

Milestone #6

Debi Gonzalez

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1 Introduction

Research Paper: Local demographic changes and US presidential voting, 2012 to 2016

Authors: Seth J. Hilla, Daniel J. Hopkins, and Gregory A. Huberc

This PDF document present the working replication exercise of the afore-mentioned academic paper through a textual overview of the authors' findings and methods, a high-level visual presentation, and a close-replication of the original analysis. It also contains an extension proposal, which will become the core of this project, as a form of critique, development, and/or expansion of the original findings.

2 Overview of Original Paper

The topics of immigration and the increase of racial and ethnic minorities have been fairly prevalent in media, social media, and political rhetoric over the last few years, but do these phenomena actually influence voting behavior? This study analyzes voting patterns in areas that received an influx of immigrants prior to the 2016 general election. Notably, using precinct-level data, it finds that these influxes did not influence voting behavior in favor of Trump, but rather (in a slight way) benefited his opponent in those particular areas. In other words, local demographic changes are not, on their own, increasing support for anti-immigration candidates. The authors argue that this means the cities in question are not engaging in the often suggested "threatened response" associated with voting behavior in light of immigration influxes. The authors acknowledge that "despite its disparate local impacts, immigration may be a symbolic, nationalized issue whose effects, do not depend on local experiences." However, the actual connection has yet to be proven empirically and it is tough to do so given several factors influencing voting patterns. Some of these factors include, but are not limited to, greater exposure to international trade and declining economic prospects for the less educated. The authors explain that 'positive intergroup contact' could be responsible for the seemingly 'supportive' voting patterns at low levels of aggregation (locally).

The authors use 8 main regression models as well as loess lines in their analysis. They study change in proportion of Hispanics and proportion change of Hispanic proportions concluding that in places with demographic shifts, Trump did not benefit, but, in fact, Clinton did. These findings are further validated by a similar model utilizing foreign-born, noncitizens proportions to discard the possibility of increased Clinton support due to changing electoral composition (given that noncitizens cannot vote and would not influence the electoral outcome in such way) (Hilla, Hopkins, and Huberc 2019). I am interested in exploring this topic further by analyzing the variables used and figuring out whether this conclusion stands across demographic groups. In addition, this paper evokes an interest in understanding how Trump's nationalist rhetoric and media's portrayal of immigration influxes may have attracted different demographic groups in cities that did not experience such influx (fearing that they might) i.e. the Deep South.

Dan Hopkins offers a link to the data for this research paper on his website. The full paper can be found here. For more information about this project please visit my project's Github repo¹.

2.0.1 Milestone #6. Submit a PDF or html via Canvas.

In addition to the the elements from Milestone #5, your paper should include:

- An Appendix in which you replicate all results — or all the important results — from your paper.
- A clear statement about what aspects of the paper you were able to replicate and which parts, if any, you were not able to replicate.
- 500 words about your proposed extension. You do not have to have done the extension yet.

¹All analysis for this paper is available here.

3 Proposed Extension

Construct a model that controls for changes in hispanic and changes unemployment to consider the economic influences on gop_share shifts Examine the results by state – construct same models with subset of data by state Examine whether there has been shifting from majority rep/dem with changes in hispanic population

4 A Summary Table of my Data

Average Changes in Proportion of Population Groups by State
Proportion of foreign born and GOP voters respectively between 2011-2016

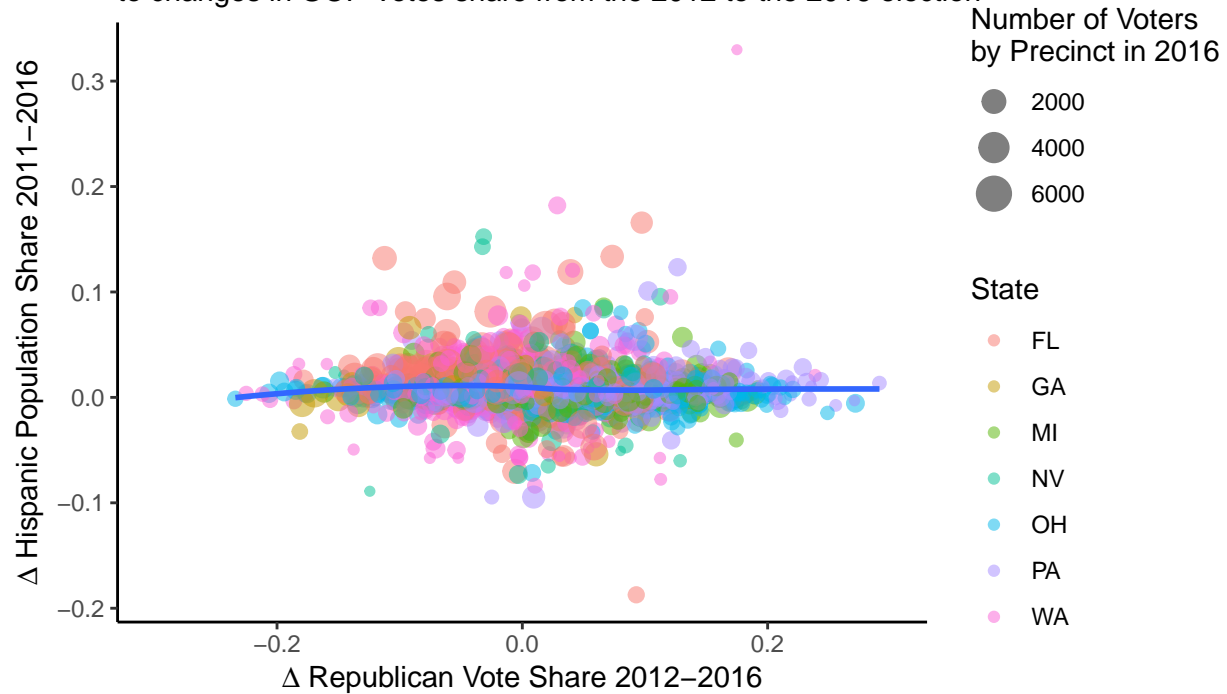
| State | Avg. Change in Foreign Pop. | Avg. Change in Republican Voters |
|-------|-----------------------------|----------------------------------|
| FL | -0.780 | -0.162 |
| GA | NA | NA |
| MI | -0.012 | NA |
| NV | NA | NA |
| OH | NA | 3.963 |
| PA | 0.213 | 2.809 |
| WA | NA | NA |

Source: HHH Demographic Threat Data Archive: Precinct

5 A Beautiful Graphic

Republican Vote Share Change vs. Hispanic Population Share Change

How changes in hispanic population share from 2011 to 2016 relate to changes in GOP Votes share from the 2012 to the 2016 election



Source: HHH Demographic Threat Data Archive: Geo_Scope

My graphic shows the association between changes of Republican vote share and Hispanic population proportion changes over the same period of time. I am using the sample function to get a random sample of 2000 observations from my geo_scope dataset. I used the geoscope dataset because I wanted to color the observations by state, which the authors do not do, but I thought would be interesting and prettier. I was able to create the loess line using geom_smooth and it does not appear dissimilar to the original paper's model(Consulting 2020). I also added the aesthetic enhancement of size as number of voters in 2016 in each precinct(Wickham et al. 2019).

To create this graphic I utilized several online guides cited in the References section of this paper(Xie, Allaire, and Grolemond 2019).

6 Appendix

6.0.0.1 Replication of Table 1: % Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu % Date and time: Sun, Apr 12, 2020 - 12:54:22 AM

Table 1. Change in Republican vote share 2012 to 2016 and change in Hispanic population, various time intervals

| | <i>Dependent variable:</i> | | | | | | | |
|--|----------------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Change in Prop. Hispanic, 2011 to 2016 | -0.031*** (0.010) | -0.045*** (0.007) | -0.065*** (0.006) | | | | | |
| Prop. Change in Prop. Hispanic, 2011 to 2016 | | | | -0.004*** (0.0005) | | | | |
| Prop. Hispanic 2011 | | -0.110*** (0.002) | -0.132*** (0.002) | -0.133*** (0.002) | | | | |
| Prop. Change in Prop. Hispanic, 2000 to 2016 | | | | | | | | -0.005*** (0.001) |
| Change in Prop. Hispanic, 2000 to 2016 | | | | | -0.056*** (0.007) | -0.044*** (0.005) | -0.089*** (0.005) | |
| Prop. Hispanic 2000 | | | | | | -0.122*** (0.003) | -0.132*** (0.002) | -0.147*** (0.002) |
| Constant | -0.00002 (0.0004) | 0.055*** (0.002) | 0.156*** (0.003) | 0.156*** (0.003) | 0.002*** (0.0005) | 0.065*** (0.001) | 0.132*** (0.002) | 0.129*** (0.002) |
| Observations | 28,934 | 28,934 | 28,934 | 28,934 | 28,934 | 28,934 | 28,934 | 28,934 |
| R ² | 0.0003 | 0.587 | 0.636 | 0.635 | 0.002 | 0.571 | 0.614 | 0.612 |
| Adjusted R ² | 0.0003 | 0.586 | 0.636 | 0.635 | 0.002 | 0.571 | 0.614 | 0.611 |

Note:

*p<0.1; **p<0.05; ***p<0.01

I need to work on getting rid of the dependent variable row and adding the note. I also need to reorder the variable output and make sure that all of the numbers replicate well.

6.0.1 Original Table

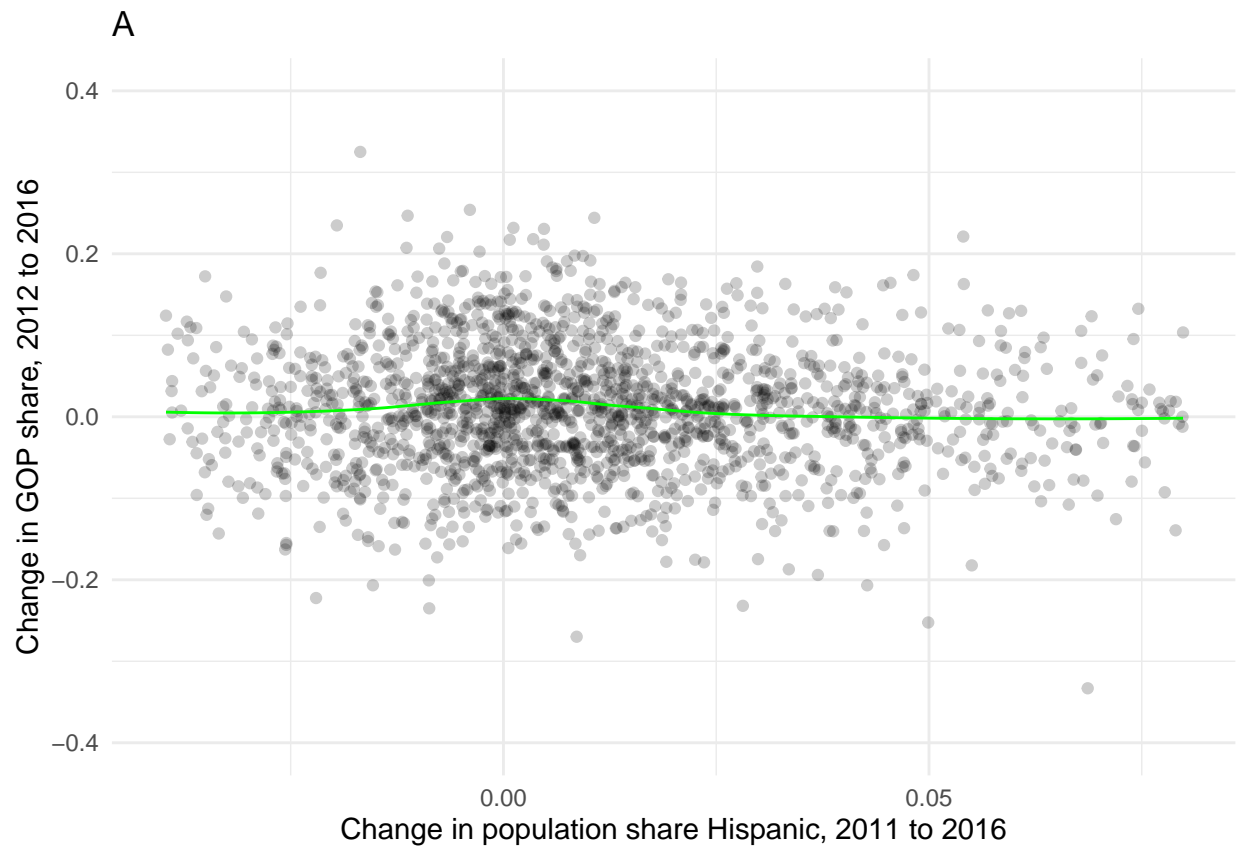
Table 1. Change in Republican vote share 2012 to 2016 and change in Hispanic population, various time intervals

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|--|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|--------------------|---------------------|
| Change in prop. Hispanic, 2011 to 2016 | −0.040** (0.01) | −0.071** (0.01) | −0.077** (0.01) | | | | | |
| Prop. Hispanic 2011 | | −0.13** (0.00) | −0.15** (0.00) | −0.15** (0.00) | | | | |
| Prop. change in prop. Hispanic, 2011 to 2016 | | | | −0.0041** (0.00) | | | | |
| Change in prop. Hispanic, 2000 to 2016 | | | | | −0.077** (0.01) | −0.047** (0.01) | −0.085** (0.01) | |
| Prop. Hispanic 2000 | | | | | | −0.13** (0.00) | −0.14** (0.00) | −0.15** (0.00) |
| Prop. change in prop. Hispanic, 2000 to 2016 | | | | | | | | −0.0055** (0.00) |
| Observations | 31,949 | 31,352 | 31,352 | 31,352 | 31,949 | 31,949 | 31,949 | 31,949 |
| R-squared | 0.001 | 0.658 | 0.704 | 0.704 | 0.004 | 0.649 | 0.689 | 0.687 |
| Control for levels | No | Yes | Yes | Yes | No | Yes | Yes | Yes |
| County fixed effects | No | Yes | Yes | Yes | No | Yes | Yes | Yes |
| Additional Census controls | No | Yes | Yes | Yes | No | Yes | Yes | Yes |
| Republican share 2012 | No | No | Yes | Yes | No | No | Yes | Yes |

Robust standard errors are in parentheses. * $P < 0.05$; ** $P < 0.01$. Precinct-level analysis; weighted to number of votes 2012; proportional changes top and bottom coded at 1 and −1. Note: Dependent variable is change in GOP vote share, 2012 to 2016. Prop., proportion.

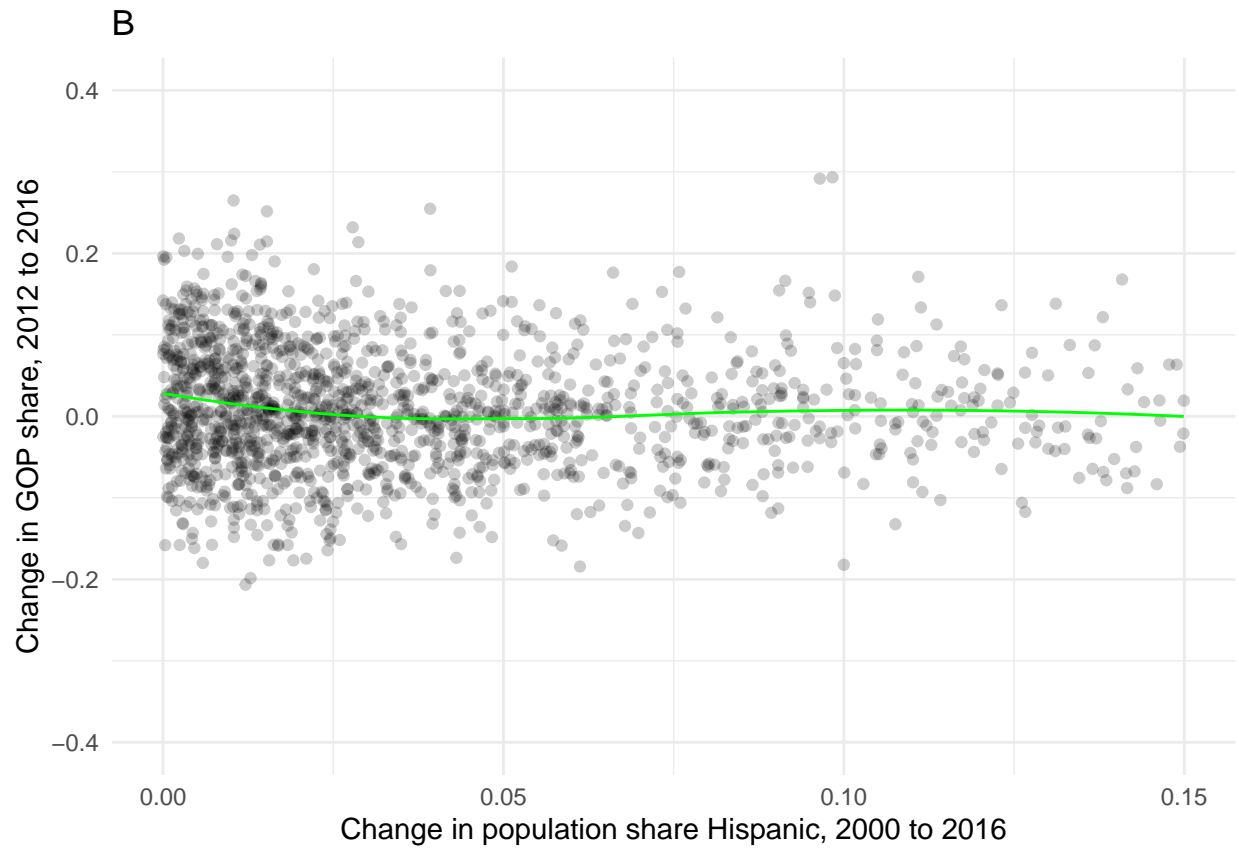
Figure 1: This table offers a summary of the 8 main regression models for the original paper while omitting several control variables in the output.

6.0.2 Figure 1



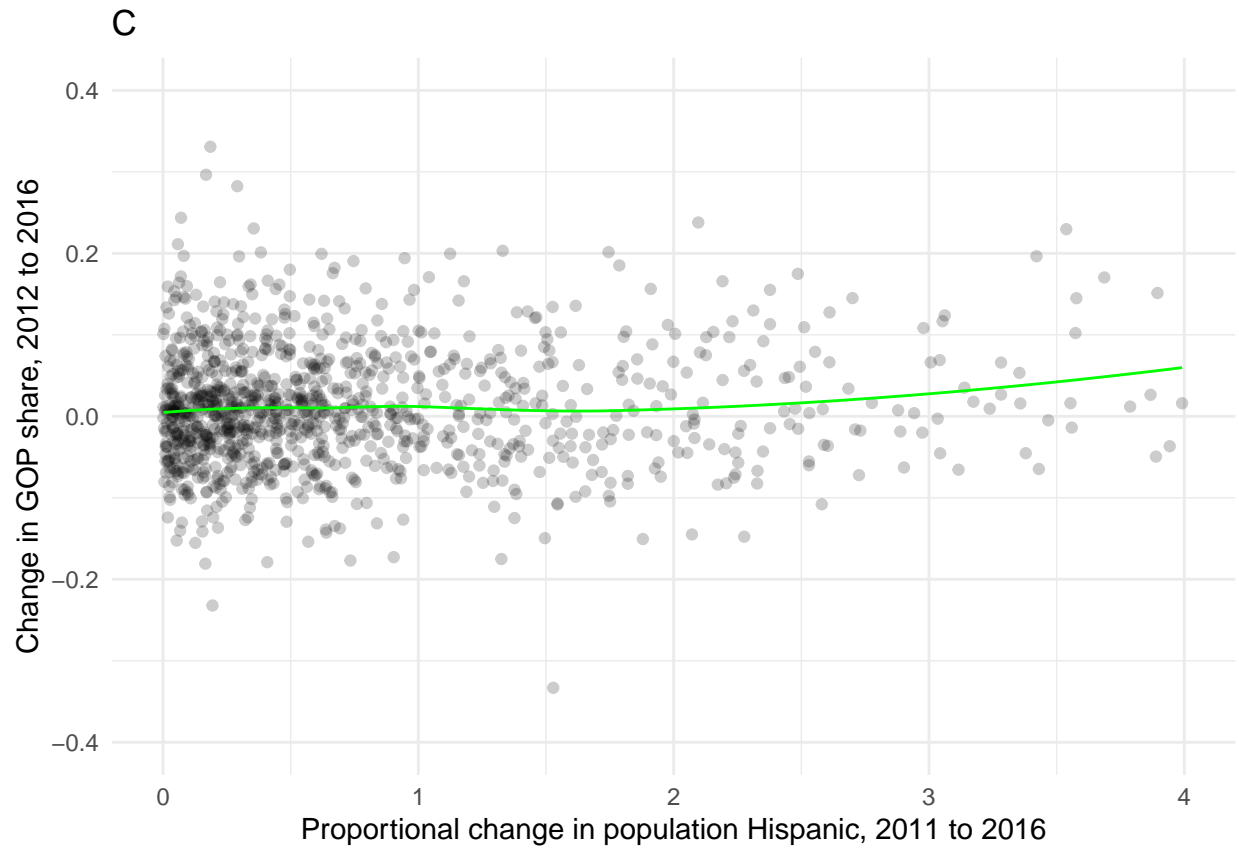
```
## Warning: Removed 443 rows containing non-finite values (stat_smooth).
```

```
## Warning: Removed 443 rows containing missing values (geom_point).
```

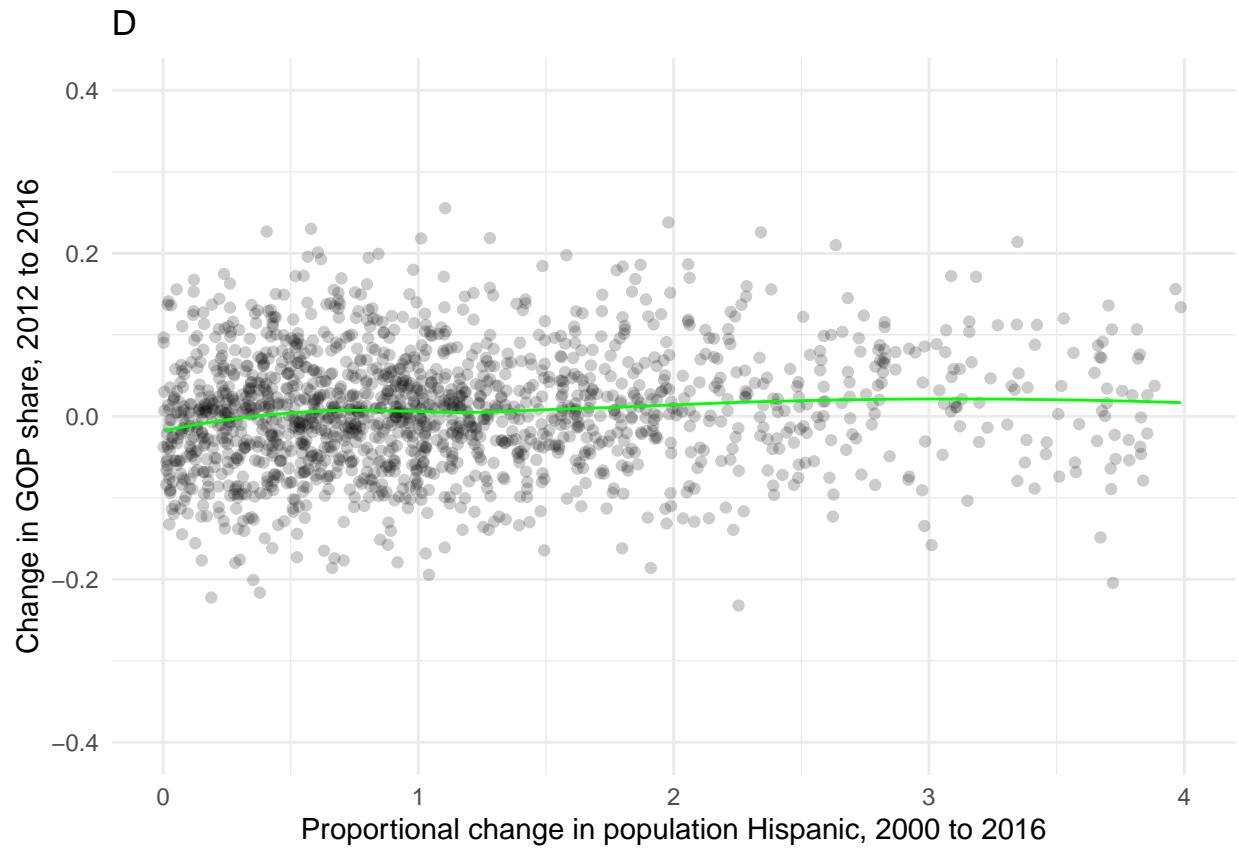
```
## Warning: Removed 905 rows containing non-finite values (stat_smooth).
```

```
## Warning: Removed 905 rows containing missing values (geom_point).
```



```
## Warning: Removed 418 rows containing non-finite values (stat_smooth).
```

```
## Warning: Removed 418 rows containing missing values (geom_point).
```



6.0.3 Figure 2

References

- Consulting, UCLA Statistical. 2020. “HOW Can I Explore Different Smooths in Ggplot2?” Available at <https://stats.idre.ucla.edu/r/faq/how-can-i-explore-different-smooths-in-ggplot2/>.
- Hilla, Seth J., Daniel J. Hopkins, and Gregory A. Huber. 2019. “Local Demographic Changes and Us Presidential Voting, 2012 to 2016.” PNAS.org Political Science.
- Wickham, Hadley, Winston Chang, Lionel Henry, Thomas Lin Pedersen, Kohske Takahashi, Claus Wilke, Kara Woo, Hiroaki Yutani, and Dewey Dunnington. 2019. “Smoothed Conditional Means.” Available at https://ggplot2.tidyverse.org/reference/geom_smooth.html.
- Xie, Yihui, J. J. Allaire, and Garrett Golemund. 2019. *R Markdown: The Definitive Guide*.