Milestone 6

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Grapic

Below is a beautiful graphic which uses the data from Marshall 2015 and is based on Figure 3 in the paper. I used inspiration/guidance from (Gary King 2000) to create it.

Proportion of Cohorts Voting Conservative Before and After 1947
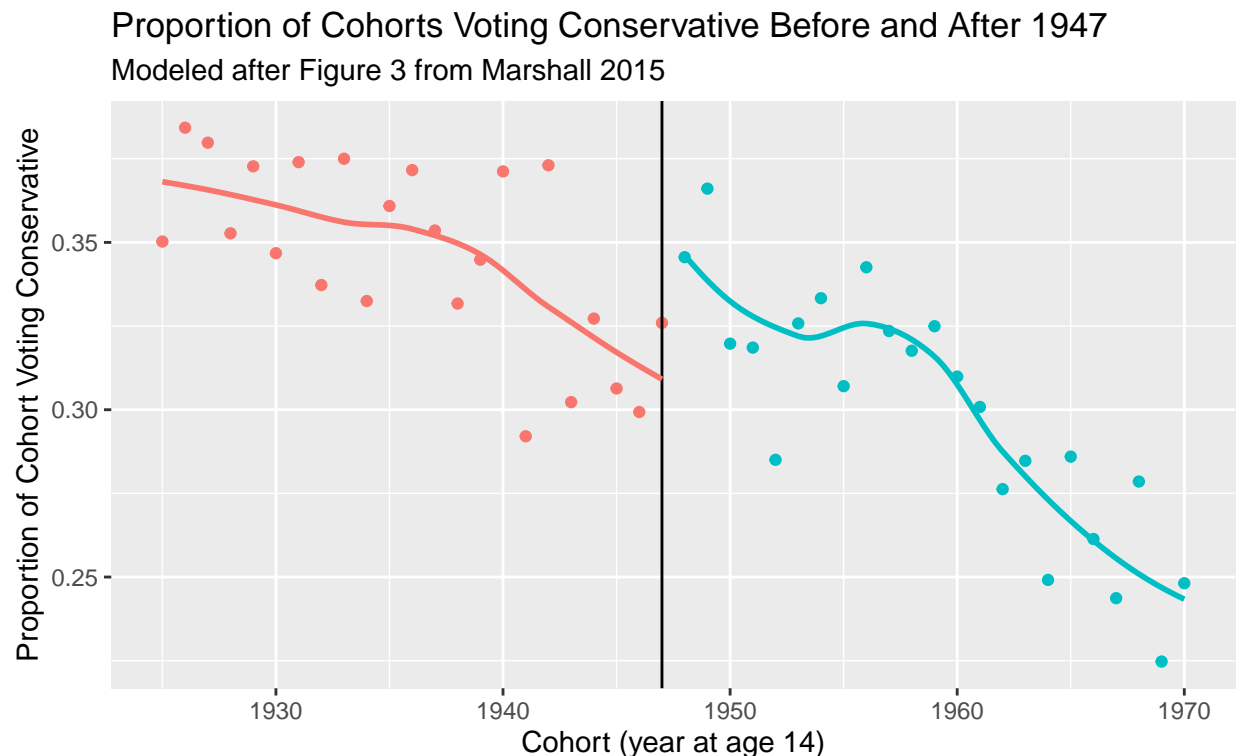### Modeled after Figure 3 from Marshall 2015

Figure 1: This figure illustrates the jump in proportion of a cohort, or class, of British individuals (classified by which they were 14), after the education reform in 1947 which increased the year at which you could legally school from 14 to 15.

Overview of Replication Paper

This paper by John Marshall uses data from the results of the 1947 high school leaving age reform in Great Britain, to analyze how additional years in high school affect political preferences (Marshall 2015). This paper looked specifically in how additional years in high school effected voting for the Conservative Party (Marshall 2015). In 1947, Great Britain changed the high school leaving age from 14 to 15, this induced almost half the student population to stay in school for at least 1 or 2 more years (Marshall 2015). Data from the 10 British elections between 1947 and 2010 was then used to compare voters young enough to have been effected by the reform to those who were too old to have been effected, using regression discontinuity (Marshall 2015). Regression discontinuity is usually used for determining if a program/treatment is effective, and essentially is is a pretest-posttest program-comparison group design strategy (Trochim 2020). Regression discontinuity is unique in that individuals are assigned to one of two groups, just based on if they are on either side of a pre-determined cut-off (Trochim 2020).The results of data analysis revealed staying in high

school for longer substantially increased likelihood to vote for the Conservative Party (staying one extra year increased probailitiy of voting Conservative by almost 12 percentage points) (Marshall 2015). This supports the previously studied fact that high school is extremely pertinent to political opinions later in life (Marshall 2015). In addition, this significant finding indicates the education reform of 1947 may have had an even greater affect on politics and election results nationwide over many years than ever expected (Marshall 2015).

All analysis for this paper is available in my github repo.[1].

Extension

500 words about your proposed extension. You do not have to have done the extension yet. (That comes next week.) But it is time to start thinking about what your contribution to human knowledge will be. You seek admission to the School of Athens. What do you have to offer us?

Appendix

Replication Process

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.

An Appendix in which you replicate all results — or all the important results — from your paper. As with other aspects of this project, the exact requirements will vary across students, depending on the complexity of your replication paper. If you paper only has 3 or 4 tables, we expect you to replicate it all. If it has 50 tables, we do not expect that. Use your best judgment and talk with us. You must replicate any result which you plan to use as the base of your extension.

Original Table from Marshall 2015:

Table 6: Continuity in other variables around the 1947 reform

	Survey year	Male	White	Black	Asian	Father manual/ unskilled job
	LLR (1)	LLR (2)	LLR (3)	LLR (4)	LLR (5)	LLR (6)
Post 1947 reform	-0.101 (0.456)	0.002 (0.021)	0.002 (0.007)	0.004 (0.004)	-0.002 (0.004)	-0.044* (0.023)
Observations	11,068	11,068	7,417	7,417	7,417	7,352

Notes: All specifications are local linear regressions using a triangular kernel and a bandwidth of 14.736. Robust standard errors in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

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[1]Link to Github Repo

My Replication Table:

Replication of Marshall Appendix Figure 6
Results of regression discontinuity analysis between variables and yearat14

		Survey Year	Male	White	Black	Asian	Father Manual
Post 1974 Reform	Post 1974 Reform	-0.255	-0.002	-0.002	0.003		-0.001

In order to create this table rdrobust was used, and the reference material for learning about this package is from (Sebastian Calonico 2020).

As you can see, the numbers do not match exactly, and I was not able to extract the standard error or number of observations from the rdrobust model. I hope to figure out why the values are different (maybe there was more data cleaning Marshall did that I missed when going through his code?) and how to extract some of the other values from the rdrobust model (it is unlike stan_glm or lm models that we have worked with in the past) for the next milestone.

References

Reference material to create this bibliography comes from (J Allaire 2016)

Gary King, Jason Whittenberg, Michael Tomz. 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." Midwest Political Science Associatio. https://www-jstor-org.ezp-prod1.hul.harvard.edu/stable/pdf/2669316.pdf.

J Allaire, Jonathan McPherson, Yihui Xie. 2016. "Bibliographies and Citations." https://rmarkdown.rstudio.com/authoring_bibliographies_and_citations.html.

Marshall, John. 2015. "Education and Voting Conservative: Evidence from a Major Schooling Reform in Great Britain." Southern Political Science Association. https://www-journals-uchicago-edu.ezp-prod1.hul.harvard.edu/doi/pdfplus/10.1086/683848.

Sebastian Calonico, Max H. Farrell, Matias D. Cattaneo. 2020. "Package 'Rdrobust'." https://cran.r-project.org/web/packages/rdrobust/rdrobust.pdf.

Trochim, Prof William M.K. 2020. "The Regression-Discontinuity Design." https://socialresearchmethods.net/kb/regression-discontinuity-design/.