

A Spatial Analysis of the Impact of West German Television on Protest Mobilization During the East German Revolution

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Research Question

Did West German television (WGTV) serve as a coordination device for anti-regime protests during the East German revolution?

Abstract

To answer this question, we use a detailed dataset on protest events during the 1989 East German revolution and exploit the fact that West German television broadcasts could be received in most but not all parts of East Germany. Across a wide range of Cox proportional hazards models and conditional on a rich set of observables, we find that the availability of West German television did not affect the probability of protest events occurring. The evidence presented here does not support the widely accepted claim that WGTV facilitated anti-regime protests.

Previous Research

- Mass media as a coordination device for collective action have received some attention in the social movements literature.
- Focused on domestic media in democratic societies.
- Little is known about the effects of domestic or foreign mass media in authoritarian regimes.

Research Design

- Identification Assumption: Access to WGTV was idiosyncratic, at least conditional on covariates. $X_i: (Y_{it} | \text{no WGTV}, Y_{it} | \text{WGTV}) \perp \text{WGTV} | X_i$
- Outcome of interest: County-level protest events between September 4, 1989 and March 18, 1990 (see Figure 1). The data set includes 2,734 protests in total, with the number of protest events ranging from 0 to 81 per county. 206 of 217 counties experienced at least 1 protest event.
- Treatment: Historical maps and maps created with the Longley-Rice electromagnetic signal propagation model to distinguish between WGTV and non-WGTV counties (see Figure 2).
- Covariates: 24 county-level factors related to propensity to protest, capturing mainly socioeconomic differences and differences in living standards.
- Estimator: Cox semi-parametric conditional frailty gap time survival model.

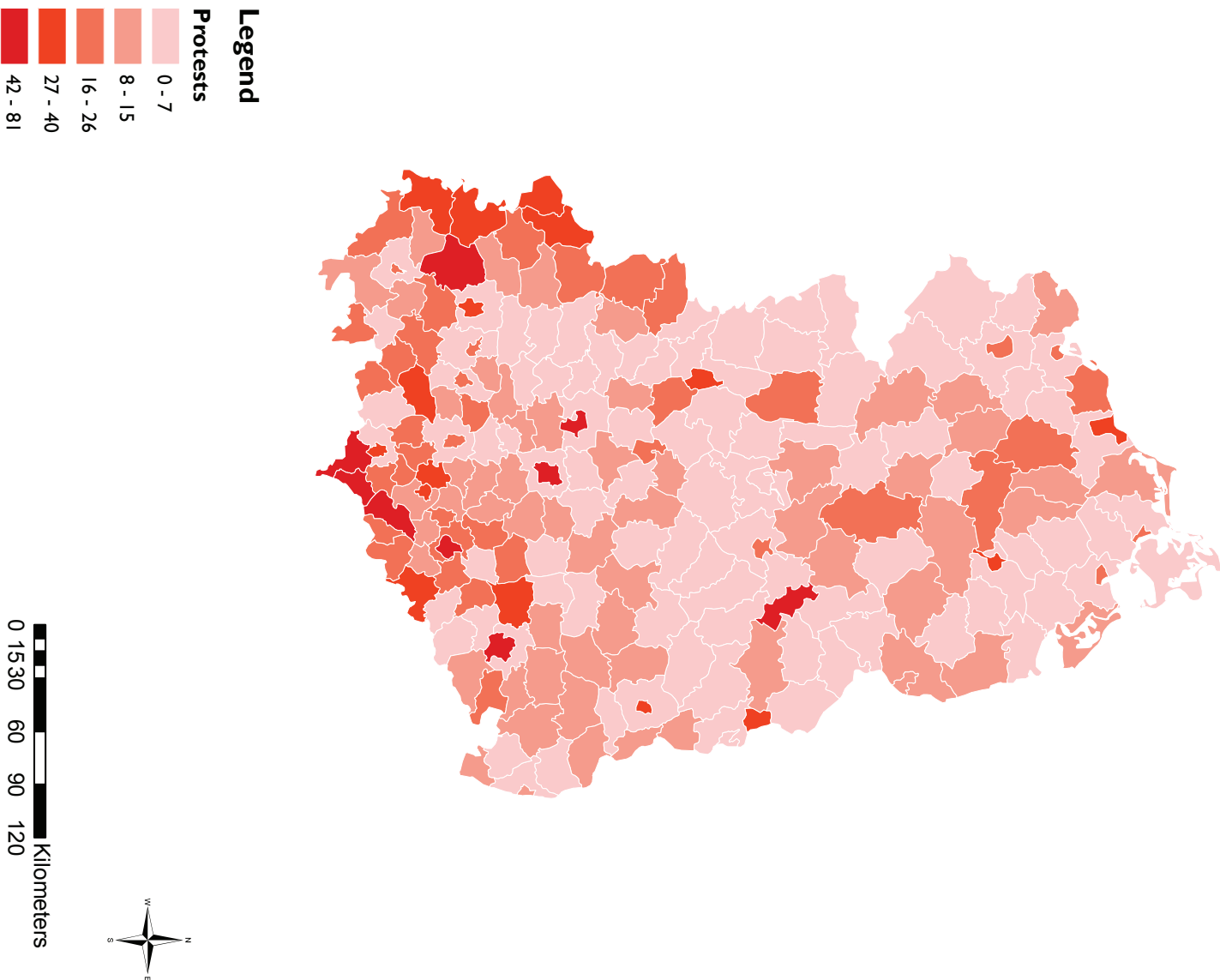


Figure 1: Number of protests per county, East Germany, September 4, 1989 -- March 18, 1990

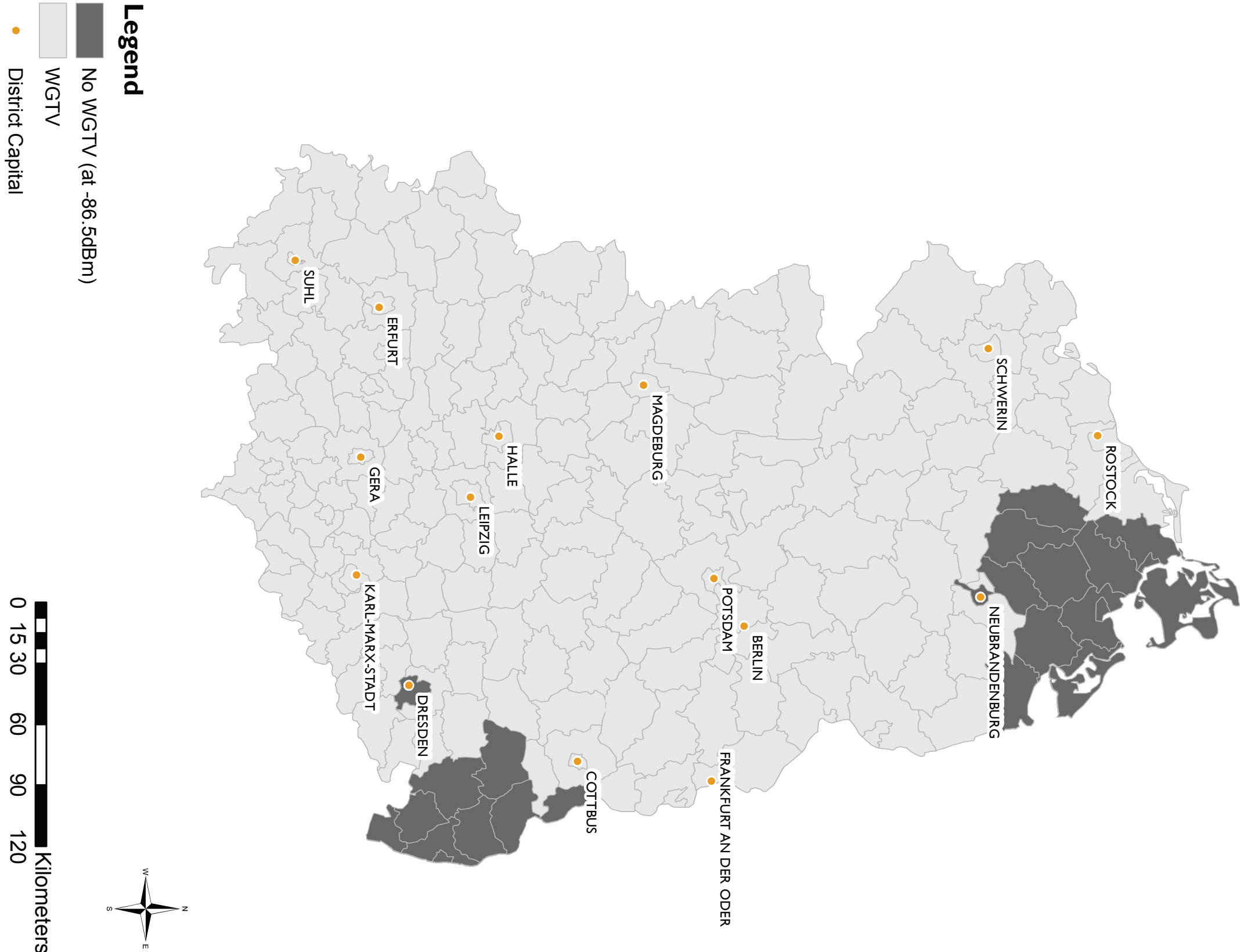


Figure 2: Binary signal strength map of West German television in East Germany as predicted by Longley-Rice radio signal propagation model. The reception threshold is -86.5dBm.

Results

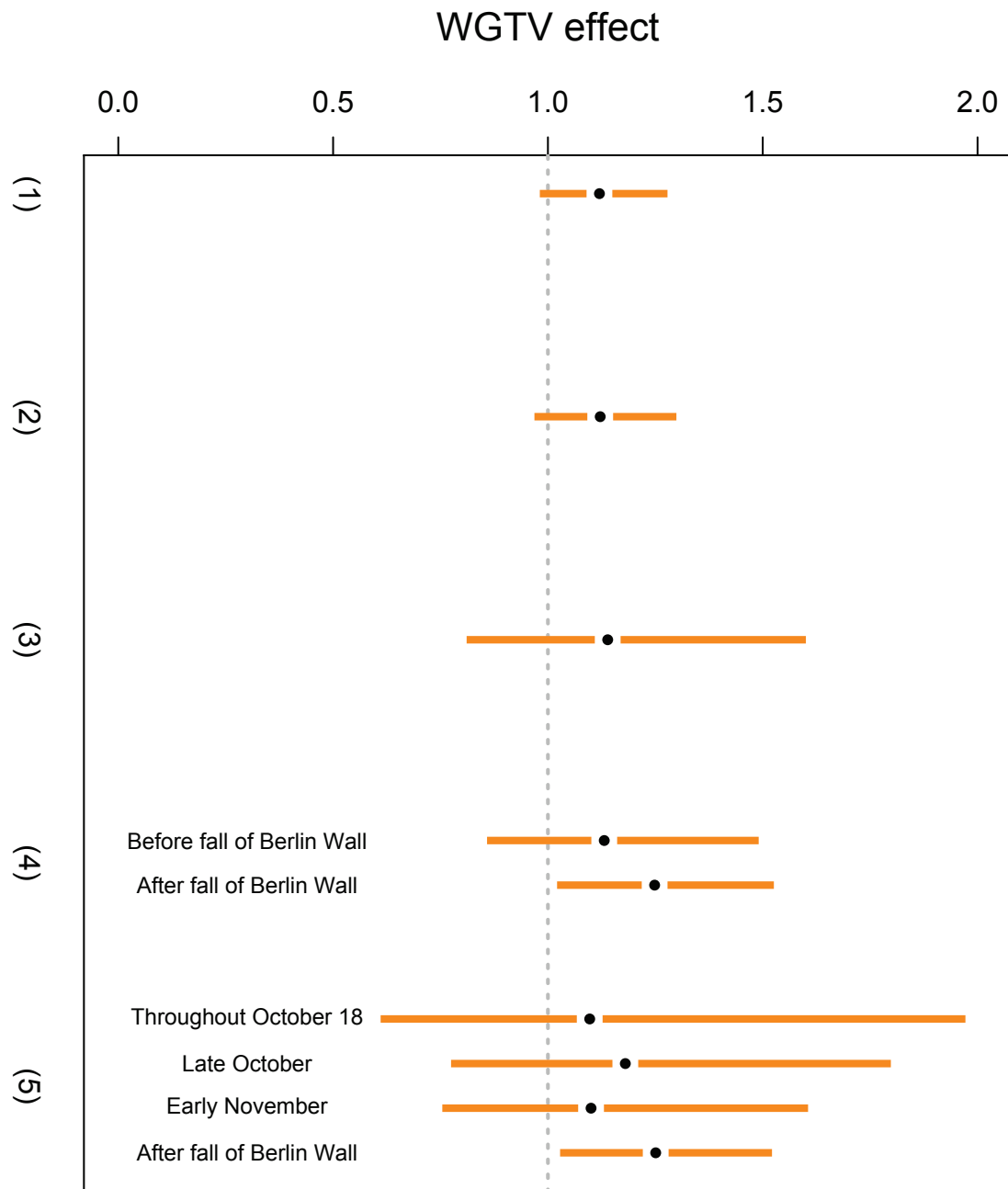


Figure 3: Causal effect estimates for WGTV from models (1) -- (5) and 95% confidence intervals

Robustness Checks

- Account for the possible spatial diffusion of protest.
- Different WGTV coverage cutoffs.
- Continuous coverage cutoffs.
- Different subsamples (see Figures 4 and 5).



Figure 4: The figure shows estimated propensity scores, jittered vertically, for WGTV (red) and non-WGTV (blue) counties. The area of overlap is shown in grey. 125 WGTV counties have estimated propensity scores in excess of .95.

- Estimated propensity scores using a probit model with all covariates.
- Dropped all counties for which there was no overlap in propensity score distributions. 25 non-WGTV counties and 34 WGTV counties remained.
- Evaluated the $\binom{34}{25} \approx 52.5$ million possible samples in terms of maximum absolute standardized difference in means across covariates.
- Estimated Cox models using the 100 best balanced samples.

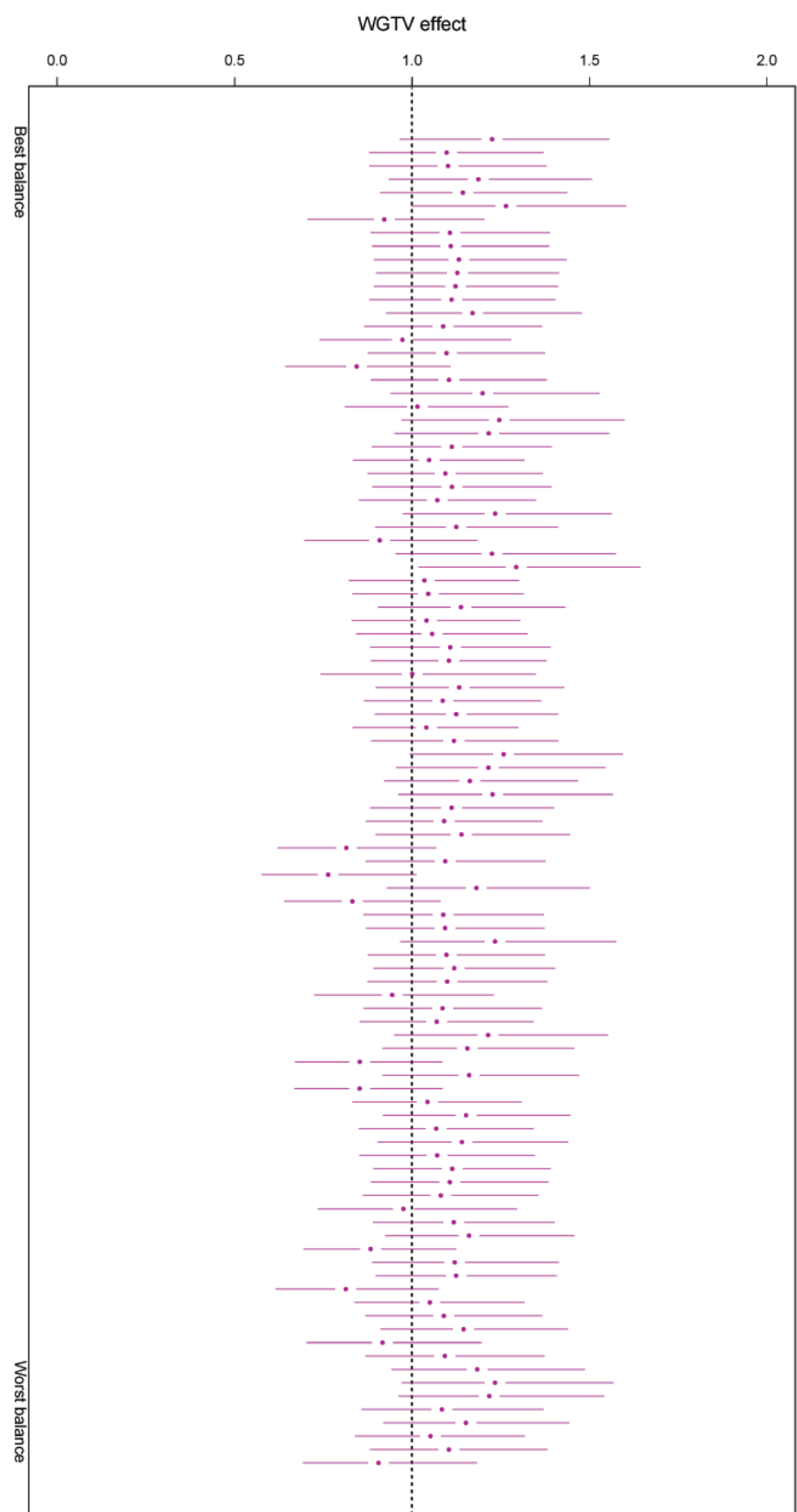


Figure 5: Estimates and 95% confidence intervals are shown. Estimates are sorted in decreasing balance as measured by the average absolute standardized difference in means across all 24 covariates.

Discussion

- Empirical analysis did not detect any effect of WGTV on the probability of a protest event occurring.
- This finding is robust to variation in the time periods we looked at, spatial diffusion, the measurement of WGTV access, and the specific samples of counties used in the estimations.