

Measuring and Mapping the Prevalence and Patterning of Multiple Malnutrition in Young Children

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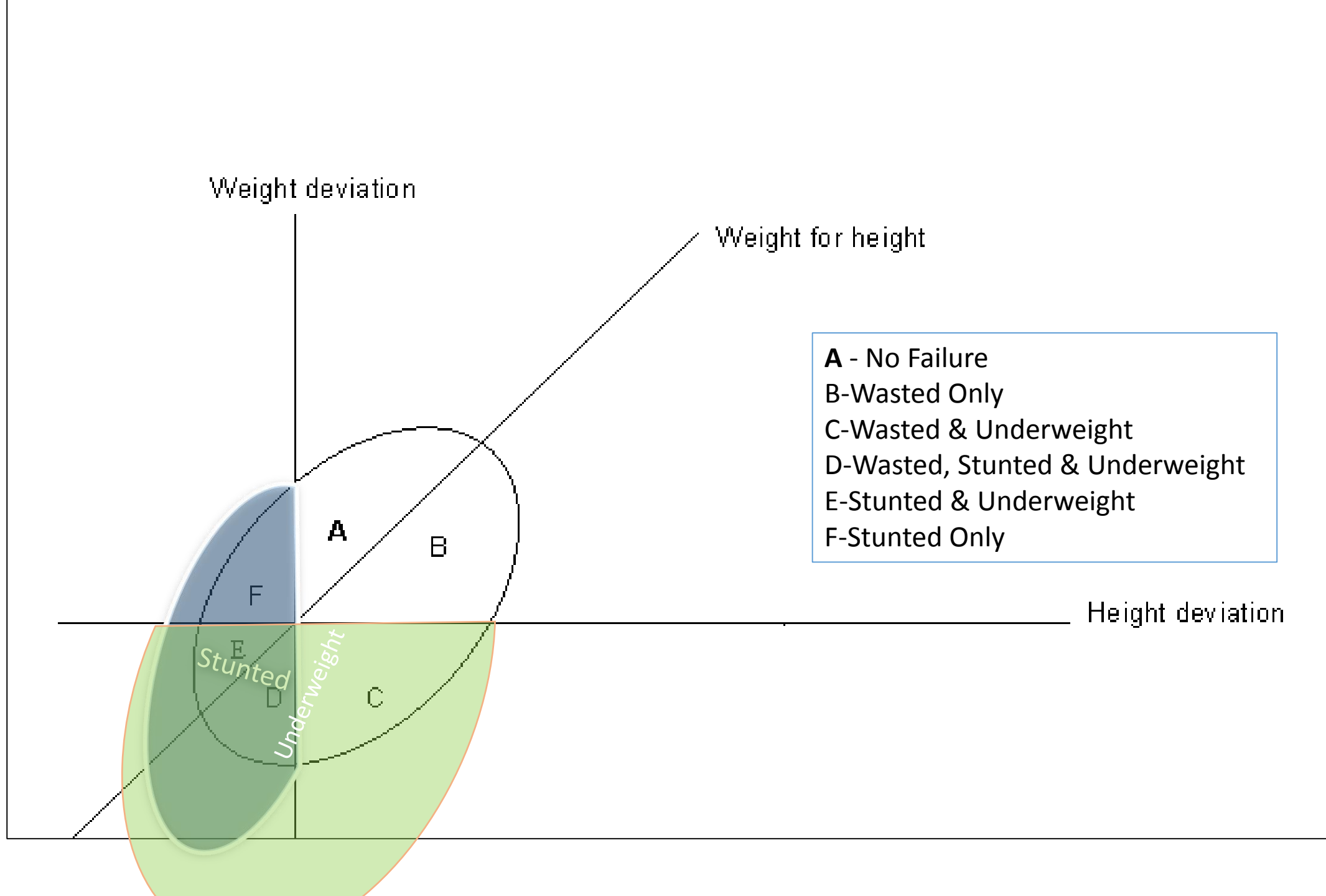
Overview

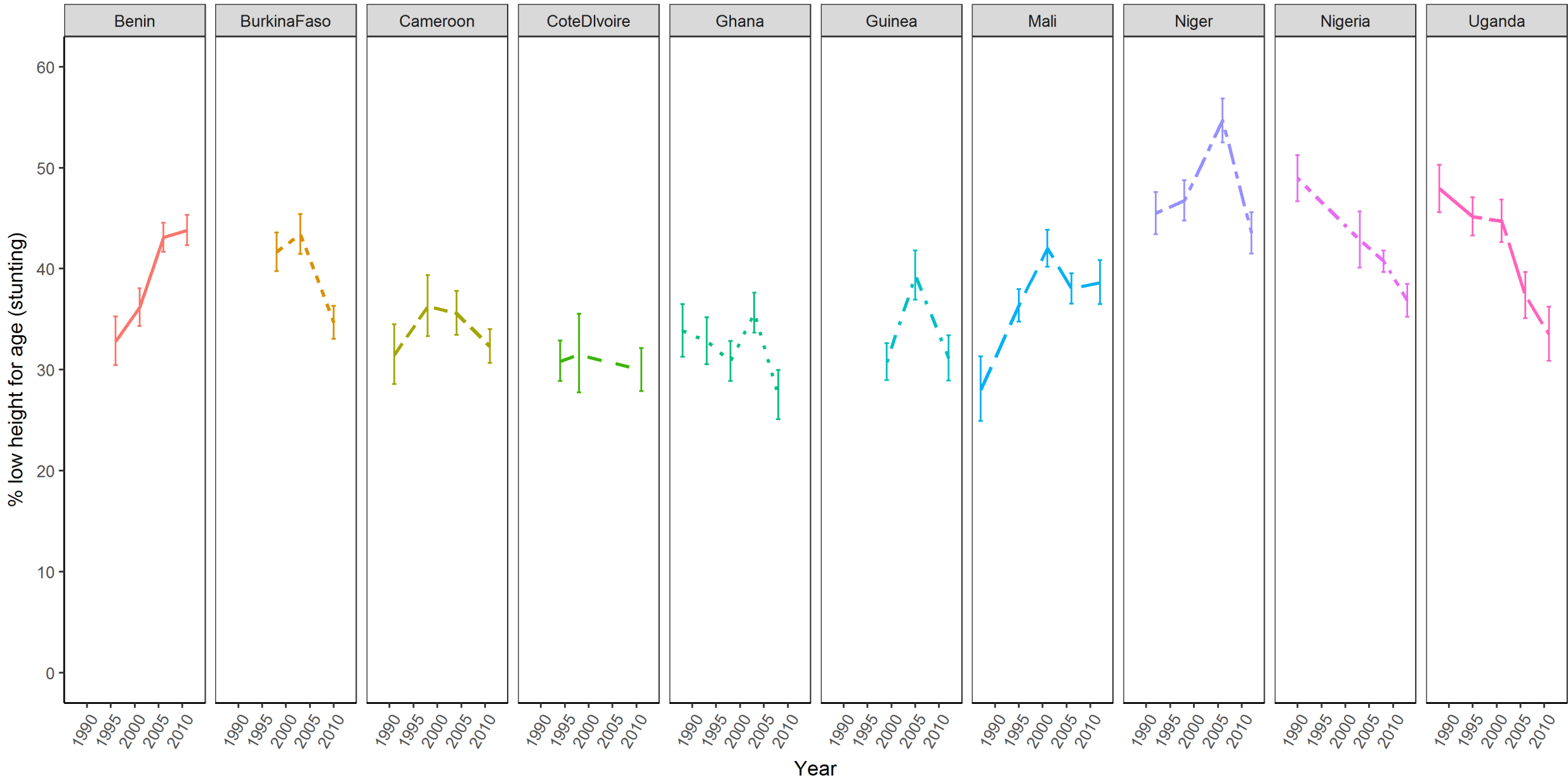
- Measuring and Mapping the Prevalence and Patterning of Multiple Malnutrition in Young Children in West and Central Africa
- Failure to grow and develop along expected trajectories
- National and time distribution
- Factors behind changes and lack of change



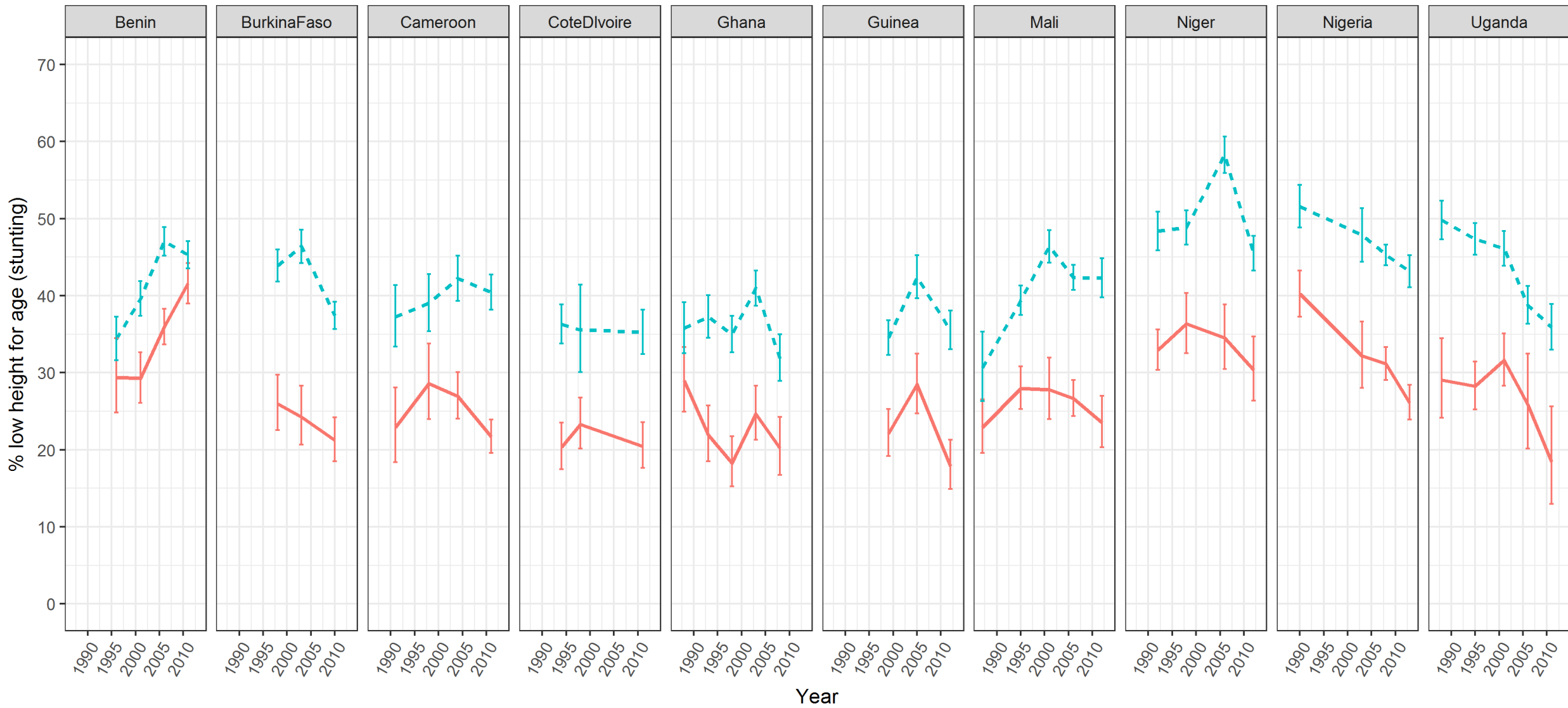
Conventional Indicators of (child) undernutrition

- **Wasting** – low weight for height (W/H)
 - Reflects recent/acute undernutrition
- **Stunting** – low height for age (H/A)
 - Reflects longer term/chronic undernutrition
- **Underweight** – low weight for age (W/A)
 - MDG1 target indicator

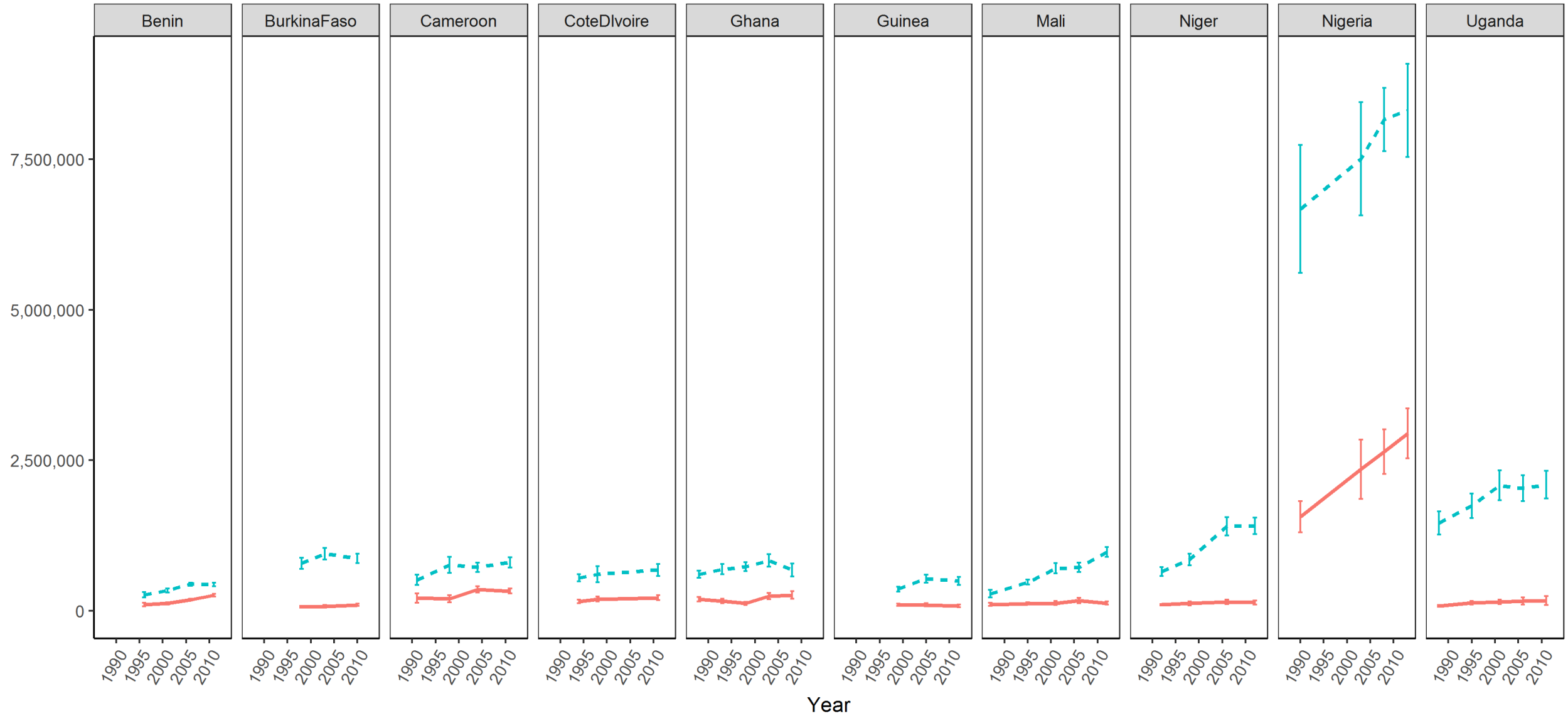




Urban Rural

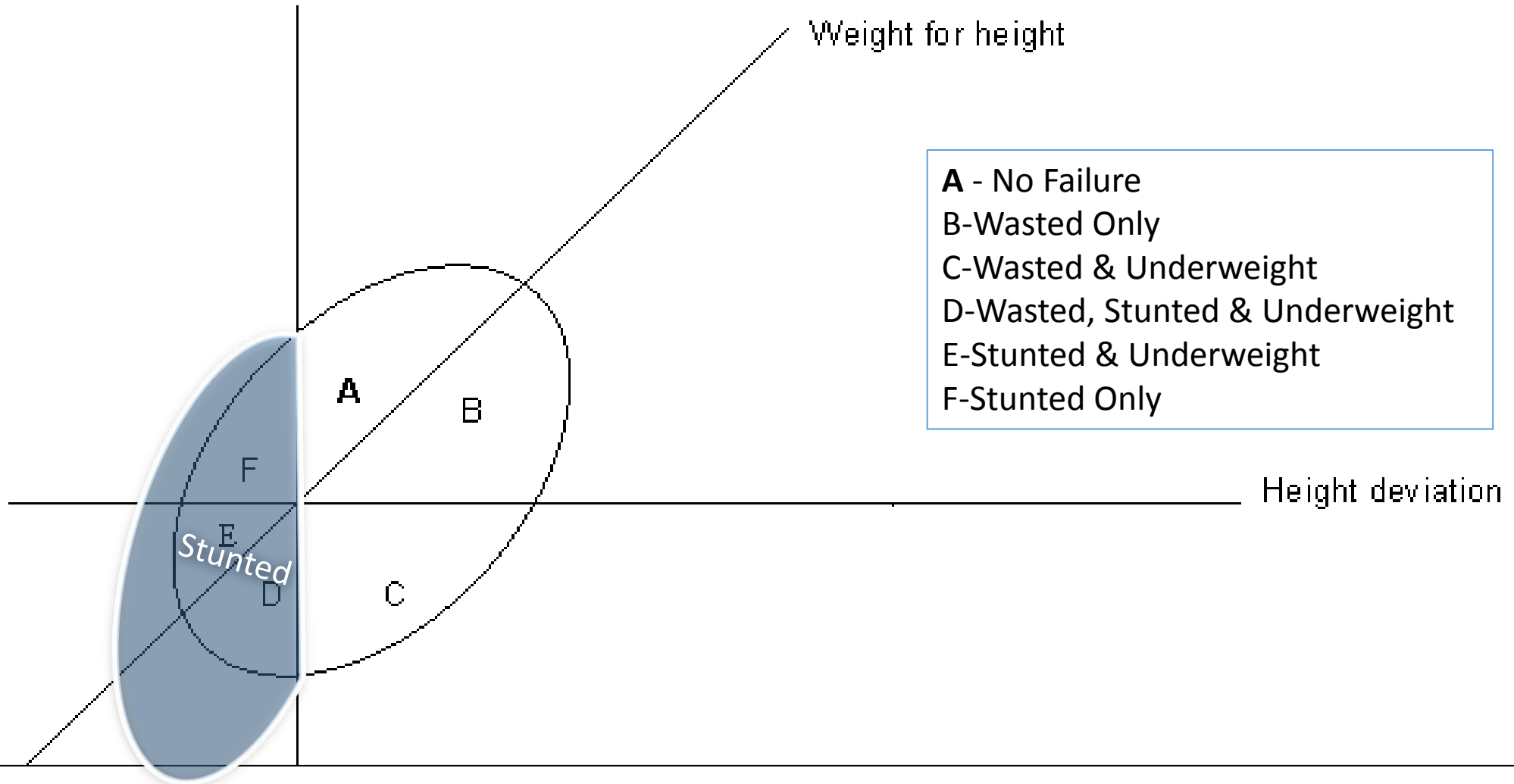


Urban Rural



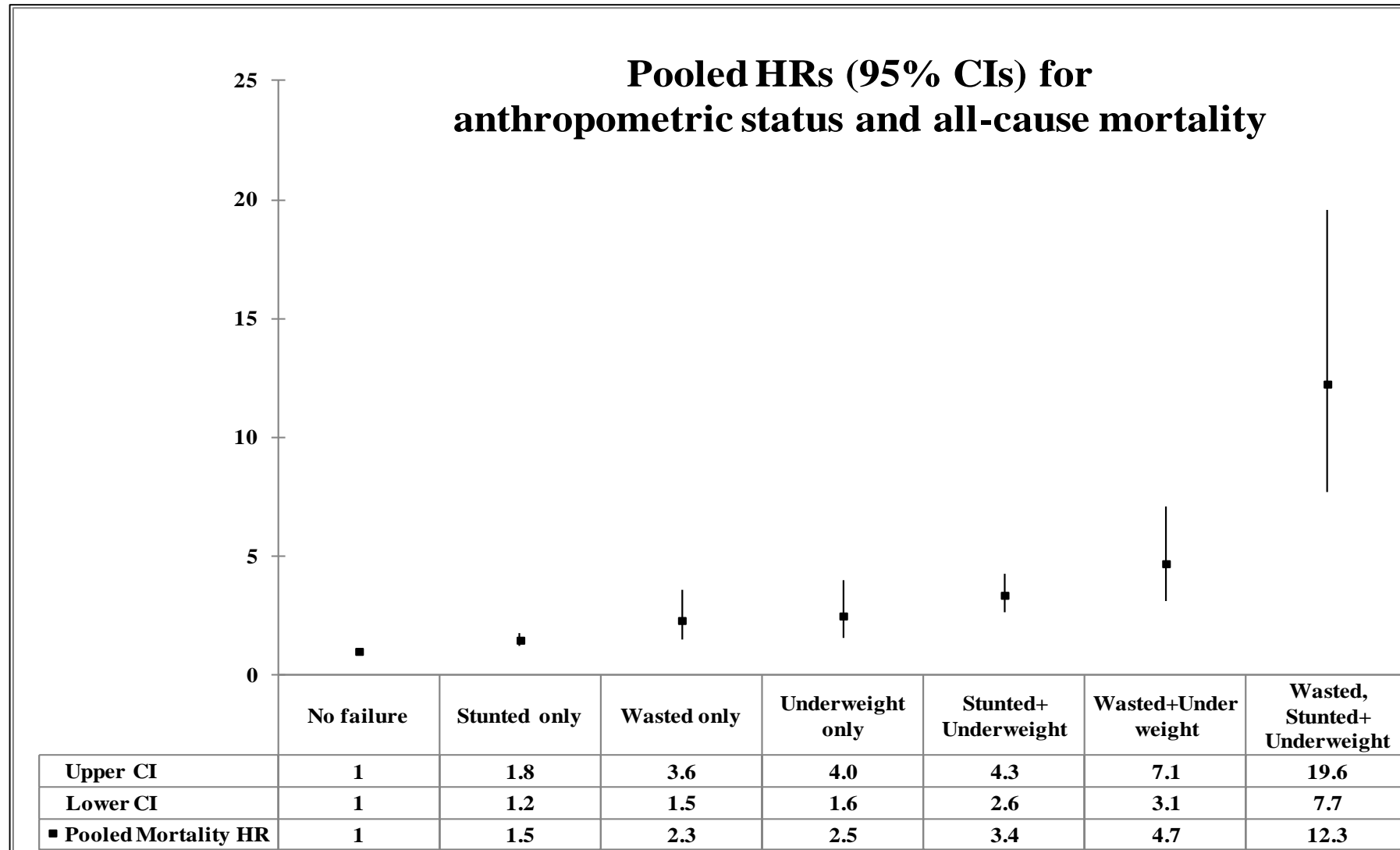
Weight deviation

Weight for height



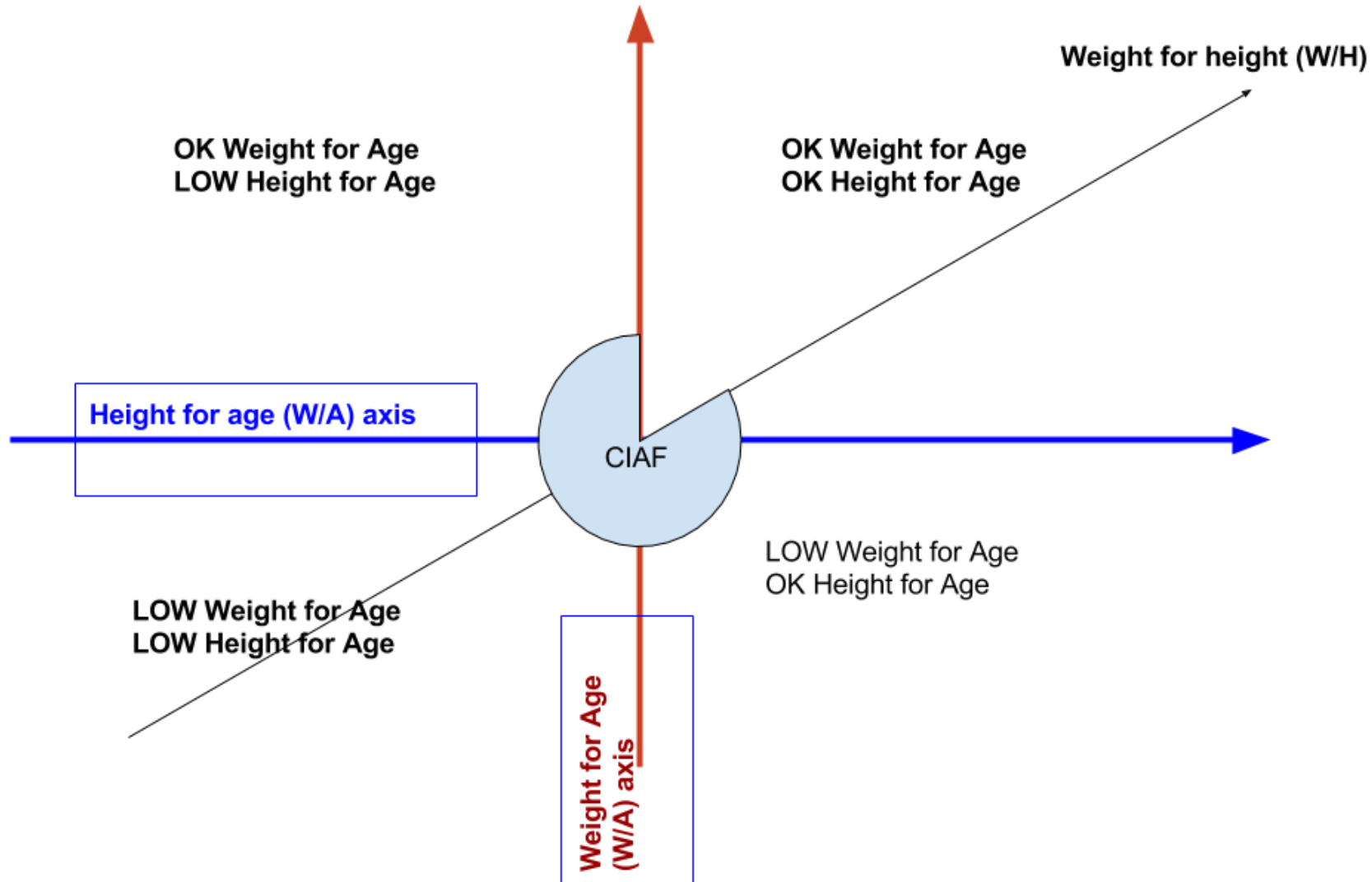
Multiple Malnutrition and Mortality

McDonald et al. (2013) show experience of multiple anthropometric deficits has a raised mortality risk, up to 12x for triple failure (compared to no failure).

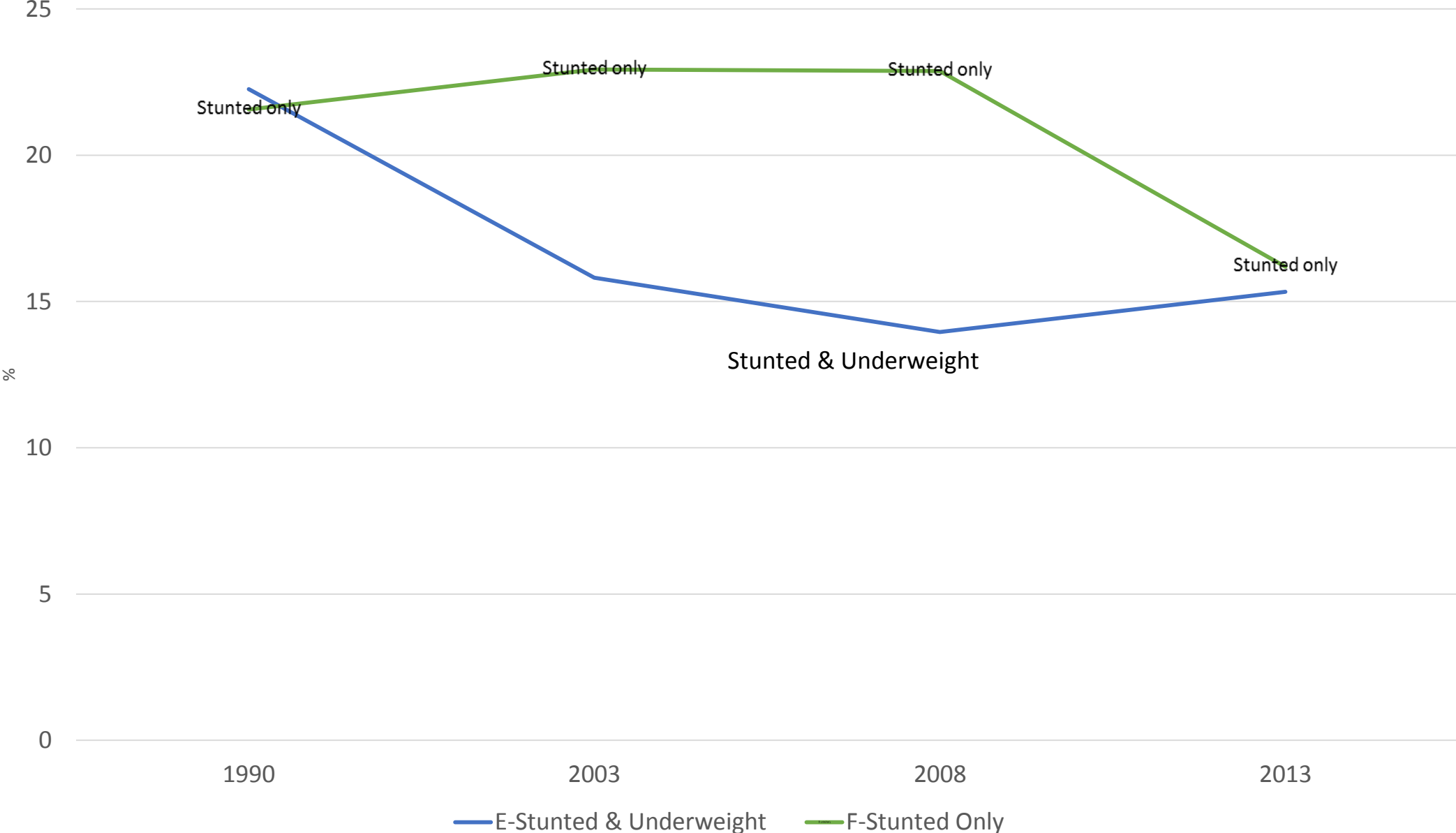


Source: McDonald, C.M., et al. (2013), *The effect of multiple anthropometric deficits on child mortality: meta-analysis of individual data in 10 prospective studies from developing countries. American Journal of Clinical Nutrition*, 97(4): p. 896-901.

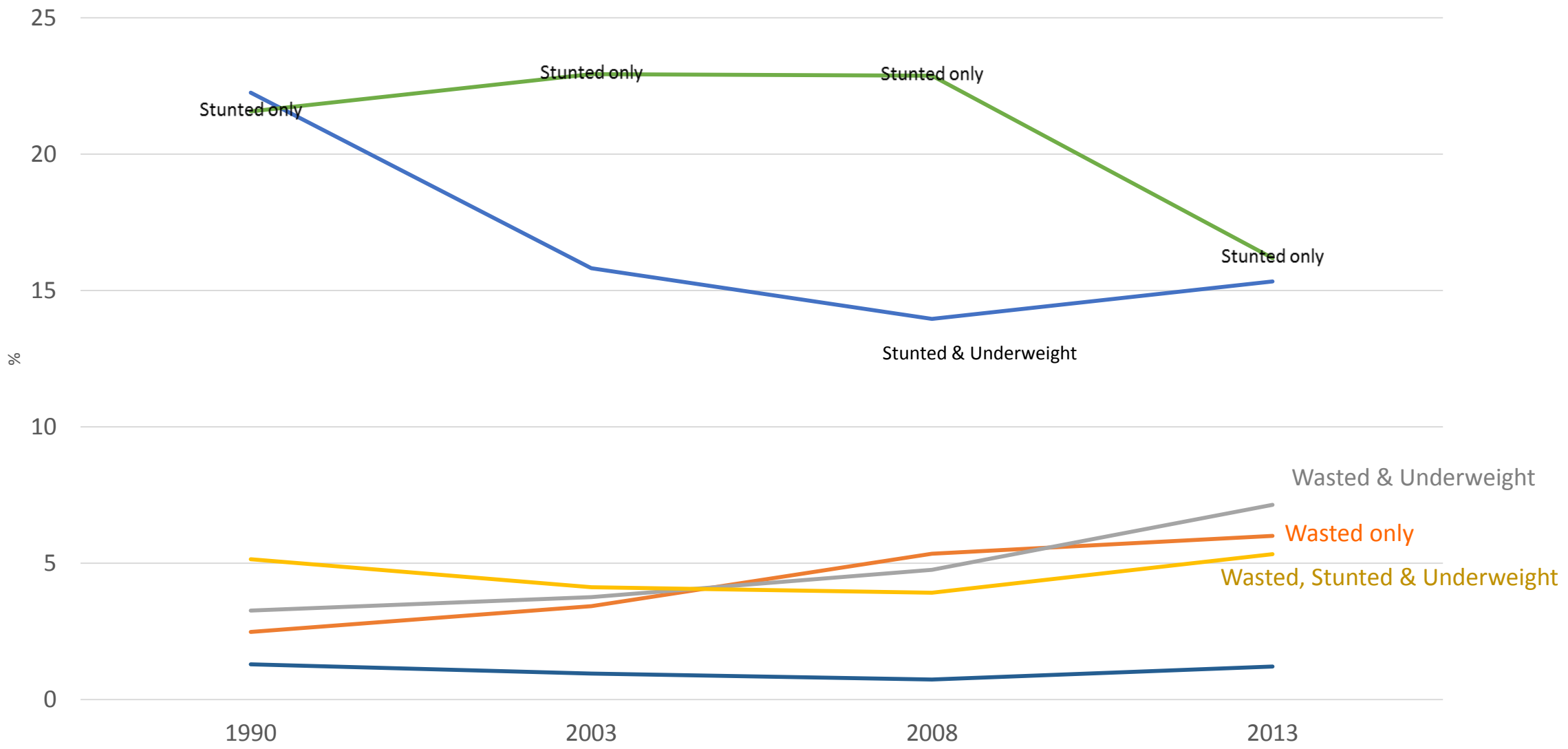
Svedberg, 2000



Nigeria

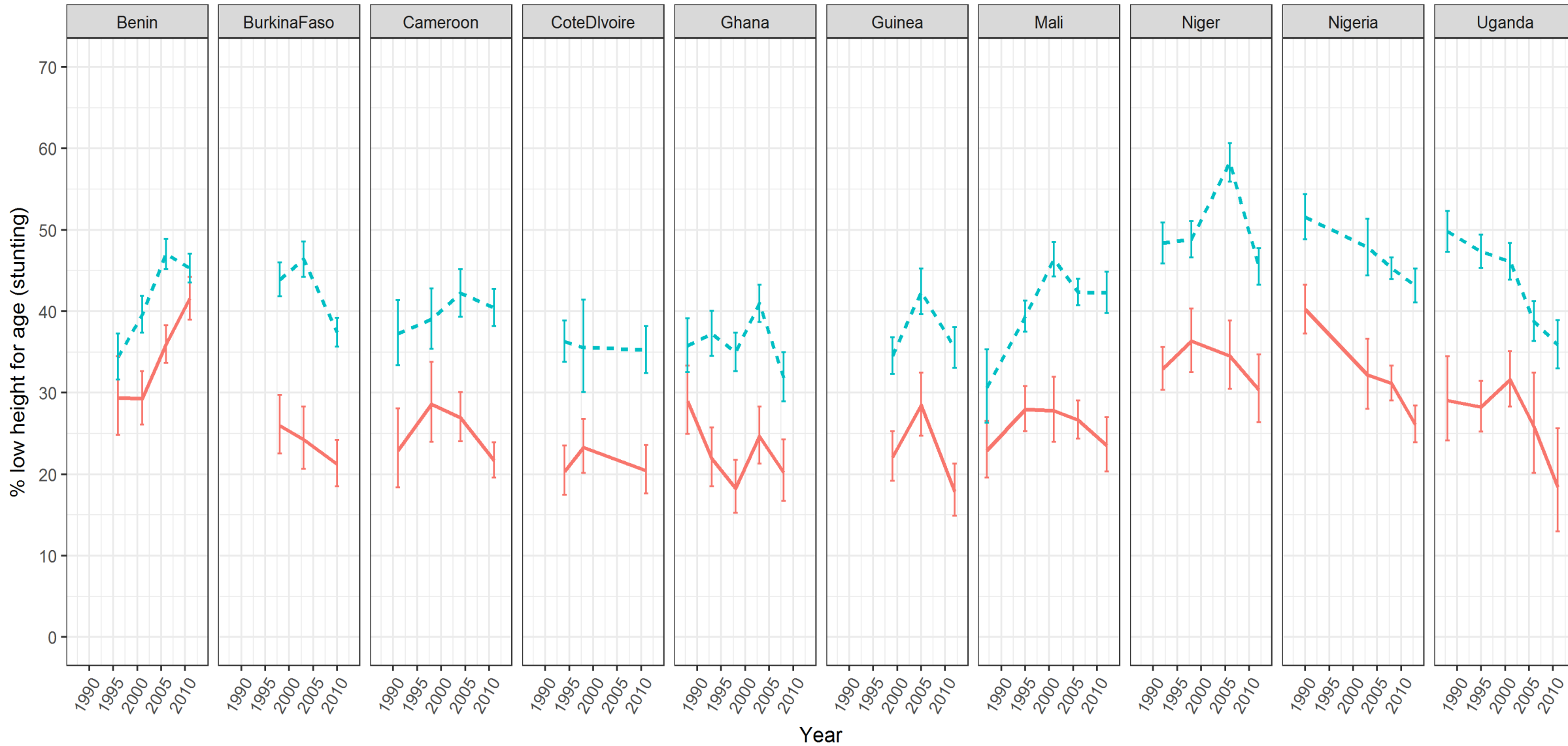


Nigeria

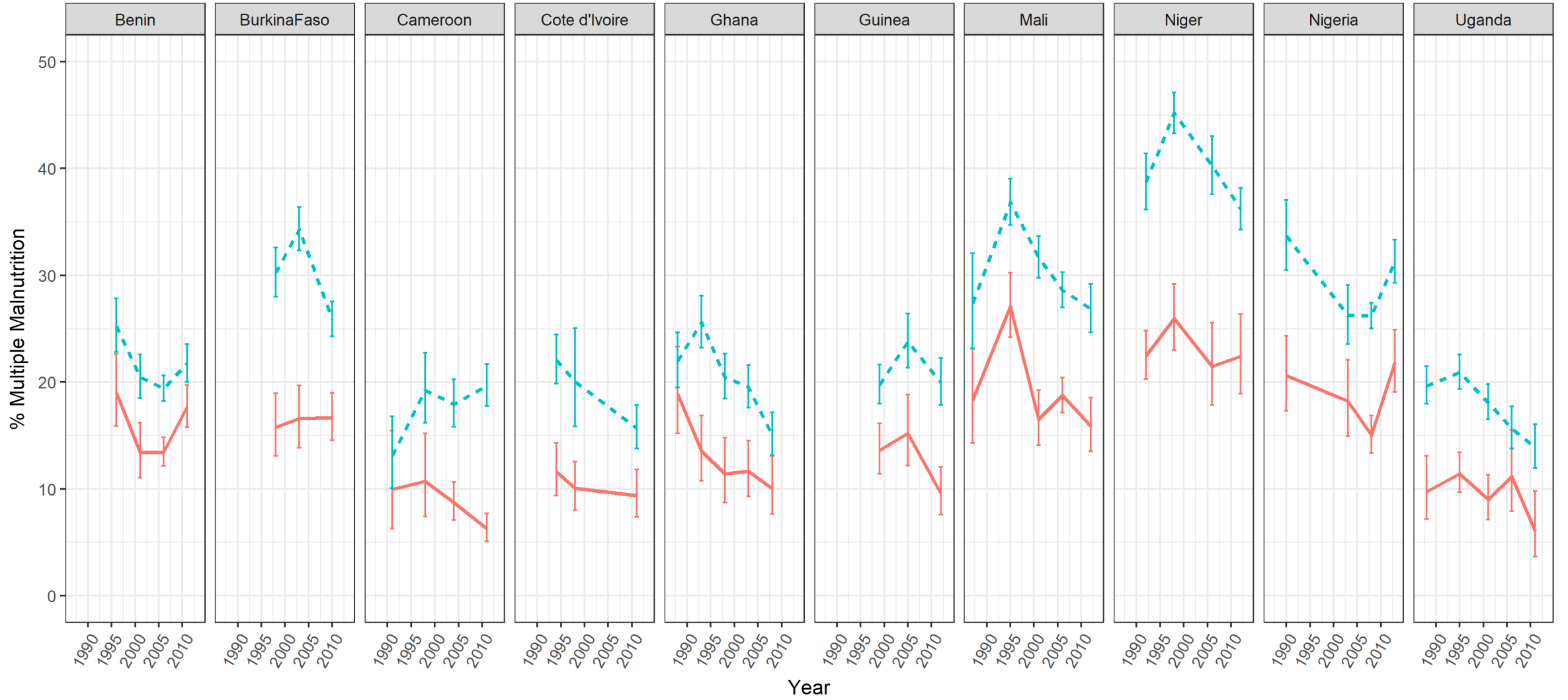


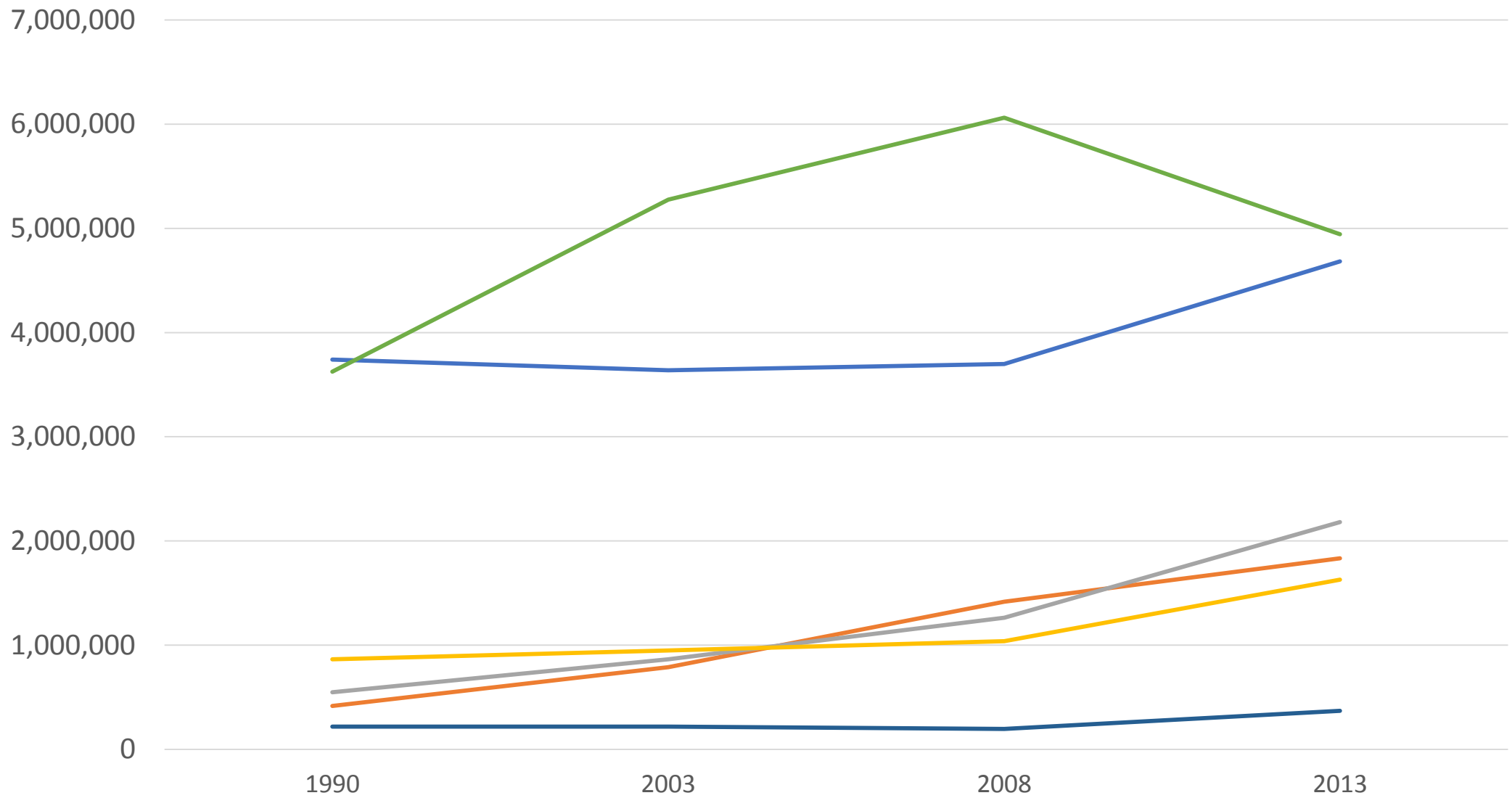
- B-Wasted Only
- C-Wasted & Underweight
- D-Wasted, Stunted & Underweight
- E-Stunted & Underweight
- F-Stunted Only
- Y-Underweight Only

Urban Rural



Urban Rural





B-Wasted Only

C-Wasted & Underweight

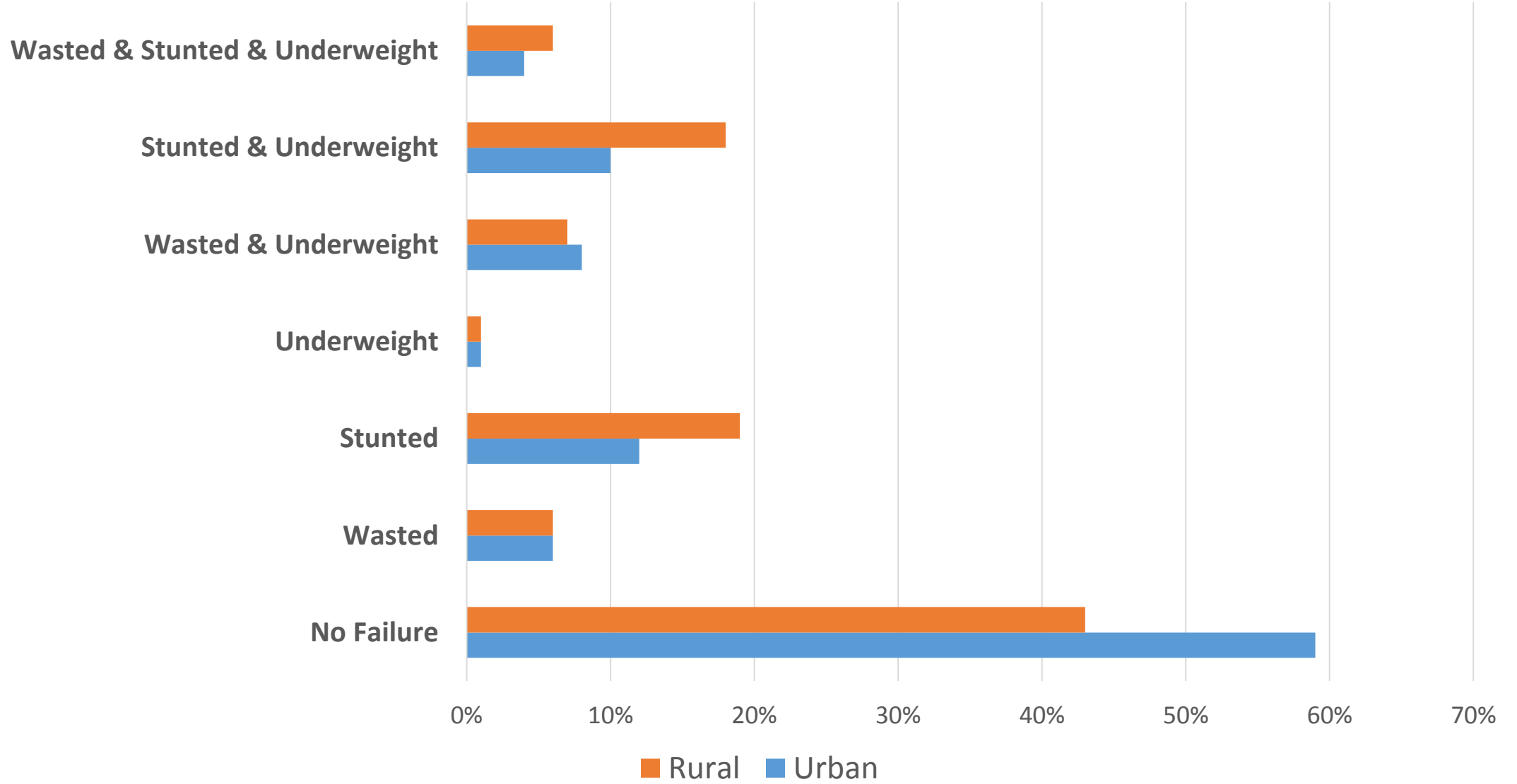
D-Wasted, Stunted & Underweight

E-Stunted & Underweight

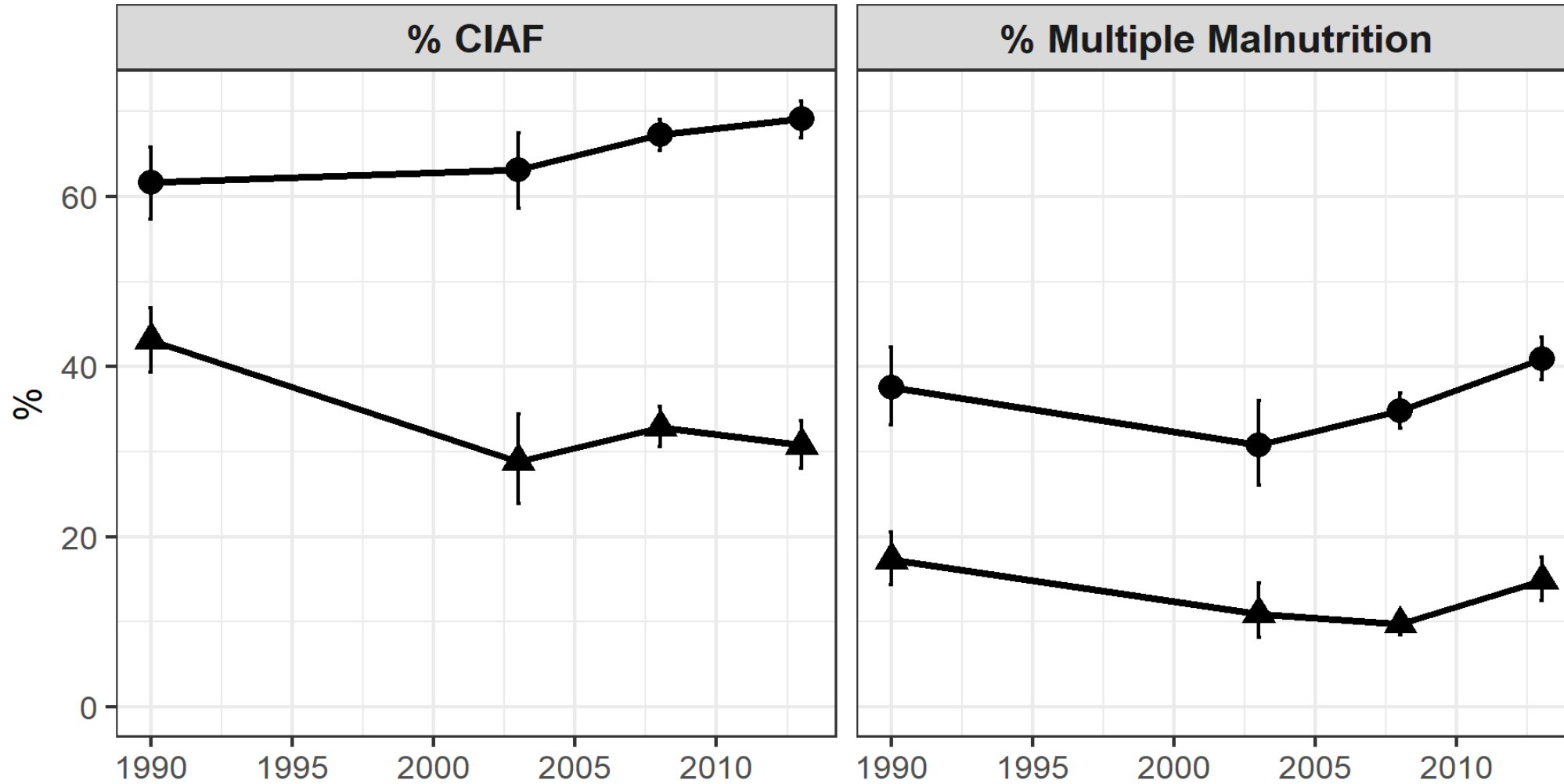
F-Stunted Only

Y-Underweight Only

Nigeria (2013)



● Poorest ▲ Richest

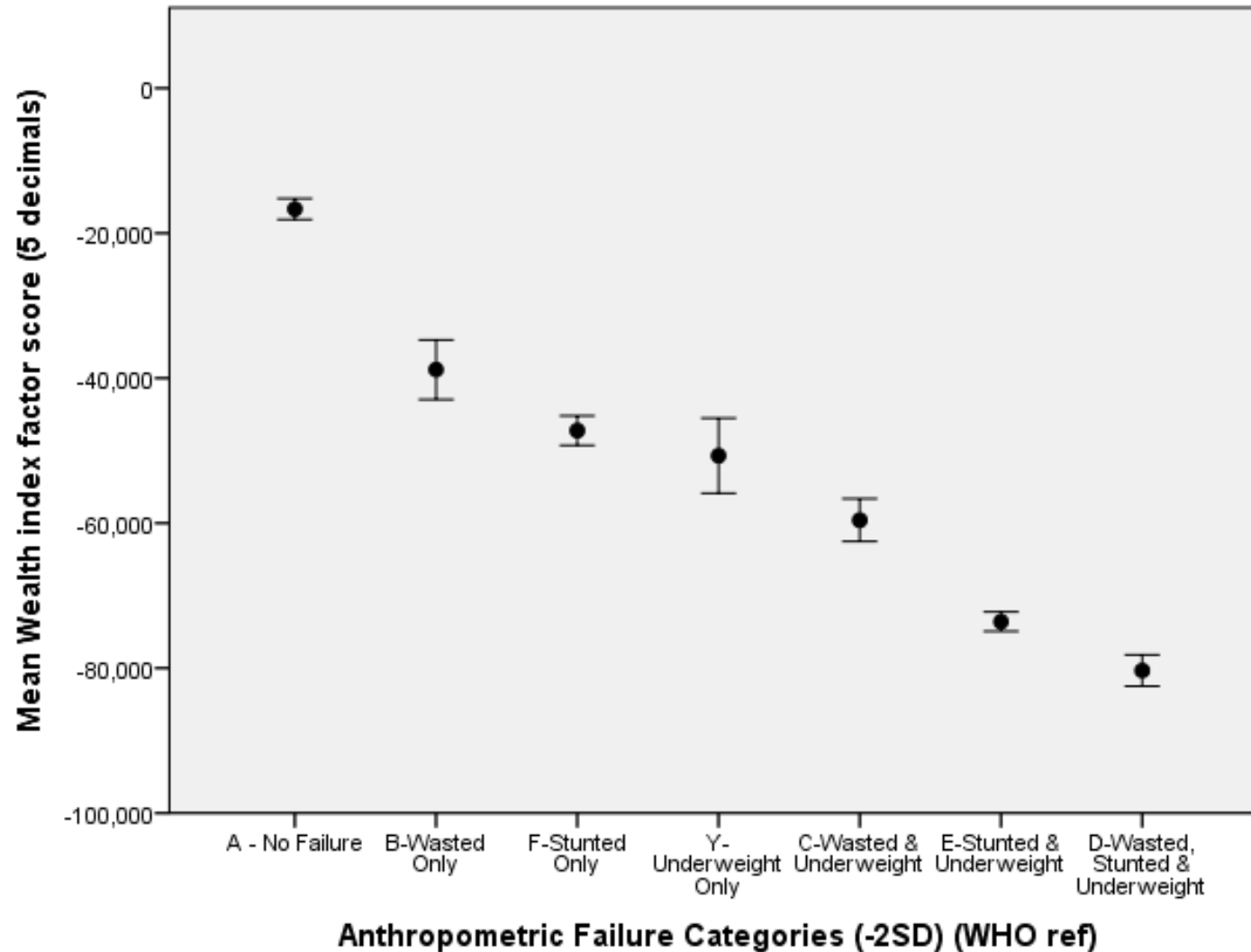


95% confidence intervals

Authors' calculations using survey data for Nigeria 1990, 2003, 2008, 2013

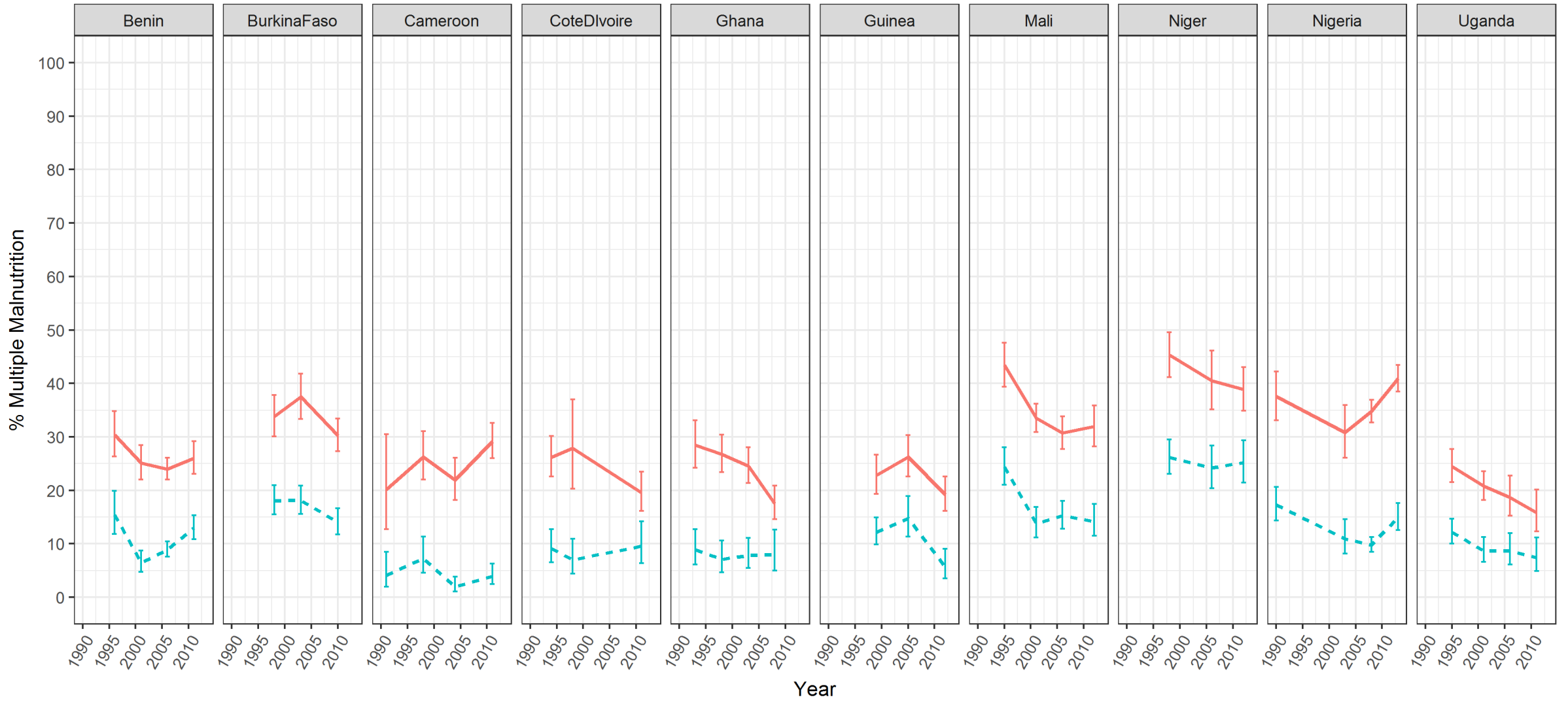
Multiple malnutrition (MM), poverty, morbidity and mortality

Clear relationship between poverty and pattern of malnutrition (Children U5 yrs, India NFHS, 2005 data)

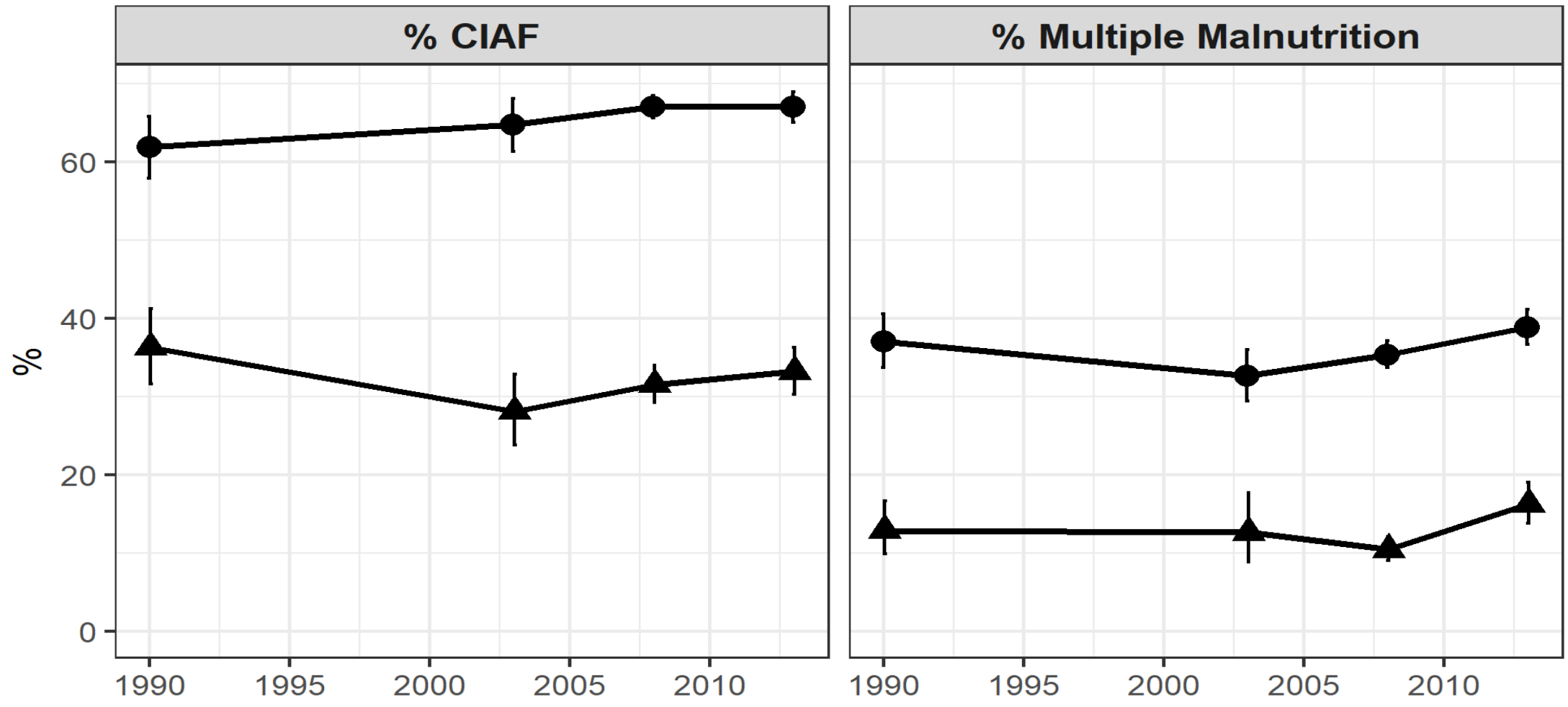


Error Bars: 95% CI

Poorest Richest

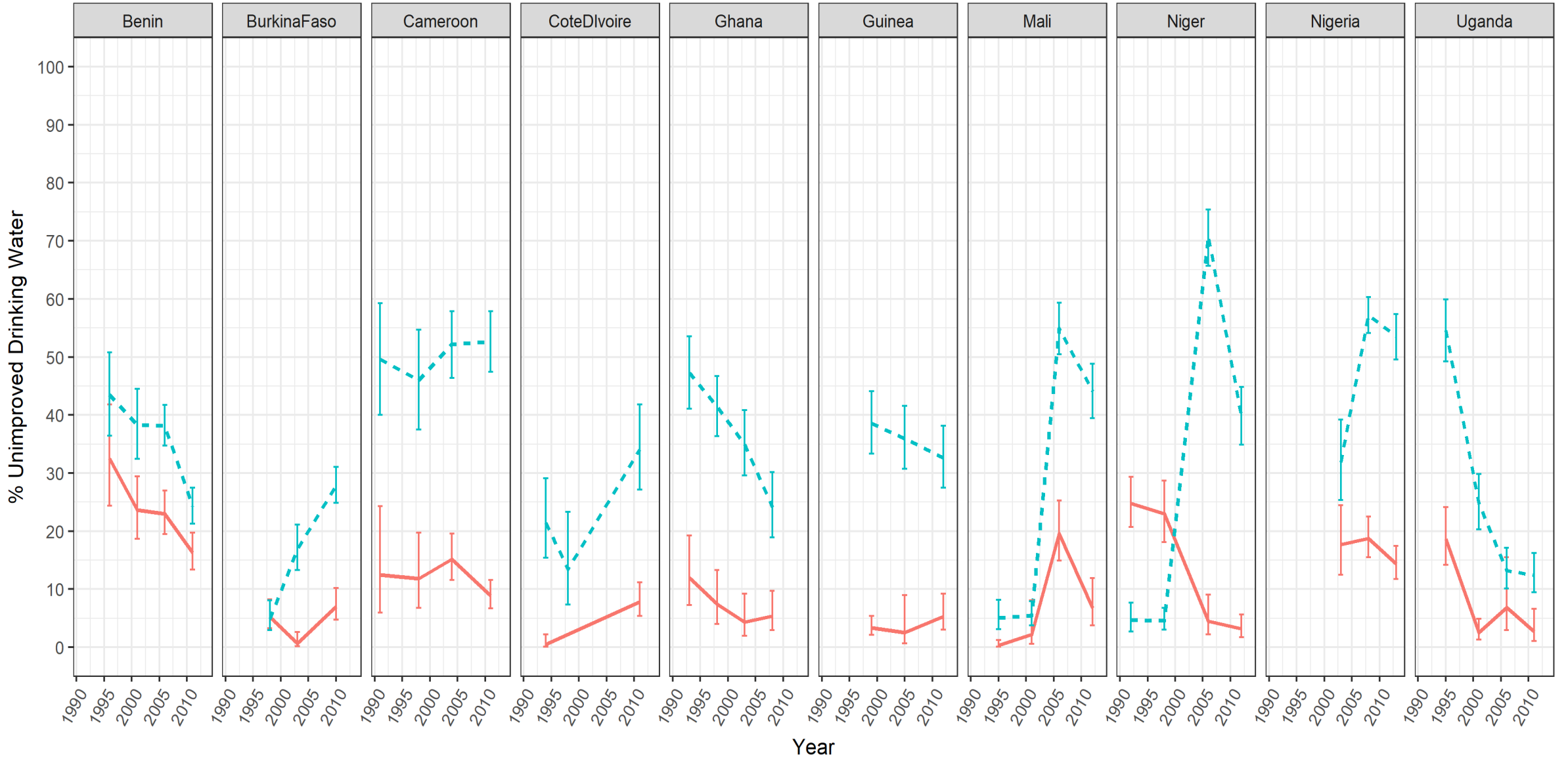


● No formal education and rural ▲ Secondary or higher and urban

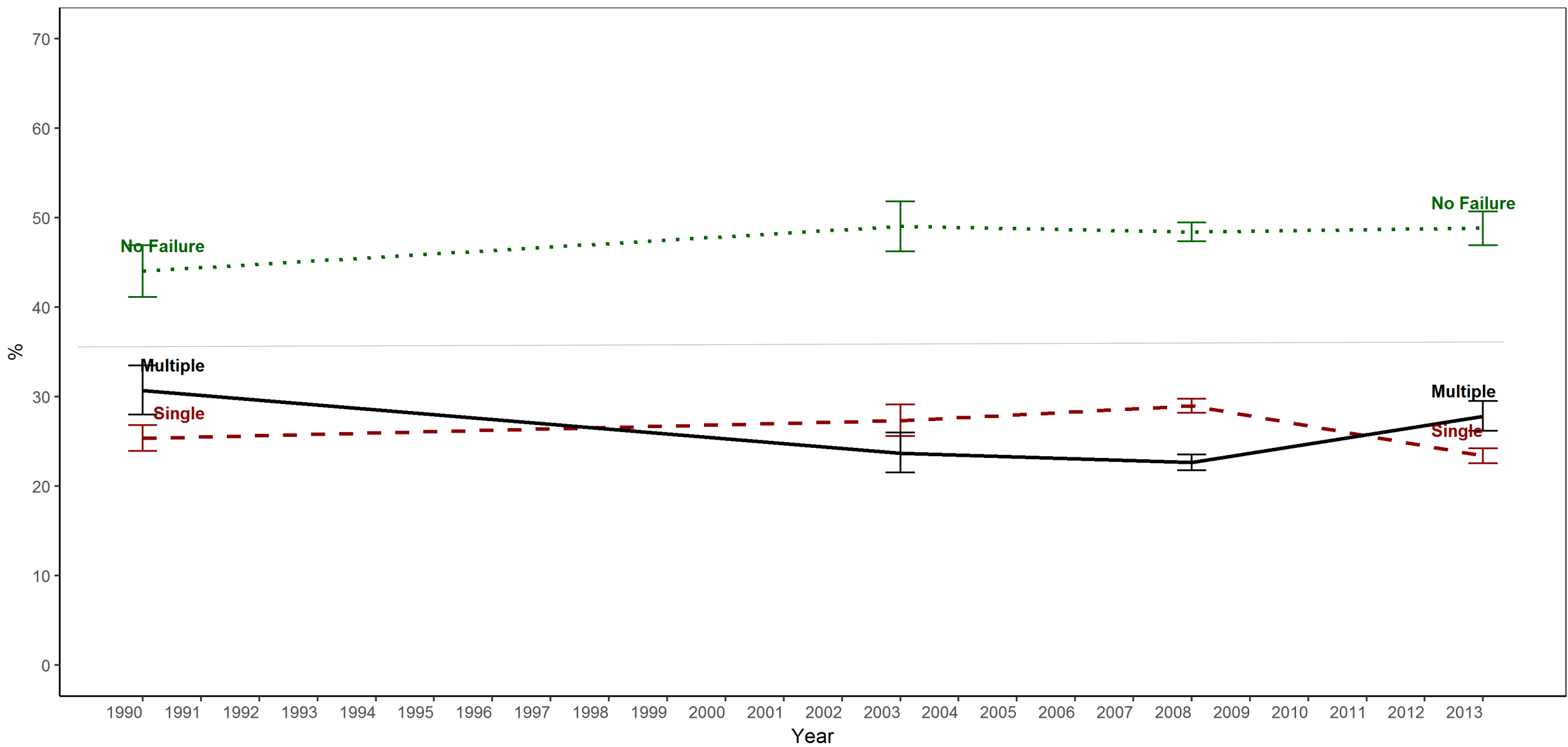


95% confidence intervals
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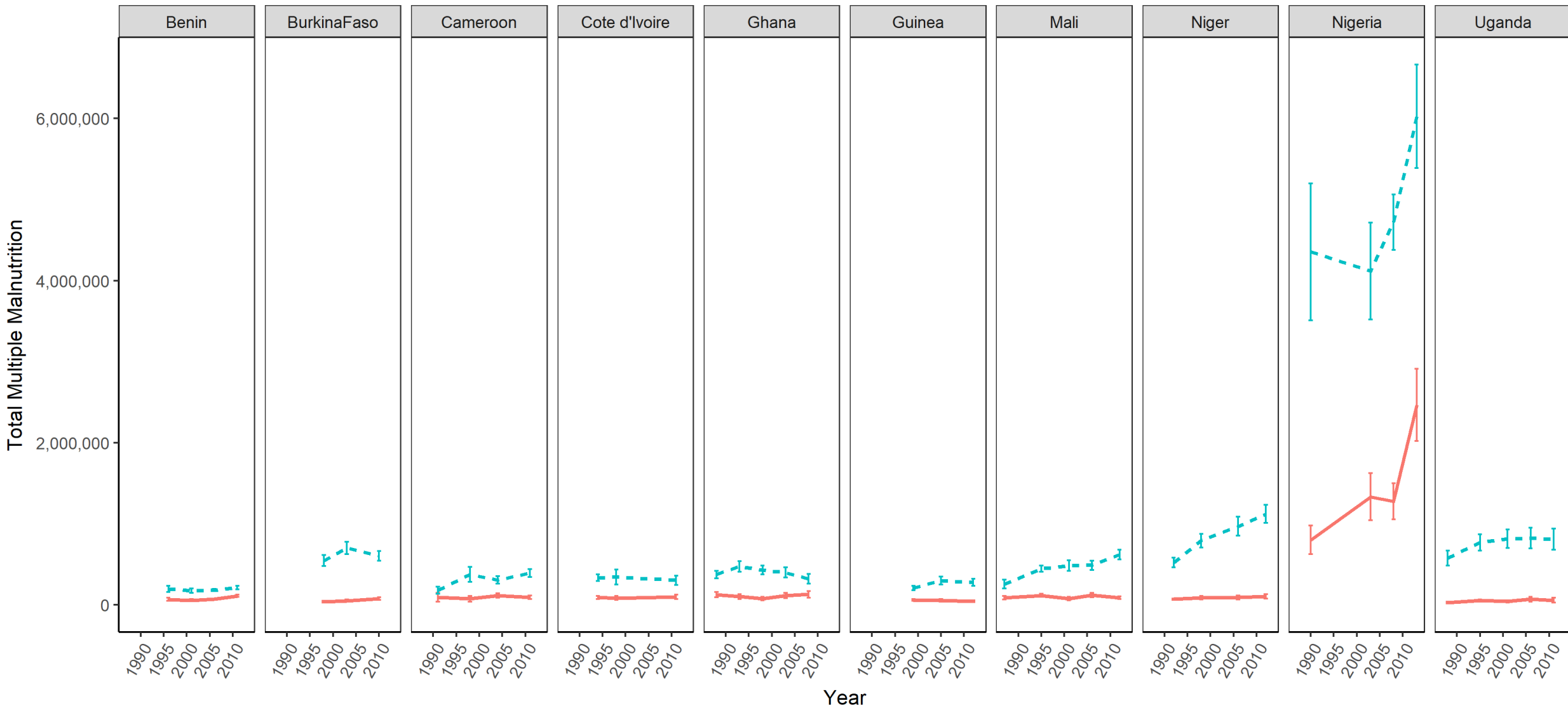
Urban Rural



Nigeria



Urban Rural



Conclusion

- Focus on occurrence of multiple forms of anthropometric failures at the same time
- Aim:
 - Give overall balanced view of improvements and lack of
 - Decompose changes in multiple malnutrition