

Analyzing the Association Between Conflict and Contraceptive Use In Mali, Zimbabwe, and Nigeria

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Background

- Past research in Columbia and other African nations suggests conflict reduces access to contraceptive use^{1,2}
- No current quantitative research conducted the countries chosen
- Goal of understanding how conflict impacts contraceptive use before, during, and after conflict in Mali, Zimbabwe, and Nigeria
- Contraceptive use is a key indicator of women's access to family planning resources; filling this knowledge gap can improve interventions to aid women's health in times of conflict³

Question

How does conflict influence women's contraceptive use in Mali, Zimbabwe, and Nigeria?

Hypothesis

Contraceptive use will decline due to diminished access to family planning facilities.

Data

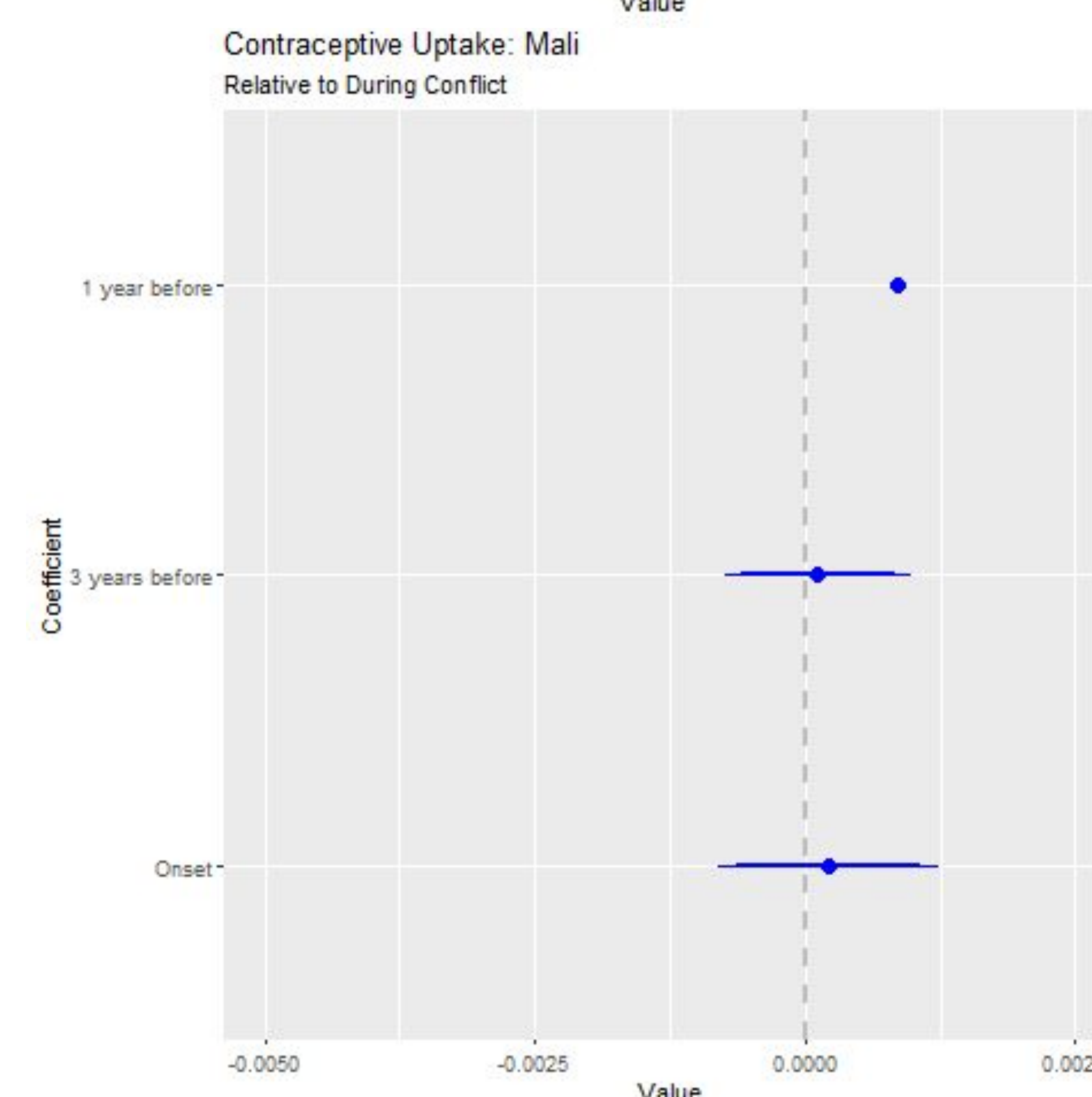
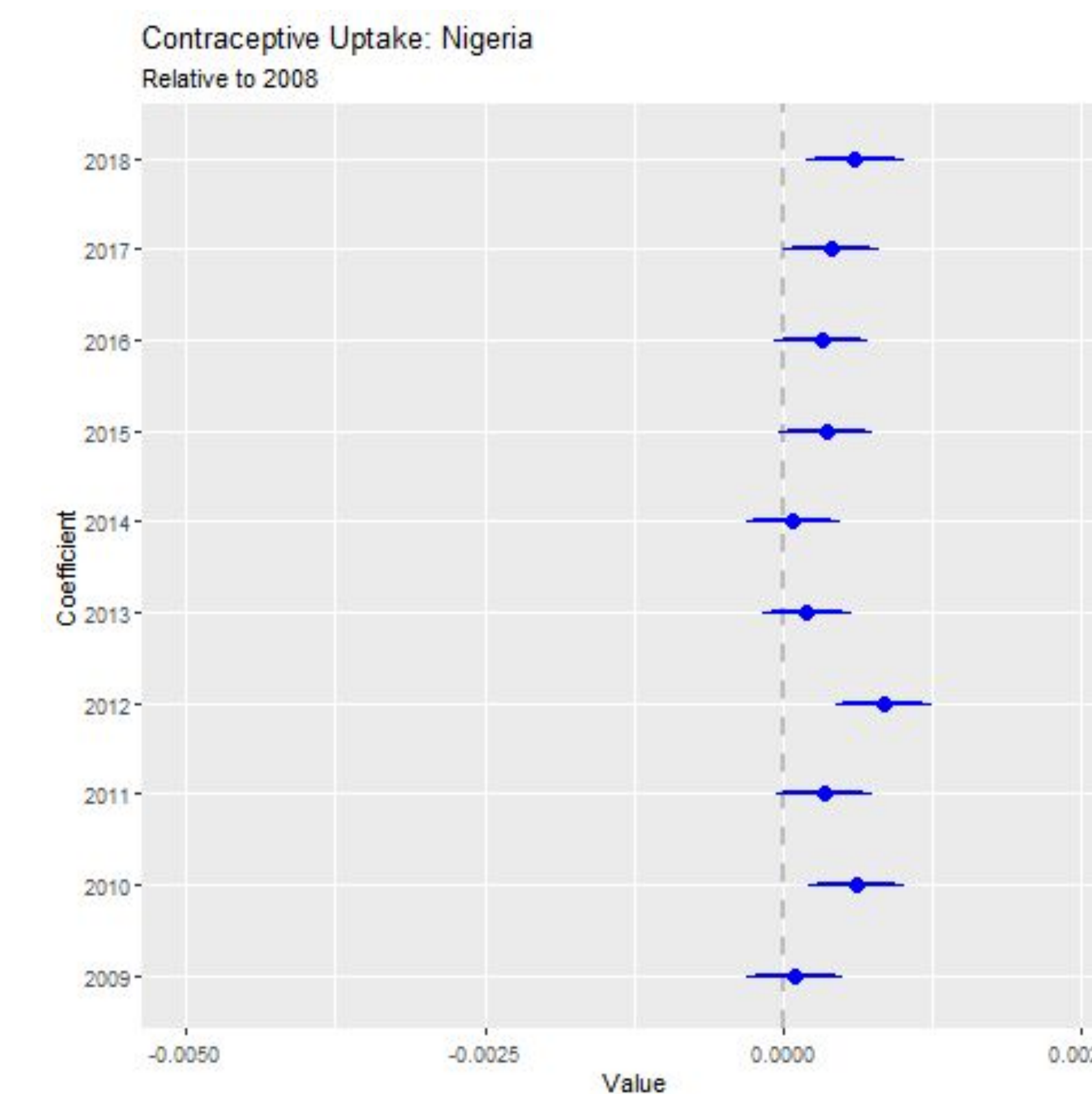
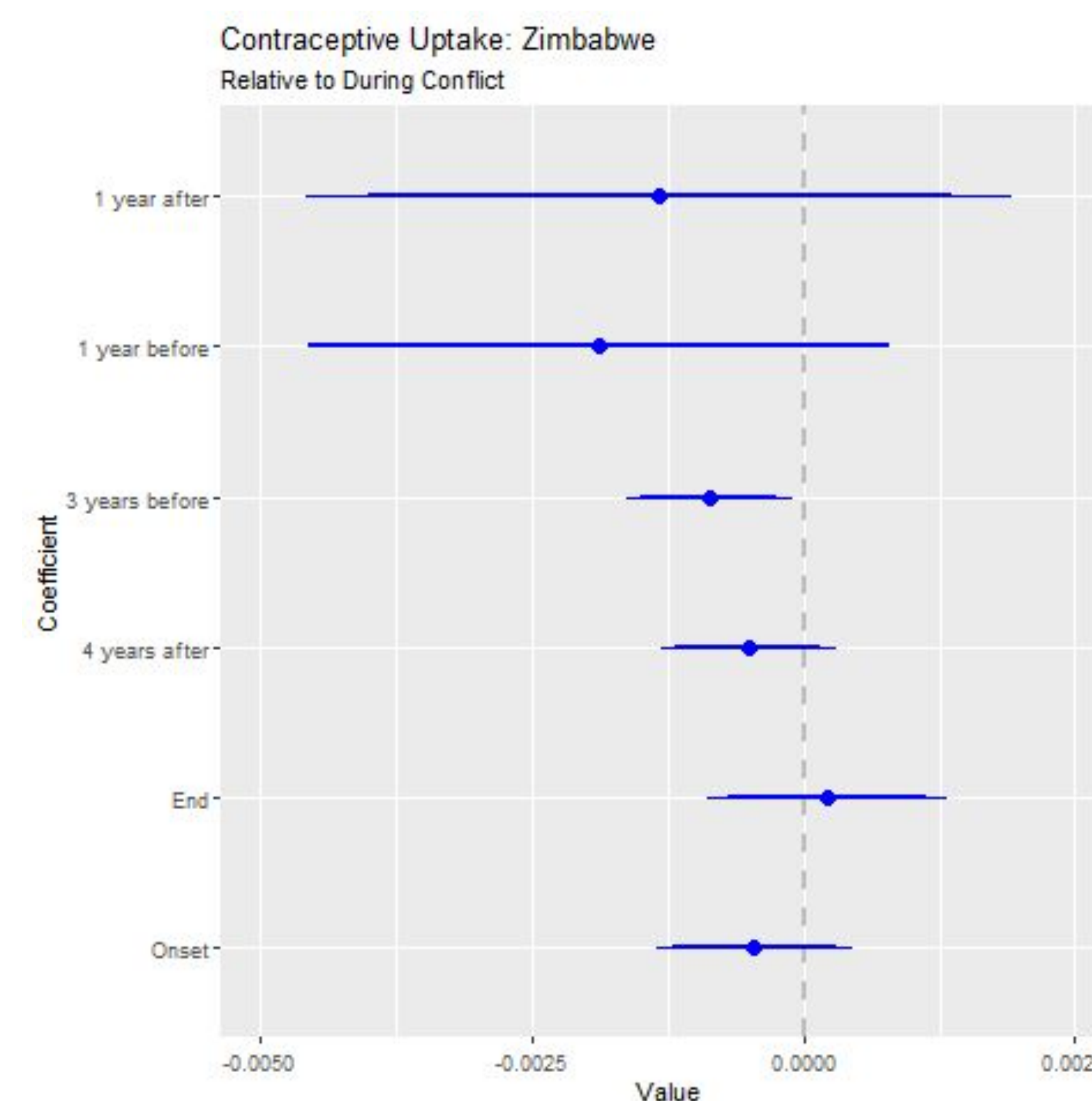
- *Demographic Health Surveys*: contraceptive calendar and GPS coordinates during countries' respective conflict years
- *Uppsala Conflict Data Program (UCDP)*: organized violence and conflict spanning from 1989 to 2020
- *Organization for Economic Cooperation and Development (OECD)*: annual donations to the three countries from 2002 to 2019

Methods

Linear regression model: $\hat{y} = \hat{\alpha} * g + \hat{\beta} * t + \hat{\gamma} * g * t + \delta' z' + \epsilon$

- \hat{y} = Outcomes variables (abortion, conception, contraception start, and discontinuation, and method switch rates)
- g = Conflict geographic overlap (an observation 15 km from the conflict is considered to be in an exposed region)
- t = Time in relation to conflict period (before, during, after)
- δ' = Controls (foreign aid, intensity, demographics)

Results



Near zero effects across all 3 countries, implying no difference in contraceptive uptake, discontinuation, switch rate, abortion, or pregnancy before, during, and after conflict.

Note: The thin blue line represents the 90% confidence interval, and the thick blue line represents the 95% confidence interval.

Conclusions

- Conflict in Mali, Nigeria, and Zimbabwe has not impacted abortion, conception, discontinuation, start, and switch rates
- May be due to minimal access to and use of contraceptive and family planning tools
- Intensity and nature of conflict do not affect family planning use and uptake by the local population

Limitations

- Data limitations arising from lack of overlapping conflict and contraceptive use data, which restricted the countries and time periods able to be studied
- Assumed area of exposure to be 15 km radius around conflict
- Did not consider cultural and political factors unique to each country
- Studies have shown significant recall bias in calendar data in Zimbabwe, Mali, and Nigeria⁴, bringing into question the validity of our estimates

Future Directions

- Replicating analysis for different countries to see if our conclusions remain accurate
- Expanding our current data sources to other data sets to eliminate potential dataset bias
- Redoing with a different radius of exposure
- Aggregating analysis of conflict into conflict sub-categories

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2. McGinn, T., Austin, J., Anfinson, K. et al. "Family planning in conflict: results of cross-sectional baseline surveys in three African countries." *Confl Health*, vol. 5, no. 11, 2011., <https://doi.org/10.1186/1752-1505-5-11>

3. Barros, A. J. D., Boerma, T., Hosseinpoor, A. R., Restrepo-Méndez, M. C., Wong, K. L. M., & Victora, C. G. (2015, November 9). Estimating family planning coverage from contraceptive prevalence using national household surveys. *Global health action*.

4. Bradley, Paul & Gervasi, Stephanie & Hua, Jessica & Cothran, Rickey & Relyea, Rick & Olson, Deanna & Blaustein, Andrew. (2015). Bradley et al-2015-Conservation Biology.