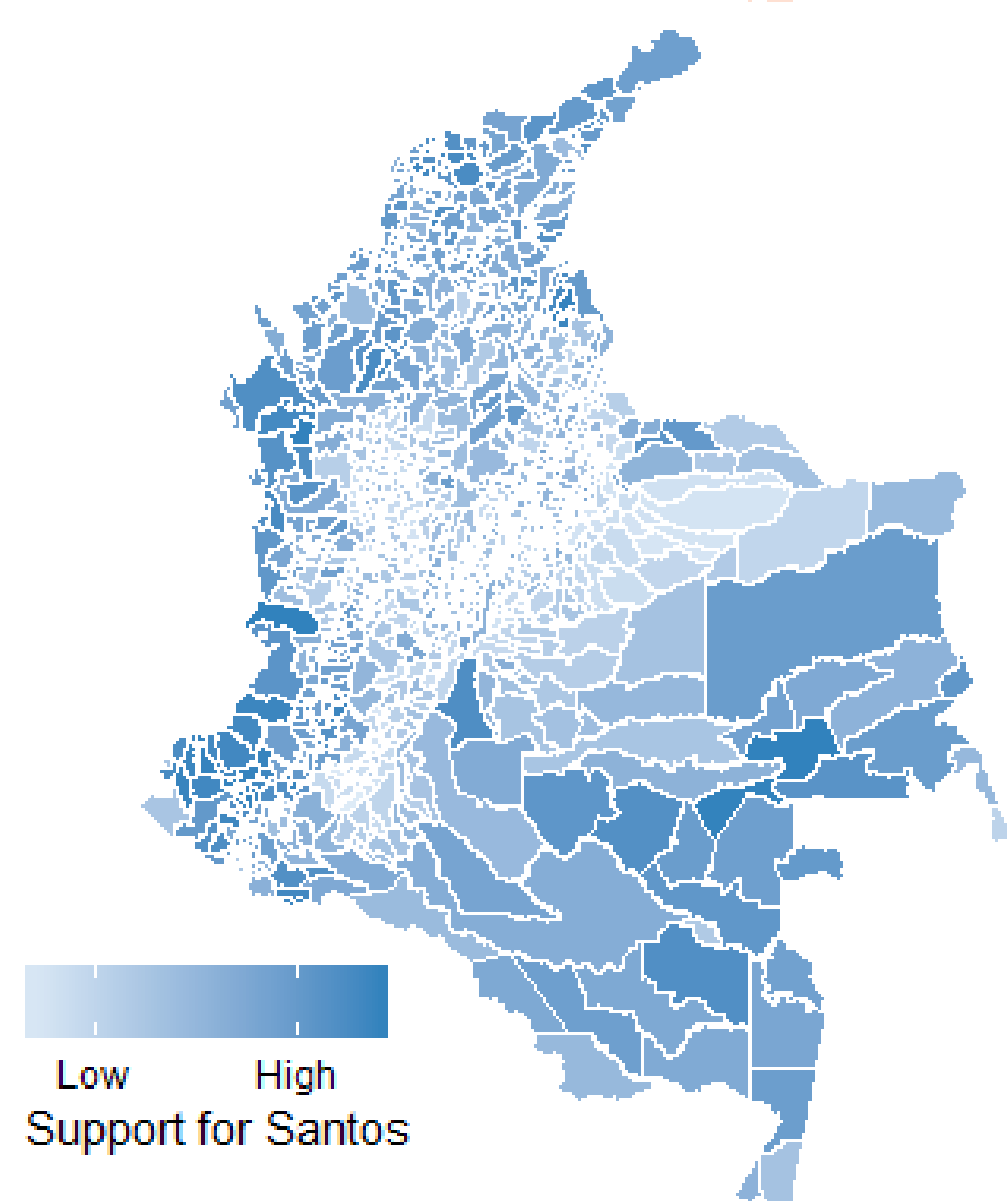
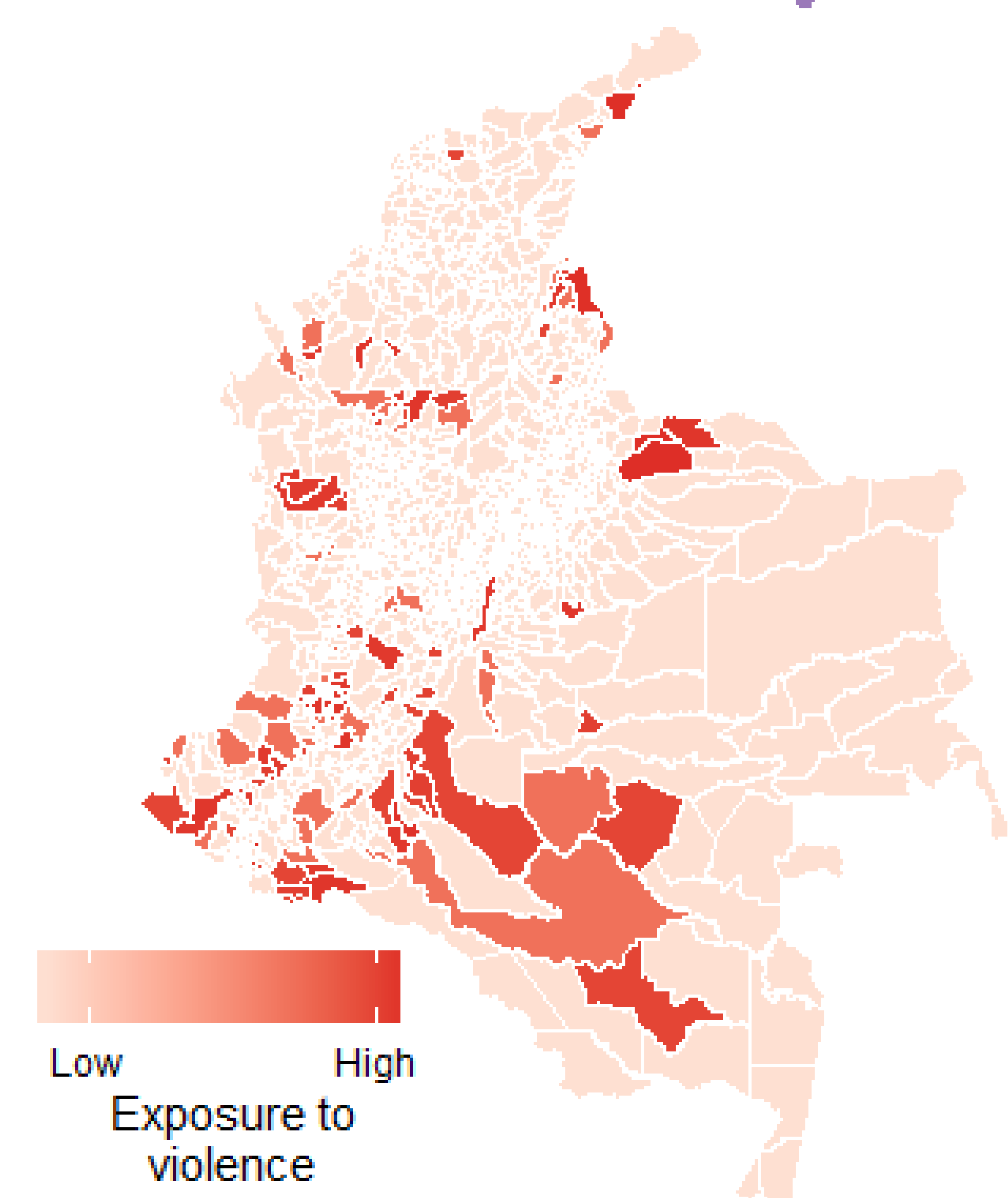
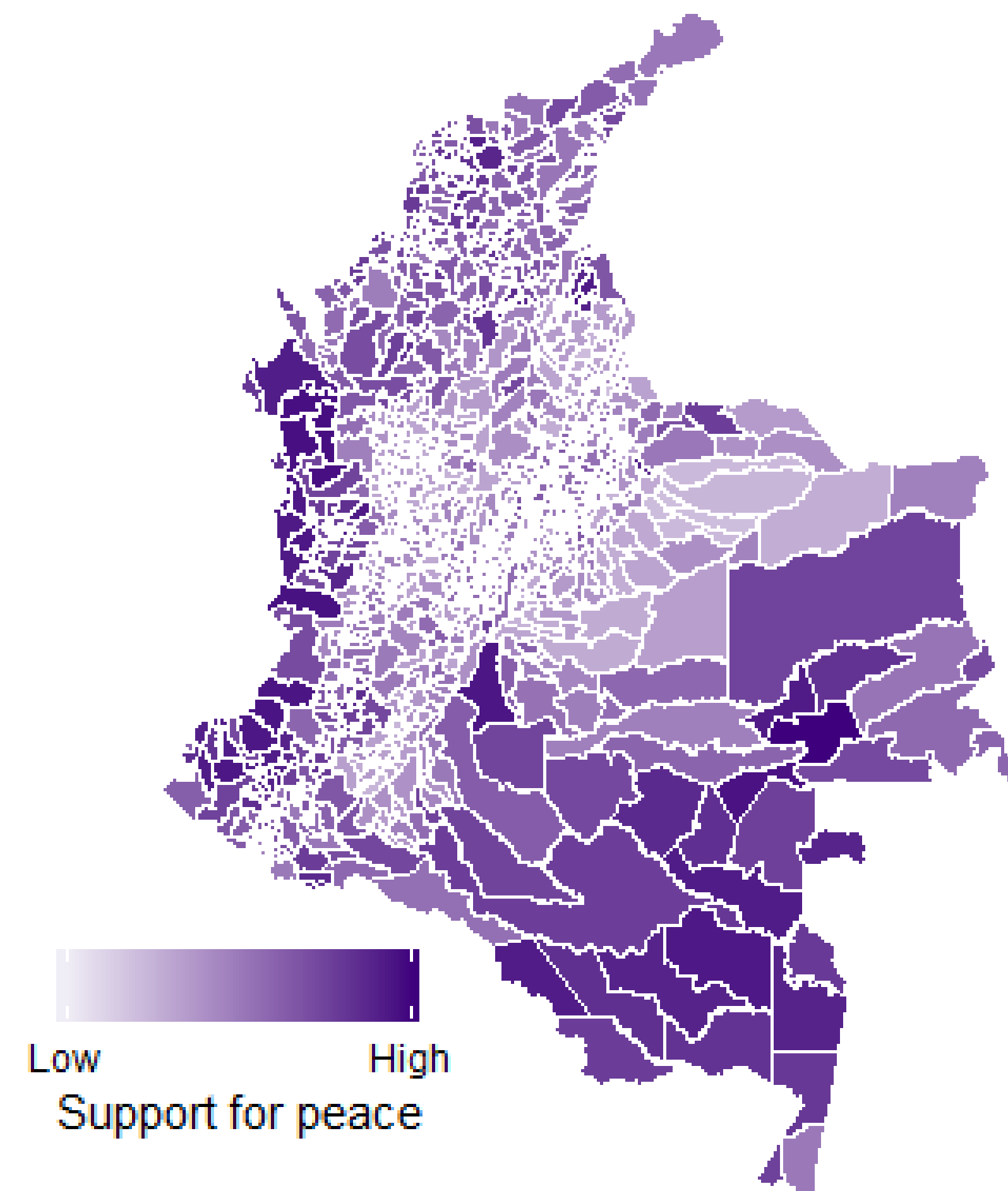


What We Know and Don't about Who Supports Peace with FARC

Francesca Parente and Chad Hazlett
University of California, Los Angeles

Introduction

- In October 2016, Colombian voters were asked to ratify a peace accord with the FARC. 50.2% rejected the deal.
- Opinions vary widely as to the acceptability of making peace with such a violent group. Support ranged from 19% to 96% among municipalities with at least 1,000 voters.
- One explanation, widely reported in the press (and see Tellez 2018), is exposure to **violence**, e.g. in Bojaya, where over 100 people were killed in a FARC mortar bomb attack on a church, 96% of voters were in favor of peace.
- Others have suggested that **politics** explains the outcome: those favoring President Santos voted in favor of the deal.
- Given the seemingly insurmountable problems of confounding in a case like this, what, if anything, can we say about whether (a) exposure to FARC violence, and (b) political affiliation drove peoples' choices about accepting this peace deal?
- We combine identification strategies with sensitivity analyses to examine how fragile these results are.



Making Sense of Sensitivity

- $R^2_{Y \sim D | X}$ is the partial R^2 of the treatment with the outcome. In the extreme case where confounders explain 100% of the residual variance of the outcome, what percentage of the residual variance of the treatment would they need to explain to bring the estimated effect down to zero?
- RV is the robustness value for the estimate. What percentage of the residual variance of the treatment and the outcome would unobserved confounders need to explain in order to explain away the estimated treatment effect?
- $RV_{\alpha=0.05}$ is the robustness value for the t-test statistic. What percentage of the residual variance of the treatment and the outcome would unobserved confounders need to explain in order for the estimated treatment effect to no longer be statistically significant at the $\alpha = 0.05$ level?

Question 1: Is it violence?

The results are consistent with violence affecting votes for peace, but are easily confounded.

- Data:** Number of fatalities in FARC attacks in 5-year chunks through 2015.

$$y_i = \beta_0 + \beta_1(pop) + \sum_{t=1}^3 \alpha_t(fatalities_t) + \epsilon$$

Marginal effects of fatalities (GTD)

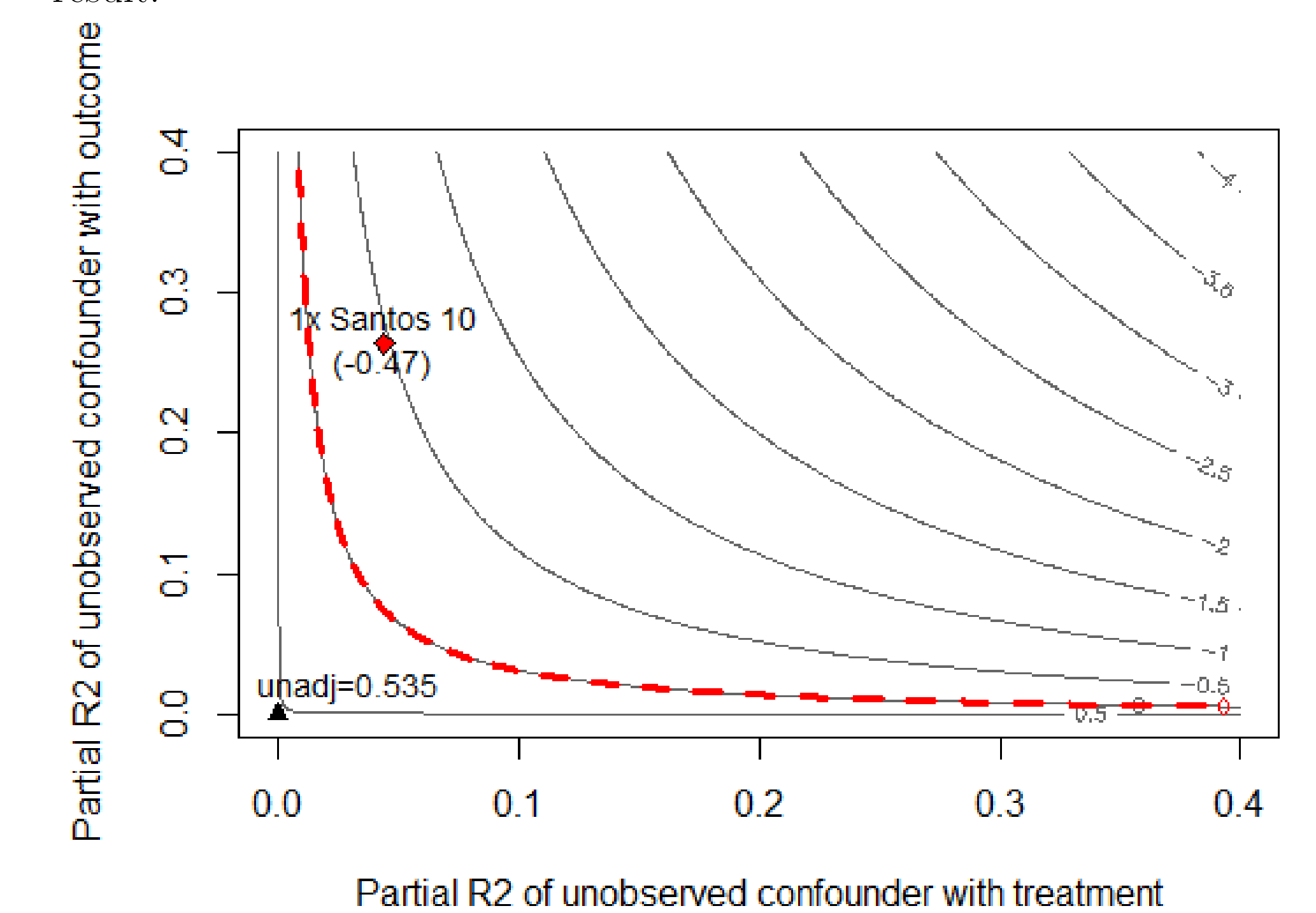


Regression result with Sensitivity Information
Outcome: *Vote for peace deal*

Treatment:	Est.	SE	t-value	$R^2_{Y \sim D X}$	RV	$RV_{\alpha=0.05}$
Fatalities 2011-2015	0.53	0.27	1.96	0.3%	5.7%	< 0.1%

df = 1121

A confounder explaining just 6% of violence and support would overturn the result.



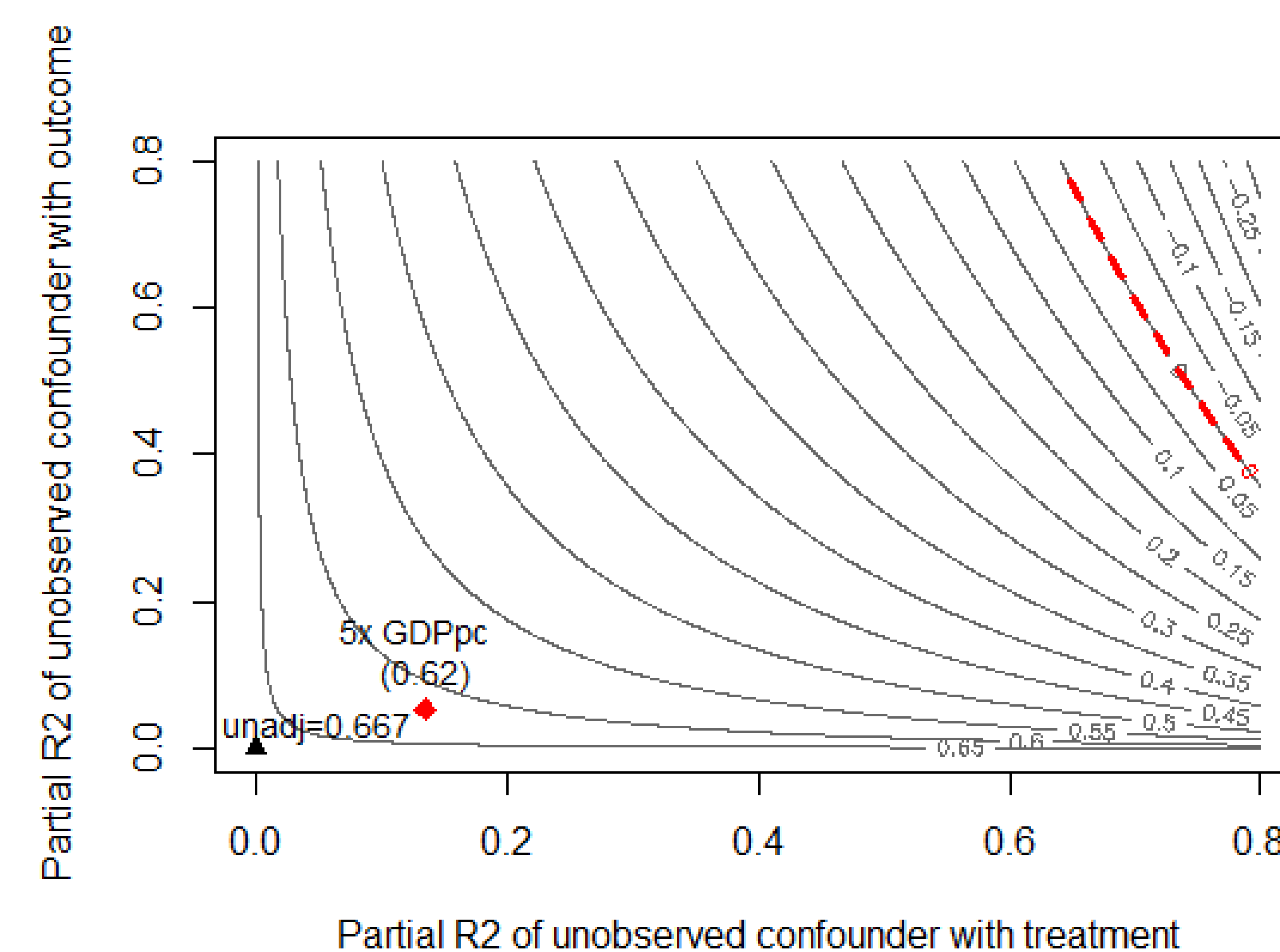
A confounder explaining as much of the violence and support as Santos 2010 vote share would easily overturn the result.

Question 2: Is it politics?

Results are consistent with political affiliation affecting votes for peace. A much larger confounder would be required to explain these results away.

- Data:** Vote share for President Santos in the 2014 presidential election.

$$y_i = \beta_0 + \beta_1(Santos2014) + \beta_2(fatalities_{10-13}) + \beta_3(elev) + \beta_4(gdppc) + \beta_5(pop) + \epsilon$$



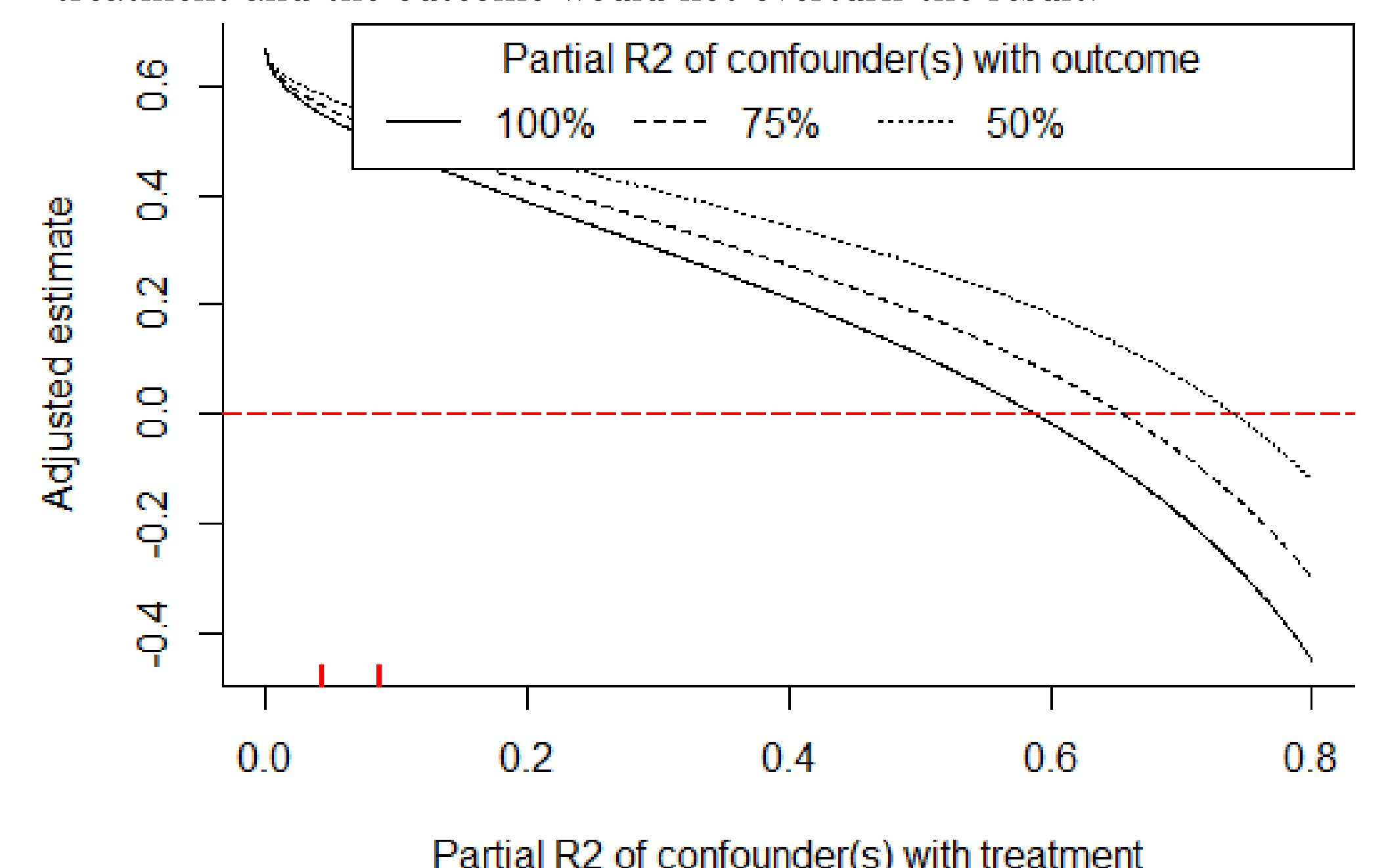
A confounder explaining five times as much of Santos 2014 and support for peace as GDP per capita does would only reduce the effect from 0.67 to 0.62.

Regression result with Sensitivity Information
Outcome: *Vote for peace deal*

Treatment:	Est.	SE	t-value	$R^2_{Y \sim D X}$	RV	$RV_{\alpha=0.05}$
Santos 2014 vote share	0.67	0.02	37.5	59%	68%	66%

df = 983

A confounder explaining less than 68% of the residual variance of both the treatment and the outcome would not overturn the result.



A confounder explaining 100% of the residual variance in support would have to explain 59% of the residual variance of Santos vote share to overturn the result.