

# Dissertation Synopsis

## **Part 1: Trade-offs Between Constituent Service and Legislation**

It has been well established that the preferences of the affluent are disproportionately represented in policy Republicans create. Yet meaningful political representation comes not only from policy congruence but through constituent service. Socioeconomically privileged people are more engaged with policy, while the less privileged prefer constituent service. It is also clear that representatives from privileged areas respond more effectively to policy requests, while representatives from less privileged areas respond more effectively to constituent service. I propose that the actions of members of Congress should reflect these patterns. Representatives from privileged districts will engage in policy creation more than their counterparts from less privileged areas. Conversely, they will devote relatively more resources to constituent service when they represent less privileged areas. I demonstrate these trade-offs using evidence from three novel datasets covering 2013 and 2014: staffing resources, legislative activity, and Twitter. For Republicans, the majority party, this trade-off between constituent service and policy translates into a 23% increase in legislation by members' of Congress when they represent socioeconomically privileged districts. I also demonstrate that Democrats, who were in the minority and therefore unlikely to be legislatively successful, make a different trade-off between policy and constituent service. Democratic representatives of highly educated districts disproportionately publicize policy related activities over constituent service.

Table 1. Estimated change between a privileged and a less privileged district

	staffing		tweets	
	<i>policy</i>	<i>service</i>	<i>policy</i>	<i>service</i>
all	+\$7,445	-\$11,830*	+14**	-8**
Republican	+\$15,453*	-\$18,128*	+2	-4
Democrat	+\$724	+\$5,518	+18*	-12*

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Table 2. Number of extra bills passed, by district privilege, party, and race

	privileged district		Black
	Republican	Democrat	Democrat
yes	1.95	0.50	1.07
no	1.53	0.42	0.38
difference	0.42**	0.08	0.68**

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Table 3. Estimated difference between Republicans and Democrats

	staffing budget		tweets		
	service	policy	service	policy	successfull bills
magnitude	-\$1,246	\$11,555	-20***	33***	1.29***
p-value	(0.738)	(0.210)	(0.027)	(0.020)	(0.000)

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

## Part 2: Model Selection with Multicollinear Explanatory Variables

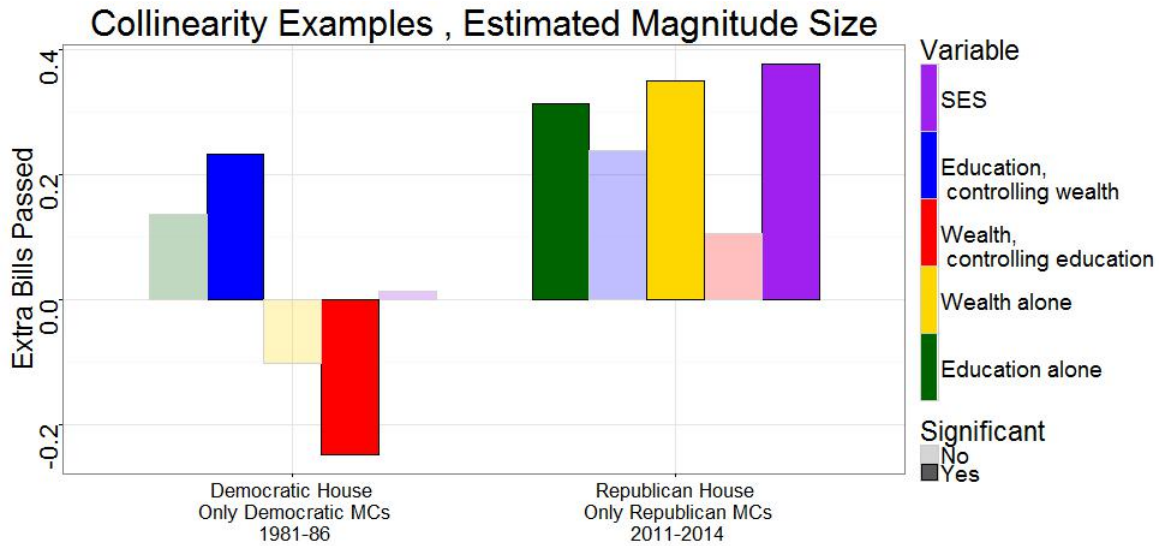
Multicollinearity can obscure the effect of variables in regression analyses because it inflates standard errors and reduces statistical significance. Yet the effect of multicollinearity does not only depend on the degree of collinearity present; it also depends on how each explanatory variable affects the dependent variable. I use the collinearity between education and income to demonstrate three cases. In the first, the independent effect of each variable is statistically significant despite high collinearity. This is the best case scenario for a scholar interested in understanding the impact of education and income, or any other collinear variables. In the second case, exactly one of the collinear variables is statistically significant. In the third, a joint significance test rejects the null hypothesis that both coefficients are zero. Yet the independent impact of each is obscured because the model cannot reject the null hypothesis that either are differentiable from zero. I discuss two methods that respecify the model in a way that clarifies the joint effect of education and income. Both methods require an exploration of the impact of omitted variables in the models. I then present a decision rule for determining how to handle multicollinearity in each case, as well as a method to visualize the impact of multicollinearity and omitted variable bias.

The example used throughout is the effect of education and income on political outcomes, both at the aggregate and individual level. These two variables help clarify more than the mathematical issue with multicollinearity. They also highlight the different, and occasionally opposing, effects of education and income in politics. That is, the well educated do not always behave in the same way as those who have high incomes. For example, among strong partisans, the highly educated tend to be Democratic while those with high incomes tend to be Republican. This is reflected in aggregate political outcomes: districts with many highly educated constituents tend to elect Democrats, while districts with many high income constituents tend to elect Republicans. I hypothesize some reasons why these differences should appear in politics despite both income and education serving as benchmarks for similar category of cultural achievement.

Figure 1 depicts the Case 1 and Case 3. The y-axis represents the number of extra bills passed in a district that is in the upper quartile of districts according to the measure being used (either education, income, or a combined measure), relative to the lower quartile. Solid bars represent statistically significant findings. For example, the bright red bar on the left, which is calculated from the estimated coefficient for income on number of successful bills created, has a magnitude of -0.22 and is statistically significant. The faded red bar on the right has a magnitude of 0.09 and is not statistically significant.

Red and yellow bars represent two measures of district income. Red is the best

Figure 1: Effects of Collinearity



measure when multicollinearity does not inflate standard errors too much to reject the null hypothesis, as it is calculated from the estimated coefficient of a model that includes both district income and education to explain the number of bills a member of Congress successfully sponsors. The yellow bars are estimated from a model that omits the effect of income, and therefore captures the effect of education on bill success as well.

Similarly, blue and green bars represent magnitude of two measures of district education. Blue is calculated from the estimated coefficient in a model that includes both district education and income. Green is calculated from a model that includes education but omits income, and therefore captures the effect of income on bill success as well.

The purple bar explicitly combines the impact of district education and income using principle component analysis. I call the measure represented by the purple bar socioeconomic status (SES). It is similar to what the coefficients for income (yellow) and education (green) represent in the omitted variable models. Any time collinear variables are omitted, the remaining variables capture part of the effect of the omitted variables. In addition to being explicit about combining the impacts of education and income, the SES measure also generally reduces the variation in the model when compared to the original components, and is therefore a stronger predictor.

The left hand scenario shows Case 1, when multicollinearity does not obscure the effects of income and education in a model that includes both. The red (income) and blue (education) bars are statistically significant and substantively meaningful. This scenario also depicts the effect of omitting a variable when both are meaningful,

positively correlated, and have opposing effects on the dependent variable. Namely, the coefficients in the omitted variable models are pulled so far towards zero by the opposing effect of the omitted variable that they are no longer statistically different from zero. In this case, the full model that includes income and education provides the best interpretation of the independent effects of income and education. We can see that Democrats in a Democratic House between 1981 and 1986 produced more legislation when they represented highly educated districts (blue), yet produced less legislation when they represented districts with many high income constituents (red).

The right hand scenario shows Case 3, when multicollinearity obscures the effects of income and education in a model that includes both. The faded red (income) and faded blue (education) bars are not statistically significant because multicollinearity inflated the standard errors too much to determine whether income and education are statistically different from zero. Yet it is still meaningful to interpret either the principle component called socioeconomic status (purple) or the omitted variable models of income (yellow) or education (blue). All three measures represent a combined impact of education and income. Omitted variable bias would only occur if we thought of this variable as the impact of education while holding income constant. If we interpret the variable to mean the effect of both income and education, then omitted variable bias is not a concern. While it is impossible to distinguish the effect of income from the effect of education in these three models, it is possible to say that the combined impact of district income and education is correlated with increased legislative success by Republican representatives in the Republican controlled House between 2011 and 2014.

## Part 3: Republicans and the Increasing Influence of Affluence Since 1972

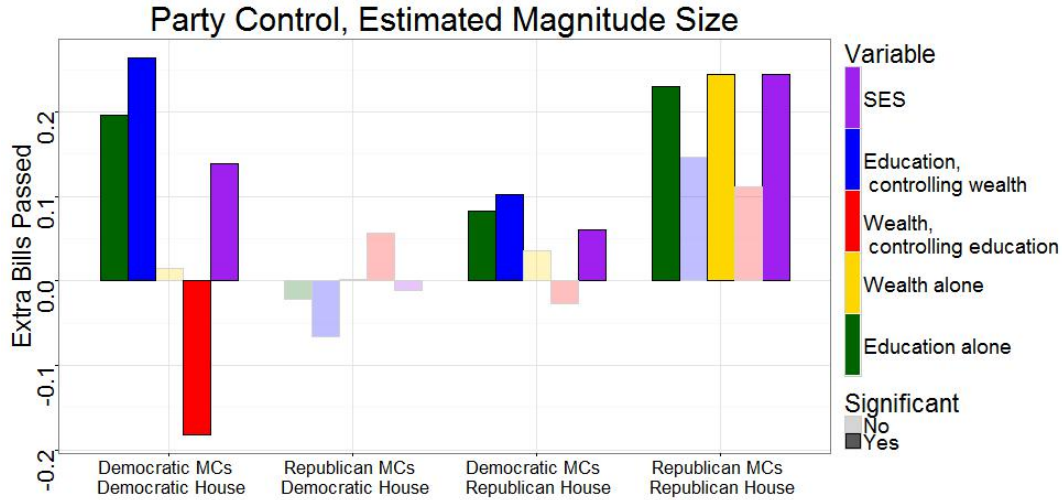
In the first part of this dissertation I examined how representatives make trade-offs between constituent service and policy in ways that favor the policy interests of socioeconomically privileged constituents. The trade-offs they made translated into a 23% increase in legislation created by legislators who represent socioeconomically privileged districts. The trade-offs were clearest for Republicans, who were both in the majority party and more ideologically aligned with the interests of the wealthy than Democrats. Yet the importance of affluence for Democratic legislative behavior was not evident.

In the second part of this dissertation I presented a method for accounting for the collinearity between education and income in two contexts. This is critical to understanding the changing impact of district income on legislative success, as the method to account for the effect of multicollinearity changes over time and by party.

This part of the dissertation introduces two theories that highlight the importance of majority party control and the differences between Republicans and Democrats. First, I propose that when a party does not control the House, they have minimal opportunities for legislative success and therefore the effect of district income and education is often obscured. Second, I propose that the influence of the affluent in legislative success should be stronger for Republicans than for Democrats. To test these two theories, I introduce a novel dataset that covers that covers forty-two years of legislative outcomes and district demographics. I find that Republicans produce more legislation when they represent high income districts and are in control of Congress, while Democrats produce more legislation when they are in control of Congress and represent highly educated yet poorer districts. Finally, I propose that the overall influence of the affluent has changed over time. High income individuals are increasingly likely to be Republican, high income individuals control an ever growing share of the country's wealth, and Republicans have taken control of Congress. Due to these changes and more, I expect that the influence of the affluent has increased over time. I explore whether this increase is solely due to the increasing political power of Republicans. I suggest that these changes reflect not only the increasing power of Republicans, but the changing geographic base of each party. Southern Representatives have always tended to produce more legislation when they represent high income districts. As the Republican party gained power in the South and the nation, the influence of affluent of affluent districts on legislative success has increased.

I provide empirical support for marked differences between Republicans and Democrats when they are in the majority party, as seen in Figure 2. I then show that the increasing power of the Republican party has been associated with increasing influence of the affluent. I examine a few more potential mechanisms for the

Figure 2: Republicans in Republican Houses produce more more successful legislation when they represent wealthy and educated districts. Democrats produce more successful legislation when they represent highly educated yet poorer districts.



increasing influence of affluence and the association between Republicans and the interests of the wealthy.

1. Is the increased influence of the affluent is a bipartisan trend or specific to a particular party? I find that Republicans increasingly produce more legislation when they represent high income districts, while Democrats have always produced more legislation when they represent more educated yet poorer districts. That is, there is a time trend for the influence of affluence for Republicans, but not for Democrats.
2. Is the increased influence of the affluent for Republicans due to the changing regional base of the party? I find that Southern Representatives have always tended to produce more legislation when they represent high income districts. As the Republican party became more conservative and gained power in the South and the nation, legislative success by representatives from high income districts has increased.