Is the internet causing political polarization? Evidence from demographics

Critical Review

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Research Question

In the paper *Is the internet causing political polarization? Evidence from demographics* (Boxell, Gentzkow, Shapiro, 2017), the author tries to study how Internet and social media are related to trends in political polarization. The hypothesis is that the Internet in general or social media in particular are the main drivers of increasing political polarization.

Data Source

The paper use survey data from the American National Election Study: *(ANES) 19482012 Time Series Cumulative, 2008 Time Series Study*, and *2012 Time Series Study datasets*. In addition, in order to include the response data of questions regarding social media usage, the author add microdata from Pew Research Center as supplement to get trends in social media usage from 2005 to 2012.

Theory

The authors refer to prior work, which used nine measures of polarization in this paper.They follow Iyengar et al. (2012) and Gentzkow (2016)to use the ANES thermometer ratings of parties and ideologies to get respondents change of feeling towards their own party and the opposite party. These two measures include: *Partisan affect polarization* and *Ideological affect polarization*.

The authors also developed Mason(2015), and Davis and Dunaway (2016) s measure: *Partisan sorting* to measures the extent to which partisan identity is correlated with self-reported ideology. Then they use *Straight-ticket* to exam the frequency with which individuals split their votes across parties in an election Hetherington (2001). Moreover, this paper also develops measure proposed by Abramowitz and Saunders (2008): *Issue consistency* and measure proposed by Abramowitz and Saunders (2008) : *Issue divergence* to examine the similarity and divergence of ideological positions across issues. In order to exam the self-reported ideological affiliation of Republicans and Democrats differ as well as which individuals perceive ideological differences

between the Republican and Democrat parties, the authors follow Abramowitz and Saunders (2008, 547) and Davis and Dunaway (2016, 283) to some extent to includes *Partisan-ideology polarization* and *Perceived partisan-ideology polarization* measures in this paper. The last measure is *Religious polarization*, which also developed from Abramowitz and Saunders (2008).

Classification

In this paper, the authors use both descriptive analysis and identification exercise. On one hand, the authors highlight unexplained relationship and puzzles and this paper is suggestive of more rigorous analysis. These are two major characteristics of descriptive paper. For example, the authors use figures to illustrate and describe unexplained relationship of each polarization measures in figure 2, including the index, over time, as well as describe the trends in our polarization index by age group in figure 3.

On the other hand, the authors identify academic relationship in this paper, which contributes to identification study. For example, this paper includes various table and figures to illustrate trends in polarization by demographic group by age. It uses statistics inference tables to identify the relationship of age groups and index points change during 1996-2012. Also it appends corresponding values for each polarization measure.

Computational Methods and Results

The paper uses nine polarization measures to define the overall index of polarization:

$$Index_t = \frac{1}{|M|} \sum_{m \in M} m_t / m_{1996},$$

M above is the set of all nine-polarization measures and m 1996 is the normalized group level values based on the overall 1996 value.

Then in order to get the result of trend in polarization by age, the authors mainly use statistical inference: (additional quantitative detail, standard errors, bootstrap standard errors) and various figures as computational methods. The result shows that for every measure, except religious polarization, the oldest age group experiences larger changes in polarization than the youngest age group. And from bootstrap standard error, we know that the hypotheses that the increase for those aged 1839 is equal to the increase for those aged 65+ and that the increase for those aged 1839 is equal to the increase for those aged 75+ need to be rejected.

Then in order to get deep understanding of polarization by predicted and actual internet access, this paper estimated on the sample of year 1996 using weighted least squares with weights. The result shows that by actual internet access, respondents with internet access have greater polarization in 2012 than those without internet access. However, the trends are parallel between the two groups between 1996 and 2012. In addition, the group with the greater likelihood of having access to the internet experienced slower growth in polarization between 1996 and 2012.

Suggestions

First, the paper lacks supportive details when construct overall index of polarization. In the paper, depend on nine measures of political polarization, the authors define the overall index of polarization using simple normalization method without explanations or other supportive previous work that could show this formula is accuracy in describe the overall index of polarization.

Second, the computational methods in the paper is over simple to some extent. The authors could try to use more computational study to identify relationship. For example,in the research of trend in polarization by age, authors only use statistical inference, such as bootstrap standard error as computational methods to get the result.

Third, this paper could includes more detail of basic data exploration step. In this way, we could get basic sense of what the data look like, what the characteristics of the variables and limitation of dataset.

Then, it's better for the authors to review more literature on how previous work do research on political polarization and the method they use to get research result, especially computational method.

References

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