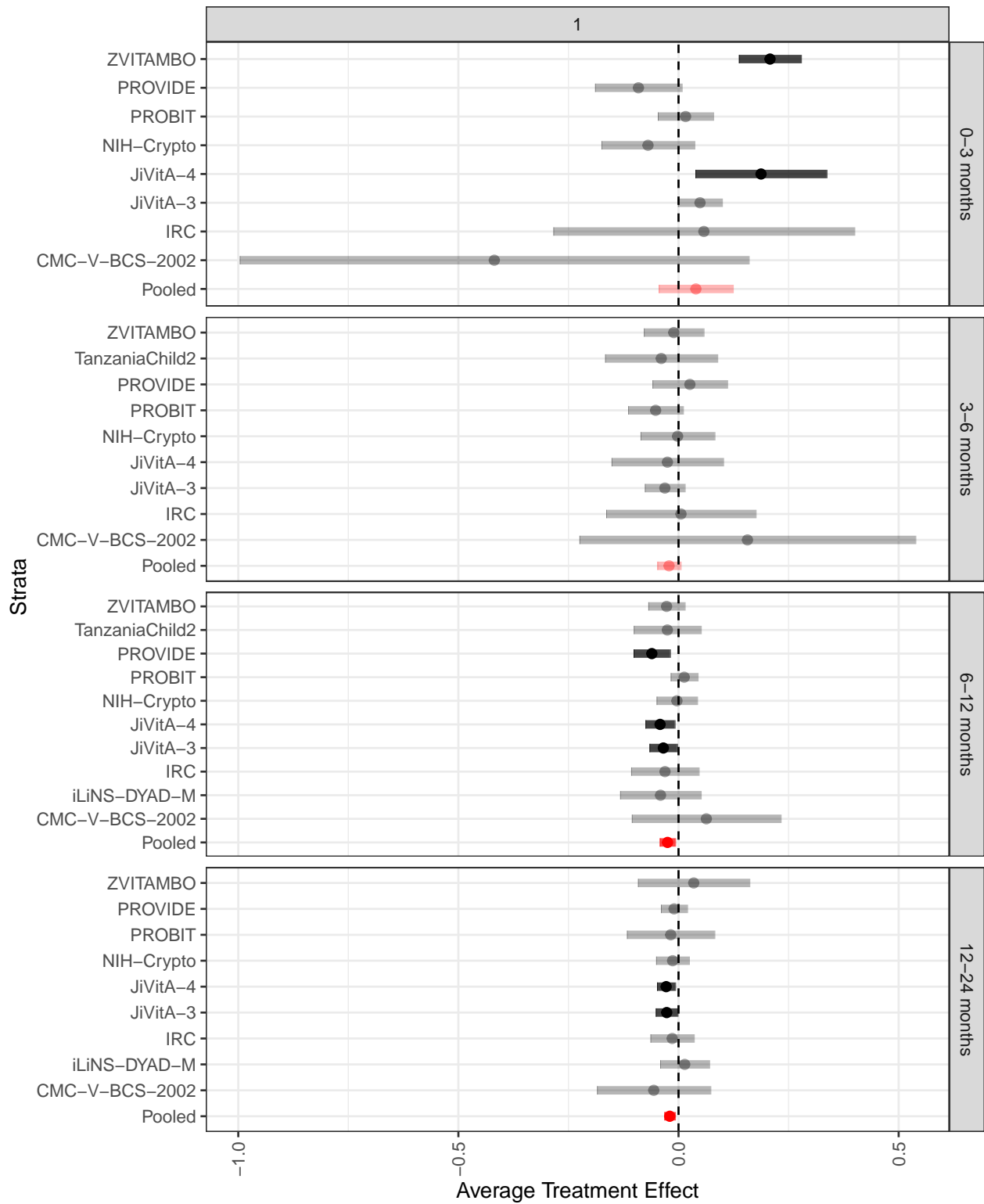
Gestational age at birth in days
reference level:[273–287)



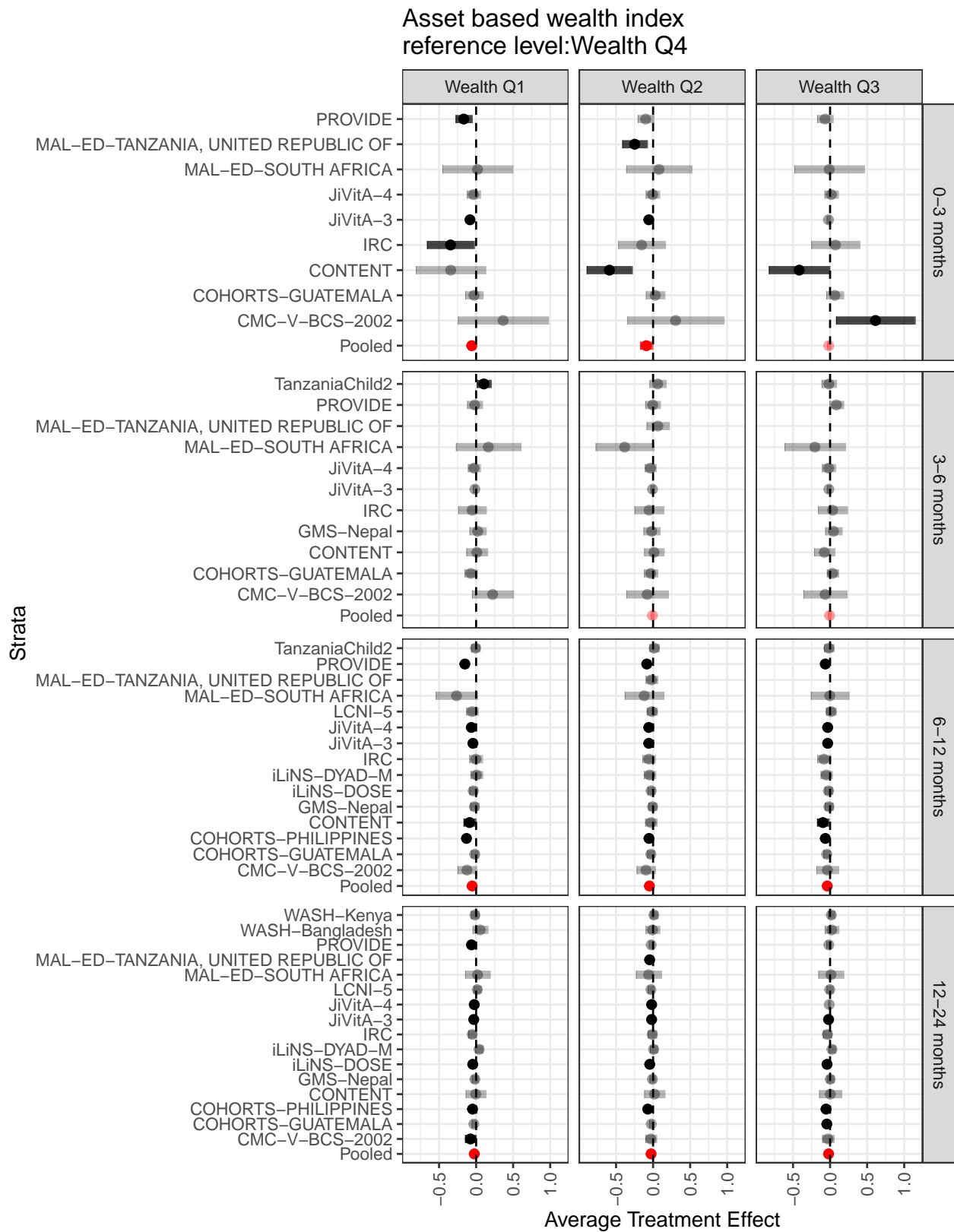
Stunted at enrollment
reference level:0



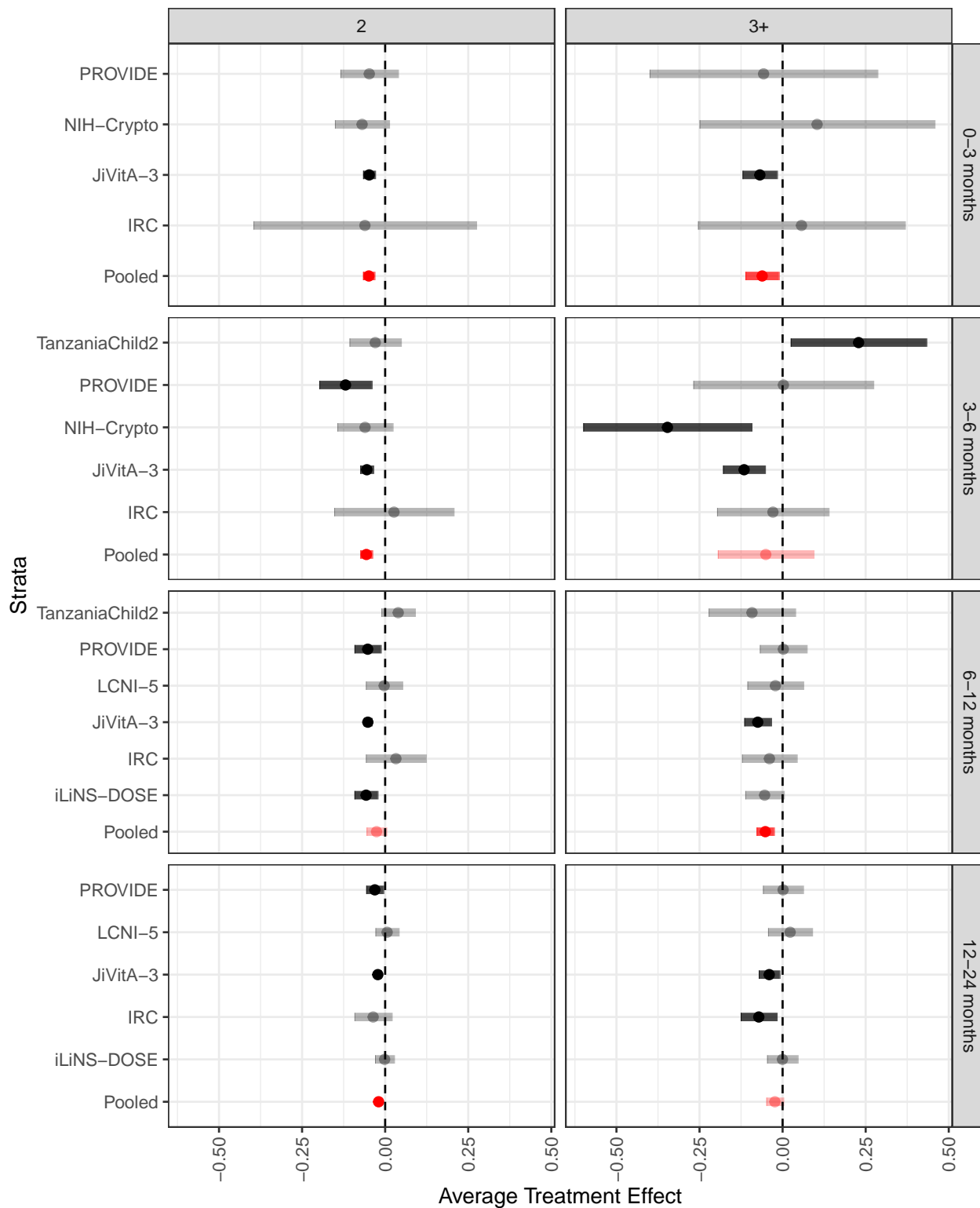
Vaginal delivery
reference level:0



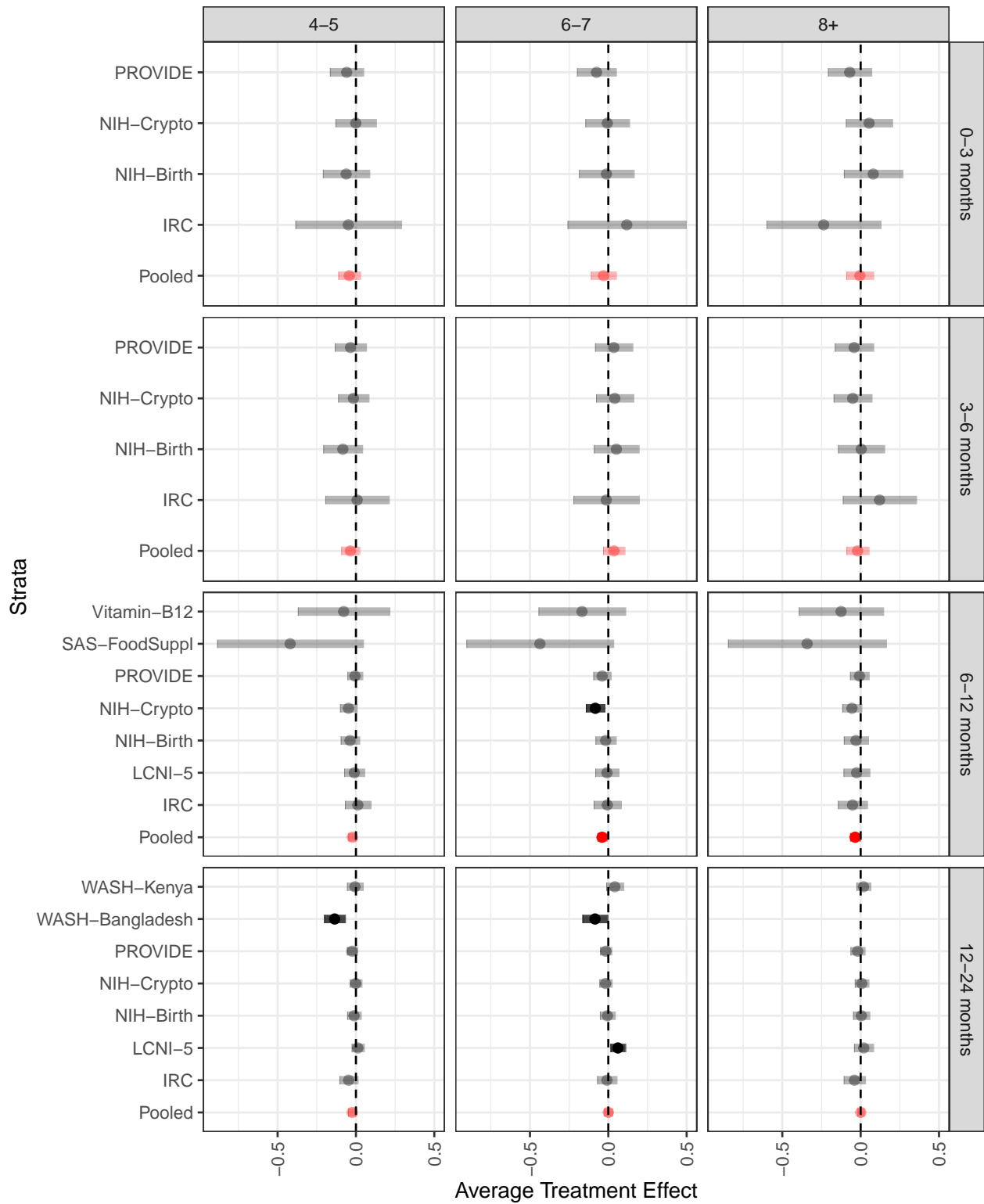
Household characteristics



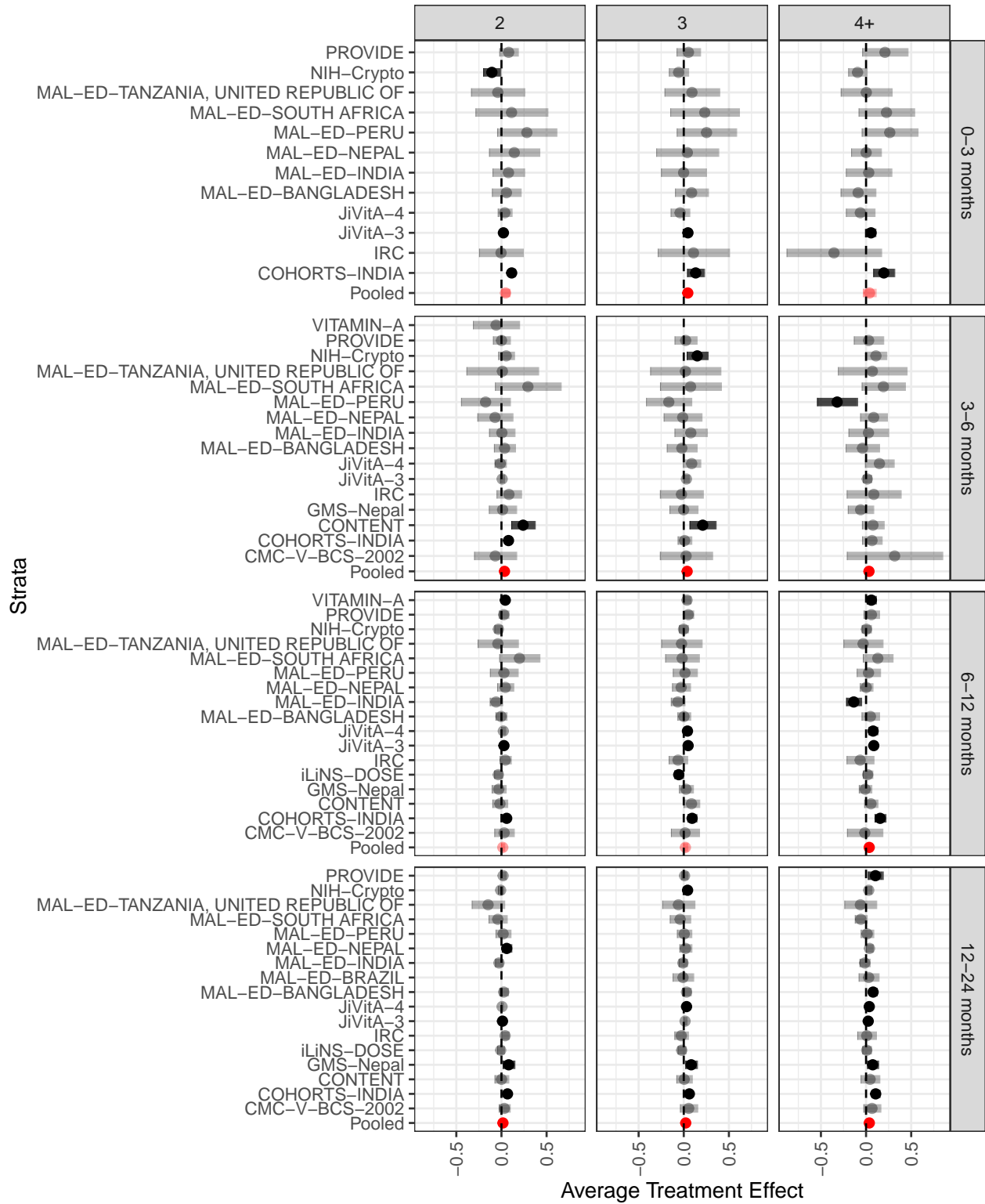
Number of children in the household under 5 years
reference level:1



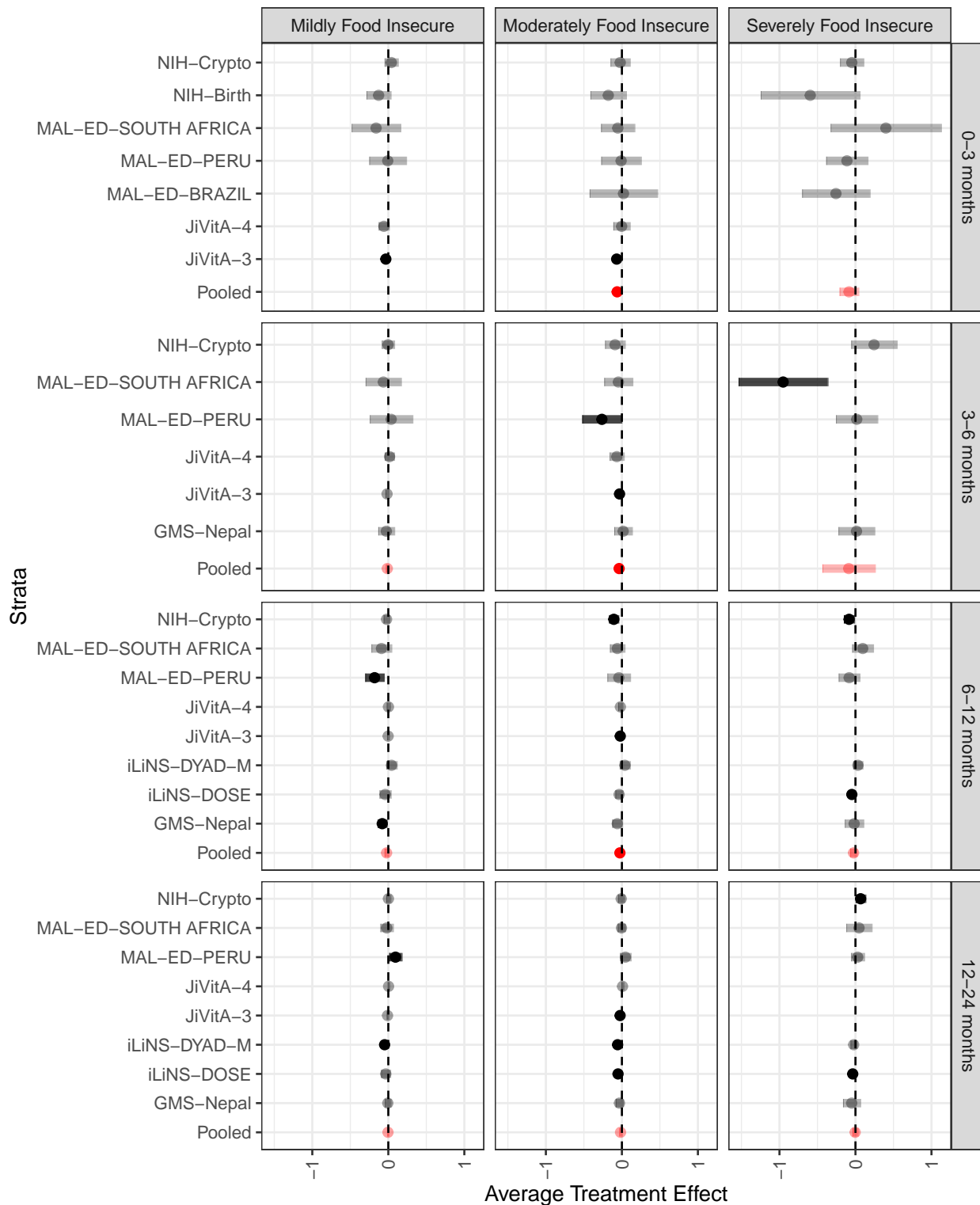
Number of people in the household
reference level:3 or less



Number of rooms in household
reference level:1

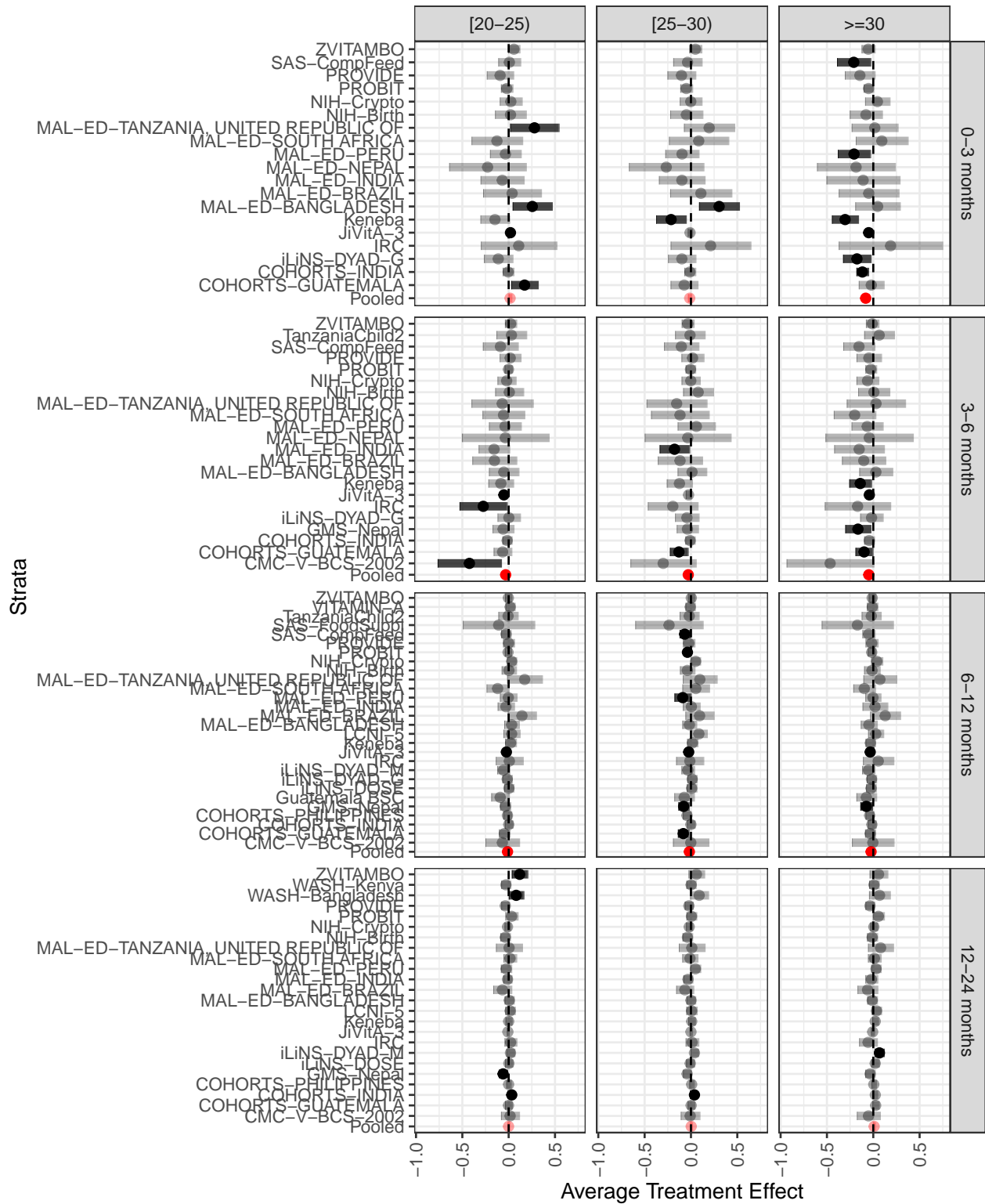


USAID Household Food Insecurity Access Scale (HFIAS) category
reference level: Food Secure

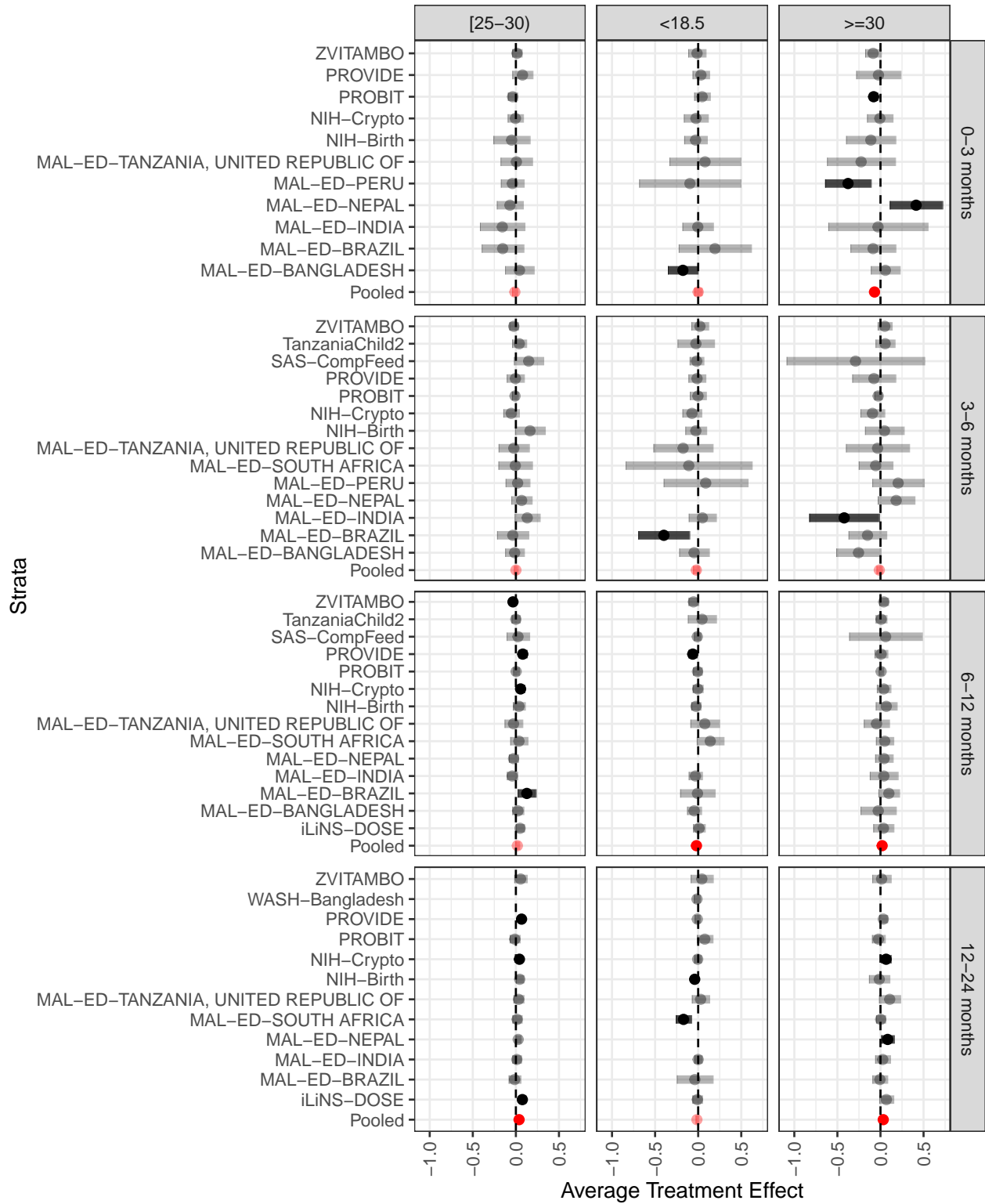


Maternal characteristics

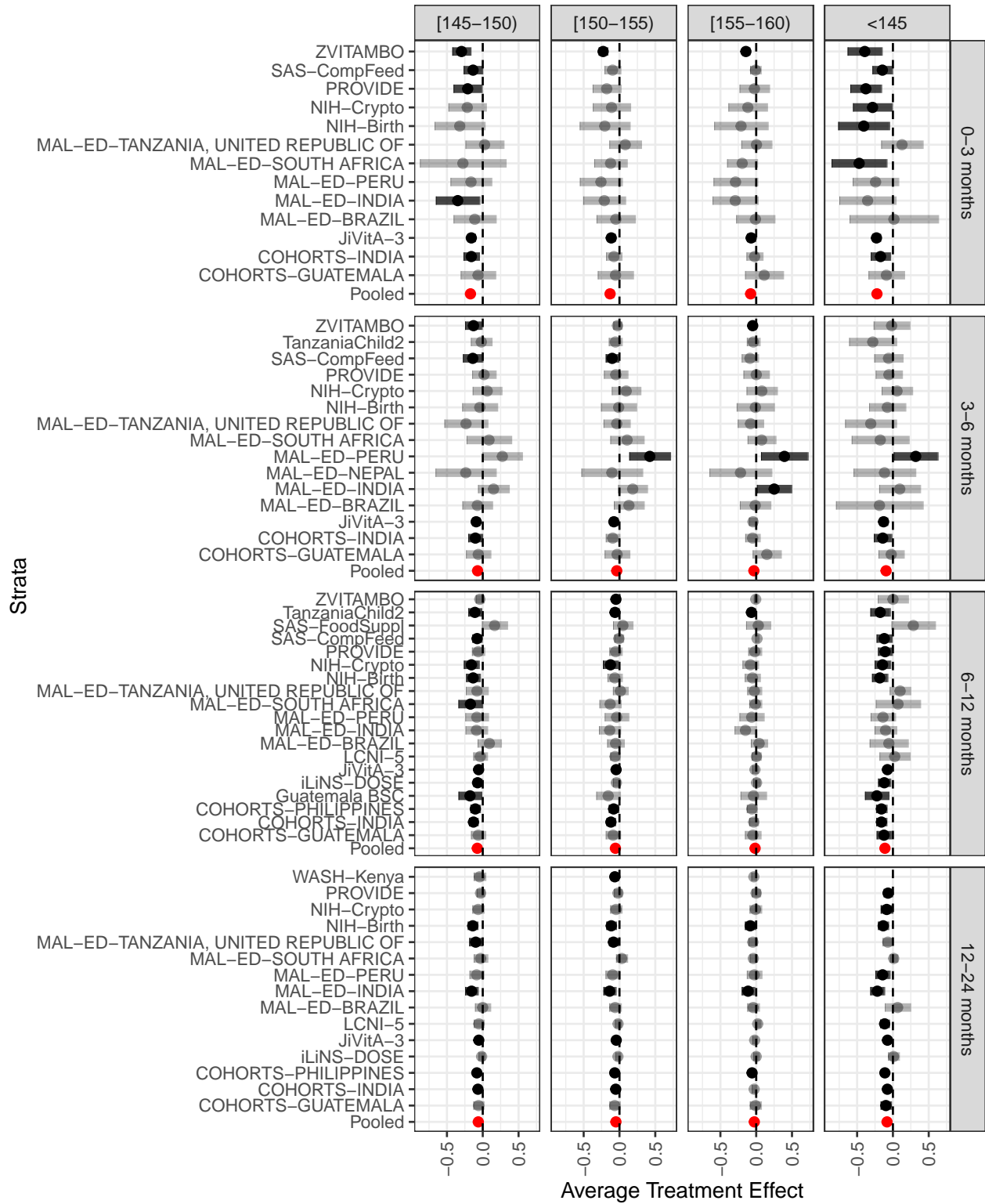
Maternal age
reference level: <20



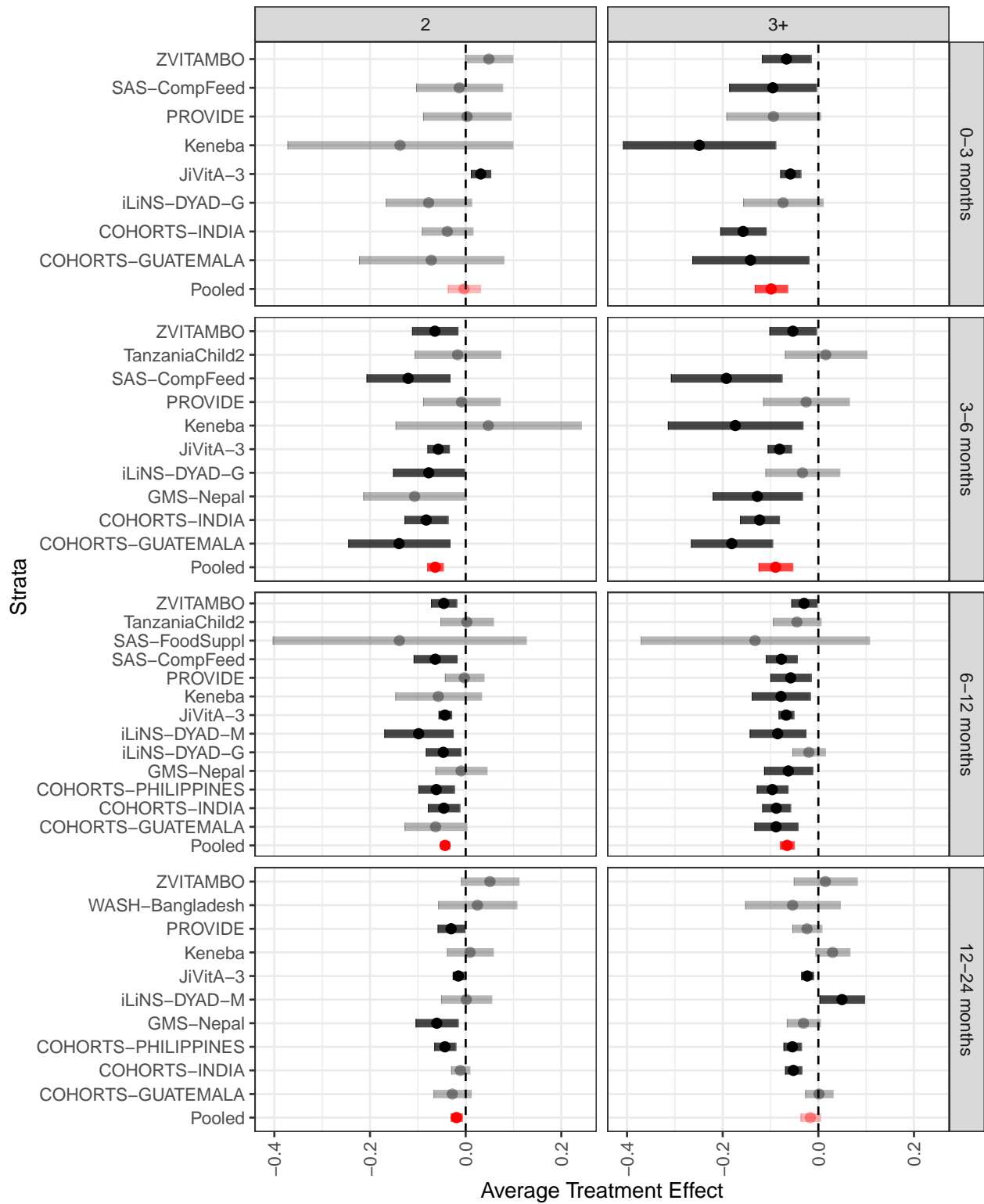
Maternal BMI
reference level:[18.5–25)



Maternal height
reference level: ≥ 160



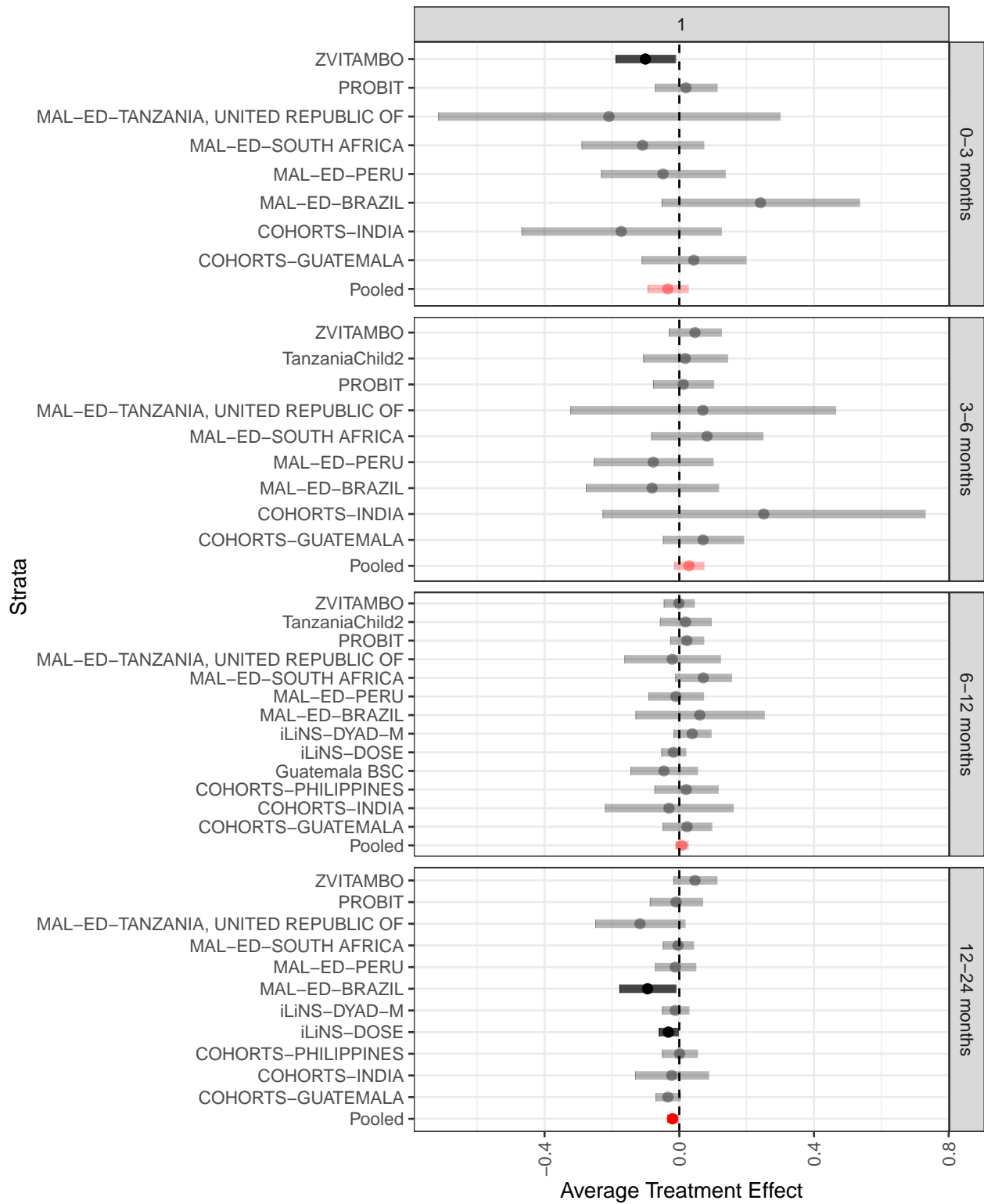
Maternal parity
reference level:1



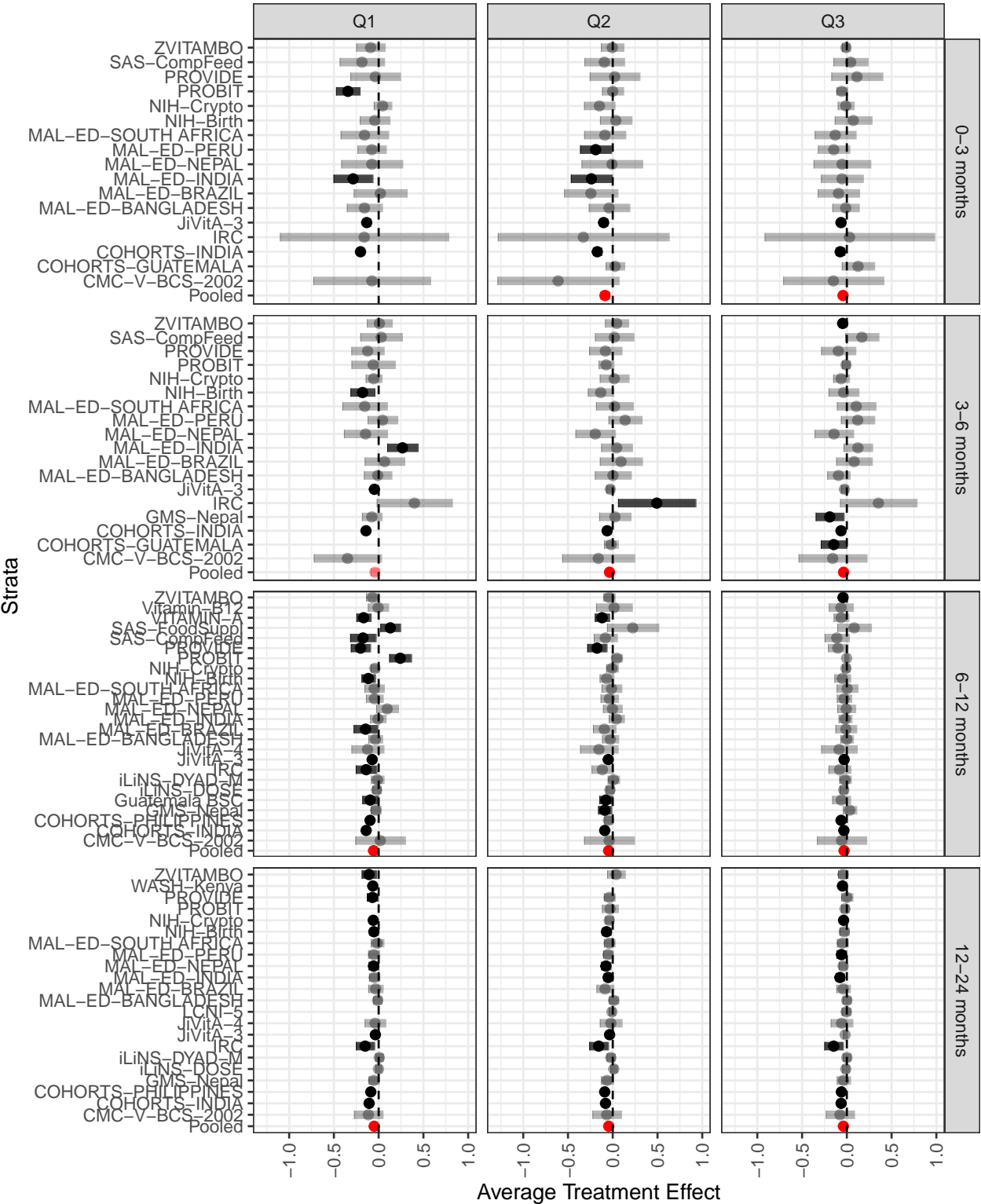
Maternal weight
reference level: ≥ 57.5



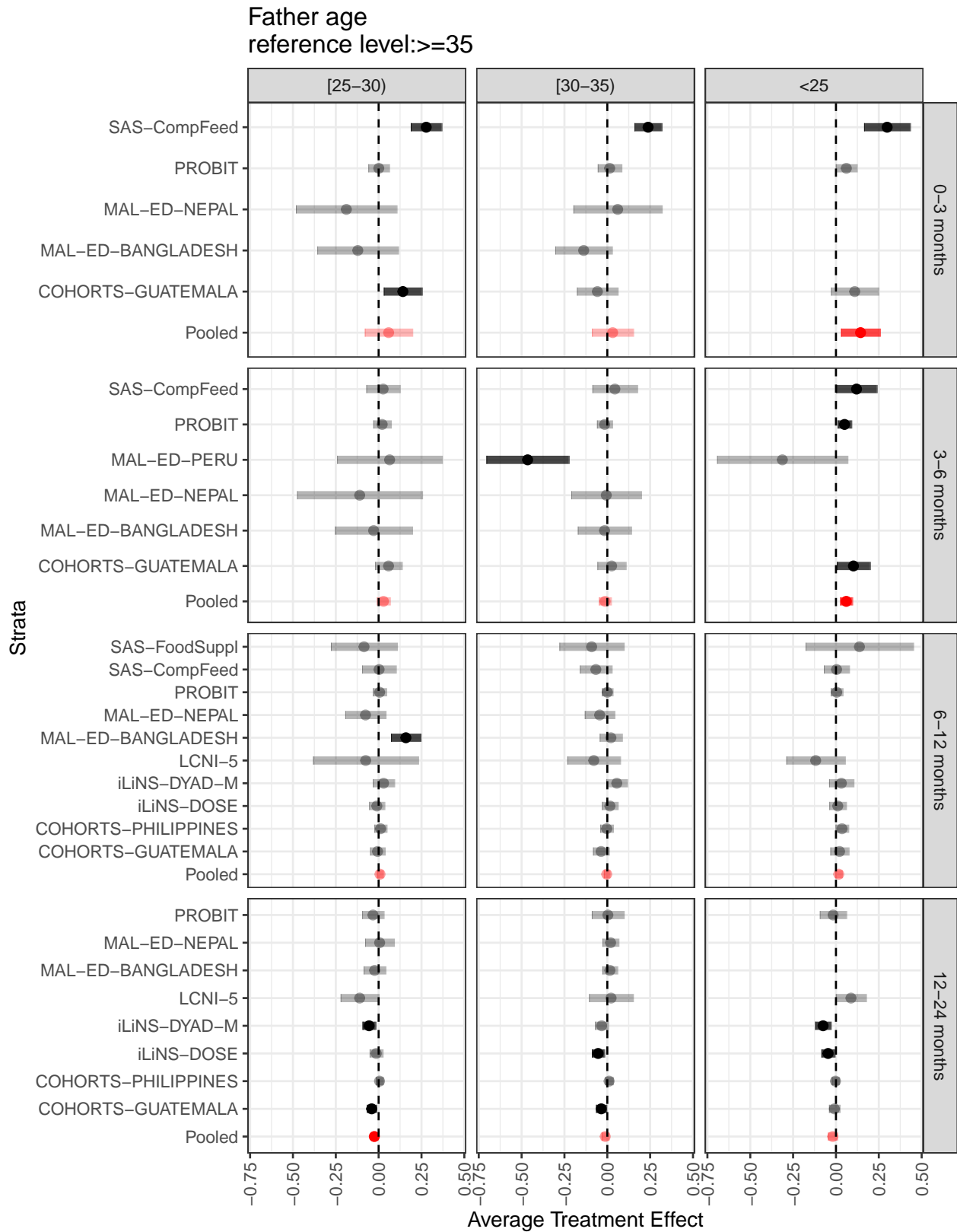
Mother is unmarried
reference level:0



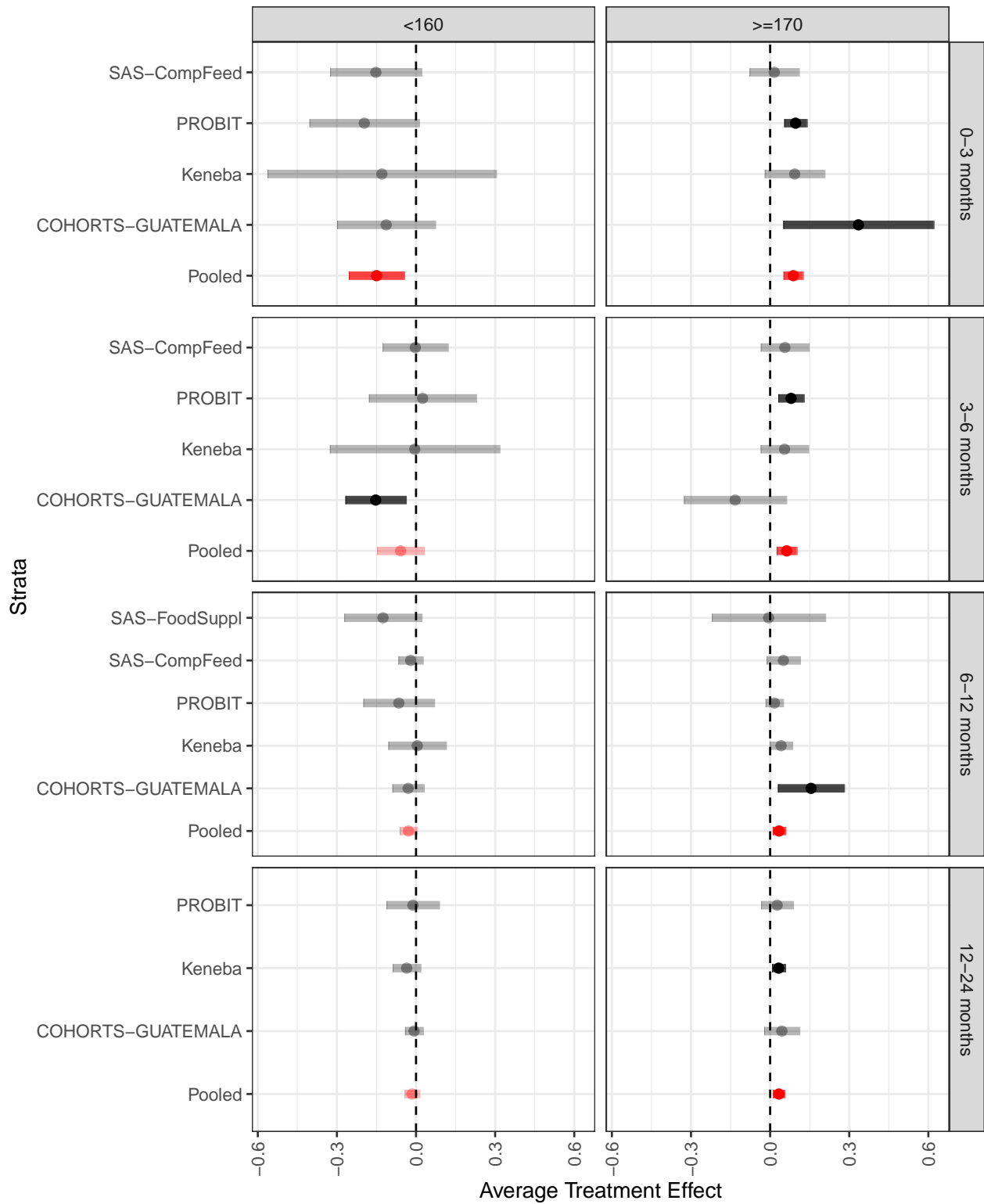
Mother's education
reference level:Q4



Paternal characteristics



Father height
reference level:[160–170)



Father's education
reference level:Q4

