

Do Television and Radio Destroy Social Capital? Evidence from Indonesian Villages

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1. Introduction

A paper's main concern is the impact of television and radio on social capital in Indonesia. Two measures of social cohesion investigated in this paper are participation in social groups and trust while the number of minutes spent on watching television and listening to radio is defined as media exposure which is considered as an endogenous. A difficulty of identifying a causal relationship between television watching and social capital or some other variables has been discussed in previous studies. This paper suggests distinguishing identifying strategies of this causal relationship by using two exogenous sources of variation in television and radio access, or signal reception – one based on topography of Indonesia's mountains and another one based on varying introduction of private television across time and space in Indonesia. Since these two sources of variation determine the effectiveness of television and radio reception, average television channels in subdistrict are then used to represent the signal strength influential on television watching and radio listening time. That is, signal reception from both topography and the wide spread of private television affects additional channel of better television reception, and hence is associated with individual's behavior of watching television and listening to radio. These identifications are investigated and proved to be reasonable by using cross-section and panel data. The key results of the paper is that more exposure to media as increasing access to television and radio (additional TV channel) causes lower levels of social capital as less participation in organized social groups and less trust of people in different groups.

The main assumption of exogenous signal reception on mountainous areas in East and Central Java region is that “the variation in current television reception within rural districts appears approximately balanced with respect to a variety of village characteristics collected several years prior to the introduction of private television”. This is examined in equation (1) and reported in Table 3 in the original paper¹, using cross-section Java Survey data. The significant positive relationship between average numbers of channels received in each subdistrict and the number of minutes spent on television and radio as in equation (2) and Table 4 ensures that TV channels can be used as a proxy, and also an instrument, for media exposure in the structural/outcome model of social capital as reported in Table 5, 7 and 8.

The second identification strategy based on the introduction of private television throughout Indonesia is analyzed by using the 1990 and 2003 PODES, and the 1991 and 2003 SUSENAS datasets. In these panels, pre and post introduction of private television can be observed since private television stations began broadcasting after 1993. This allows the author to control for “any pre-period differences in the level of social capital that might be correlated with contemporary television reception”. The author also uses the Irregular Terrain Model (ITM) of electromagnetic signal propagation and GIS data to estimate the predicted signal strength and the predicted free-space signal strength to isolate the effect of topography. As in equation (4) and Table 10, the number of TV channels received in each subdistrict can be considered as endogenous variable and is determined by signal

¹ The equation and table numbers stated in an introduction is correspondent to the original paper.

strength (*SIGNAL*) conditional on free-space signal strength of all channels in subdistrict s (*FREE*). Hence, Table 11 shows one result using the full residual variation in number of channels received, and another result isolating the effect of topography by using *SIGNAL* as an instrument for the number of channels received, controlling for *FREE*.

2. What need to be in the replication

2.1 Empirical strategy: Signal strength and media use: Determinants on signal strength

Equation (1) – Table 3

*Column (2) and (3), the author drops two subdistricts outliers defined as the highest and lowest subdistrict in terms of TV reception after having removed district means.

2.2 Impacts on social capital (Java survey)

A. Participation in social groups

Equation (2) – Table 5

(Please also show your first stage results)

*If you cannot find any variables, use the ones that are the most relevant.

B. Trust

Equation (3) – Table 7 (pick only 3 of 7 groups of people that you want to investigate)

*You might want to compare the linear probability model that the author uses in the paper to the probit/logit models (either pooled probit/logit or use xtlogit with fe option for panel logit model)

2.3 Impacts on social capital: Evidence from national panel data

Equation (4) – Table 10 (only PODES data)

Equation (5) – Table 11 (only PODES data)

3. Additional analyses

You can add any further analyses or discussions to the original paper. For example, checking all necessary tests to justify the estimation models. You can define your own estimation equations or use different estimation methods to answer the same questions asked in the paper, or you can ask new research questions that are still in the same theme of the paper, then use the data set(s) to investigate your new questions.