Demographics of Democratic Underperformance in 2016

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LITERATURE REVIEW

- In the 2016 US presidential election, Hillary Clinton underperfomed compared to Barak Obama in 2012 (Ball 2016).
- Lewis-Black and Quinlin (2019) examine evidence of a broad range of factors that have spatio-demographic components.
- However McCall and Orloff (2017) note the significance of identity politics in the outcome, which may not appear in spatio-demographic patterns.
- Goldman et al. (2019) associate deaths of despair as a proxy for a broader range of social challenges that may have been manifest in the results.

RESEARCH QUESTIONS

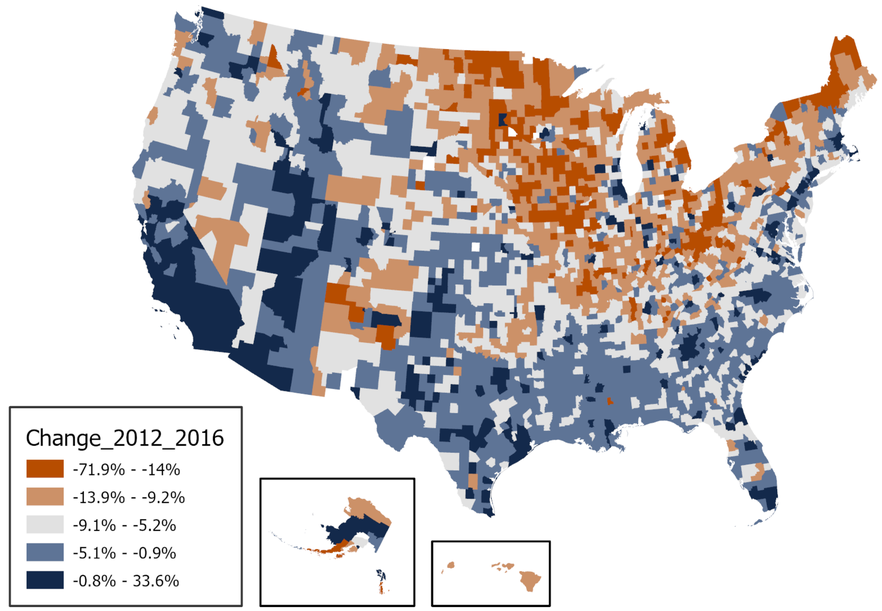
- Where did Hillary Clinton underperform in 2016 compared to Barak Obama in 2012?
- What demographic factors were associated with that underperformance.
- What spatial patterns hint at non-demographic factors associated with that underperformance.

METHODS AND DATA SOURCES

- ArcGIS Pro 3.0.3
- Exploratory Regression
- Ordinary Least Squares Regression
- Global Moran's I

- County level electoral results from state secretaries of state offices
- Demographic data from the US Census Bureau's 2015-2019 American Community Survey five-year estimates

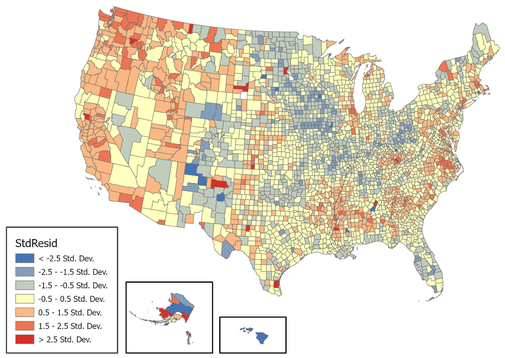
DEMOCRATIC UNDERPERFORMANCE IN THE 2016 vs. 2012 ELECTION



ANALYSIS

OLS Diagnostics

Input Features	Counties	Dependent Variable	CHANGE_2012_2016
Number of Observations	3121	Akaike's Information Criterion (AICc)['d']	17247.061906
Multiple R-Squared['d']	0.472931	Adjusted R-Squared['d']	0.472085
Joint F-Statistic['e']	559.008755	Prob(>F), (5,3115) degrees of freedom	0.000000*
Joint Wald Statistic['e']	2131.425036	Prob(>chi-squared), (5) degrees of freedom	0.000000*
Koenker (BP) Statistic['f']	79.574383	Prob(>chi-squared), (5) degrees of freedom	0.000000*
Jarque-Bera Statistic['g']	87182.933816	Prob(>chi-squared), (2) degrees of freedom	0.000000*



Variable	Coef	StdError	t_Stat	Prob	Robust_SE	Robust_t	Robust_Pr	StdCoef
Intercept	15.752436	0.723694	21.76671	0	0.84585	18.623211	0	0
LATITUDE	-0.538228	0.014651	-36.736999	0	0.02146	-25.080133	0	-0.525259
LAND_SQUARE_MILES	0.000267	0.00002	13.222732	0	0.00005	5.383511	0	0.179186
PERCENT_DEM_2012	-0.059848	0.00483	-12.391841	0	0.007677	-7.795454	0	-0.166873
MEDIAN_AGE	-0.164764	0.013264	-12.42146	0	0.014453	-11.40015	0	-0.16859
PERCENT_BACHELORS...	0.476536	0.012905	36.926678	0	0.013749	34.660792	0	0.513895

CONCLUSIONS

- Exploratory regression finds the best model (adjusted R-squared of 0.472) includes latitude (strong negative), county size (positive), percent 2012 vote (negative), median age (negative), and percent with a bachelor's degree (strong positive).
- Low VIF indicates no meaningful multicollinearity.
- However, a Moran's I of 0.19 indicates significant autocorrelation in the residuals, which, along with the strength of latitude, makes the coefficients unreliable.
- These results corroborate the importance of missing non-demographic factors, like the effectiveness of the campaigns, the influence of media, structural biases, and the unique strengths and weaknesses of the candidates.

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