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Trump´s first Triumph: The US Republican Primaries 2016 – An Analysis of Socio-Demographic, Time-related and Regional Influences

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Abstract

On the night of November 8th 2016 Donald Trump won the US presidential election with 306 electoral votes (vs. 232 for Hilary Clinton). Most notably, all of the numerous election forecasts failed to predict Trump´s victory. It was preceded by Trump´s unforeseen achievement in the primaries. The main question arises "Who exactly voted for him?". In this regard we analyze the primaries of the Republican Party of 2016. Given the total failure of survey-based polls we base our empirical analysis on socio-demographic factors of the electoral constituency at county-level (2764 counties) to predict Trump´s actual voting shares.

The regression analyses show that a larger proportion of White Americans leads to an increasing share of votes for Trump. But there is no statistically significant impact of the share of Evangelical Protestants. By contrast, we cannot reject the hypothesis that a large proportion of veterans in the population goes hand in hand with Trump´s success. The study also outlines that low education, low income and a high unemployment rate have a positive impact on votes cast for Trump. However, the population density has no influence. Thus, beside the aforementioned socio-demographic variables the rural versus urban difference per se has no explanatory power.

Yet, these variables together explain only 13 percent of the variance of the vote shares of Trump. The momentum effect that is, the time a primary took place in a county increases this explained variance. But in fact, state specific differences of Trump's votes are by far the most relevant factor. Thus, the regression analyses prove once more the fact that the United States of America are no homogenous country. Beside differences in income, education, employment and population density, cultural or traditional values and other deep-rooted regional disparities matter as well.

JEL classification: D72

Keywords: Voting, US, primaries 2016, election, Trump, Socio-demographic influences, bandwagon, states

1 Introduction

On the night of November 8th 2016 Donald Trump won the US presidential election with 306 electoral votes (vs. 232 for Hilary Clinton). Even considering that Mrs. Clinton slightly leads in the popular vote this outcome was a big surprise. All of the numerous election forecasts failed to predict this victory (Graefe 2016). Most surprisingly the sophisticated methods of ex-ante voter polls in order to predict actual voter behavior were not able to reveal Trumps real support.

This astonishing success was preceded by Trump´s unforeseen achievement in the primaries of the Republican Party. He declared on June 16th, 2015 that he is going to participate in the race for becoming president of the United States of America. In the Republican Party primaries Donald Trump started in a field of 17 people who were running for a presidential nomination, which is the largest number of candidates in history for the Republican Party (Linshi 2015). In summer 2015, in the polls he was able to overtake all his competitors but Jeb Bush who had the most consent among the presidential candidates at that time (Chinni 2015). But nonetheless, the majority of political observers still had doubts whether an unpredictable candidate Trump can win the nomination (Stewart 2016). In spite of his outsider campaign and his serious blunders, Donald Trump reached his goal in July 2016 and was able to clinch the Republican presidential nomination with the 1.237 delegates necessary.

In this paper we analyze the primaries of the Republican Party occurring between February 1 and June 2016. Given the failure of survey-based polls we concentrate on aggregate socio-demographic factors of the electoral constituency at the county level to predict Trumps´ actual voting shares. The data set covers election results in the primaries of 2764 counties from all of the participating federal states.

Chapter 2 provides a brief overview of the state of research as to factors predicting Trumps success in the Grand Old Party (GOP) primaries of 2016. Chapter 3 derives hypotheses and describes the database. Chapter 4 presents a multiple regression analysis. Finally in Chapter 5 we conclude and develop aspects of further research.

2 Current state of research

Until early in 2017 there are very few scientific publications dealing with Trump´s election process, because the topic is relatively new. Thus, most of the actual studies discussed in this chapter will be descriptive. In addition, we consider analyses of former US primaries. But, due to the very different circumstances and nature we only touch on analyses of the presidential elections in general and also of November 8th.[1]

An early descriptive research, published in November 2015, examined characteristics of Trump supporters (Jones et al. 2015). 55% of Republicans who support Trump are white working class, while the support for other Republican candidates only consists of 35% working class voters. Moreover, 60% of the white working-class say, that discrimination against whites ("reverse discrimination") becomes a more important topic. This view is with 36% lower among whites with at least a college degree (Jones et al. 2015: 38).

The above mentioned ethnical factor plays an important role in other researches as well. Hetherington and Engelhardt disclosed a descriptive analysis at the end of February 2016, a few days before Super Tuesday, where many elections in southern states took place. For this survey white Democrats and Republicans were asked to respond to certain statements about racial attitudes (Hetherington/Engelhardt 2016). The results were compared with a panel from 1986. They indicate that in 1986, the racial attitude of Democrats and Republicans did not differ much, while 2016 the racial resentments of white Republicans grew strongly and the racial resentments of Democrats slightly decreased. In a second step they include the variables Southern and Evangelical to White and Republican. Both variables enforce the tendency to stronger racial resentments and indicate a strong regional difference inside white evangelical Republicans.

In March 2016 Irwin and Katz published and interim analysis for Trump´s election results (Irwin/Katz 2016). Their correlation analysis reveals that Trump is doing well in counties in which the inhabitants define themselves with a "white" identity and counties with prolonged economic dysfunctions, for example high unemployment. He also has strong support in places with a high share of people who did not finish high

[1] As to the elections in the US the classical text is Campbell et al. (1960). Geys (2006), Lewis-Beck et al. (2008), Graefe (2013), Weisberg (2015) and Cancela/Geys (2016) provide actual overviews. As to forecasting elections see Hummel/Rothschild (2014).

school. But on the other hand Trump also has a strong backing from affluent and educated people. In addition, there are big regional differences not only related to an urban vs. rural cleavage. In this respect historical racial segregation may play an important role.

Pew Research Centers´ poll released in July 2016 underlines the importance of religion and ethnicity (Pew Research Center 2016). The study shows that out of 100 white protestant voters, 75 would vote for Donald Trump and 36 of them even strongly support him (Pew Research Center 2016: 4). On the other hand, if voters are religiously unaffiliated, only 23 out 100 people would give their vote for Trump. In addition, the religious composition of the registered voter for each party turns out to be relevant. The Republicans consist of 35% white evangelical Protestants and of 18% white mainline Protestants: In total 53% white Protestants. To the contrary amongst black Protestants and Hispanic catholic voters, Trump has a much lower consent (Pew Research Center 2016: 16).

Income and education of Trump supporters are the focus of an article in The Economist (Economist 2016a). The author figured that Trump had slightly more support among the voters with an income under $50.000 a year than on an average. For those voters with an income over $100.000, Trump achieved results closer to the average. In the state New York, he even gained 64% of the votes from people with an income higher than $100.000. Exit polls in Illinois show a strong support among Americans with a high income and college graduates and postgraduates make up to 43% of his support. In summary, Trump is not only a candidate for the poor, less-educated working class. He is giving a voice to disaffected blue-collar whites, but wealthy and educated republican voters contribute to his success (Economist 2016a).

The economic situation and the ethnical component are considered as predominantly responsible for Trump’s success in an article from NBC. Trump above all wins in states with an African American population over 8% and unemployment over the national average of 5% (Chinni 2016). The logic is not that Trump is able to win black voters but rather white citizens living in districts with large African American populations. In addition, he claims that polls are not relevant and momentum effects do not exist.

Guo (2016a, 2016b) claims that the financial situations of voters and education are the vital factors of election behavior. For education, the author compared the results of Trump with the percent of population with a college degree. The higher the percentage for people with a college degree was, the lower was the result for Trump. The income had a similar influence. The higher the medium income was, the lower was the result for Trump (Guo 2016a). In the same line, Trump loses about 2 percentage point of his vote if additionally 12% of adults had jobs (Guo 2016b). Sides/Tesler (2016) and the Wall Street Journal (2016) confirm this finding. Economic and financial dissatisfaction of voters increases the support for Trump (Sides/Tesler 2016). The Wall Street Journal published an overview with important attributes of Trump supporters (The Wall Street Journal 2016): 60% of them have a lower income per year than $75.000 and 62% have no college degree.

Trump seems to be favored by military dependents as well. A survey of Military Times indicates that Trump would have a big advantage against Clinton for the general election with about twice as much consent (Shane/Altman 2016). Additionally, exit polls in South Carolina indicate a strong support for Trump by military members or veterans. 35% of male and 31% of female veterans and military members voted for him. That is about 10% more votes for Trump than for Cruz or Rubio (Gamino/Clement 2016, see also Harress 2016).

Bump (2014) investigates the role of population density in primaries. His analysis shows that voters in presidential elections living in cities tend to vote for Democrats while voters from rural areas prefer to vote for Republicans. Hamilton (2006) confirms this outcome as to presidential elections. Furthermore, a research of Desilver (2014) indicates that conservative people prefer to live in small cities and rural areas with people around them who share the same faith, while liberals prefer a mix of different races and ethnicities. An evaluation from Wisconsin reveals that Trump is especially successful in rural areas and looses voters in the bigger cities (Bishop 2016). This scheme might be applicable for other states in die US as well.

Ali and Kartik underline the possibility of a „bandwagon-effect“ for elections (Ali/Kartik 2008). They develop a theoretical model including a sequential voting process where every voter has got information about the history of votes for each candidate. As a result, voters can be influenced by such a string of elections. The descriptive analysis of Malhotra and Snowberg (2008) and Silver (2016) underline the relevance of the

sequence of the primaries. Candidates who are successful in the first primaries might have an advantage by creating a "bandwagon". Those candidates can build momentum by getting covered by the media, attracting undecided voters and donors. In this analysis the authors examined whether the early primaries such as Iowa and New Hampshire have an impact on the results of later primaries in 2008. Dowdle at al. (2016) confirm this momentum effect by means of a regression analysis of the presidential nomination outcomes of 2016.

In contrast to these predominantly descriptive evidence Rothwell and Diego-Rosell present a multiple probit regression analysis testing a battery of hypotheses. Furthermore, their analysis covers more than 50 independent variables and bases on a huge data set of 125,430 survey respondents (Rothwell/Diego-Rosell 2016). These are respondents of Gallup surveys from July 2015 to October 2016. The most relevant findings are: A higher level of education, i.e. a post-bachelor´s degree, leads to a lesser support for Trump. Ethnic affiliations and religion also play an important role. White respondents show a positive probability to be pro-Trump and the same holds as to respondents who claim "Religion is important". This is also the case for veterans or family member of veterans. As to economic conditions a low household income and unemployment both have a positive influence. Furthermore, population density at the county level exhibits a negative influence on support for Trump (Rothwell/Diego-Rosell 2016: 13, 29). This survey is the most comprehensive dataset in order to predict Trump´s result in the presidential elections of November 2016. It too, completely failed to forecast Trump´s success. Of all of the respondents 63 % expressed an unfavorable view of Trump. Considering the actual election results these answers were for sure heavily biased.[2] This underlines the necessity to base an analysis on actual voting outcomes and hard facts instead of the "answers" of a telephone survey.

Finally, another factor that influences the results of the primary elections might be the cultural differences between regions. The USA are not a homogenous nation. They rather consist of cultural clusters, e.g. census regions and divisions.

[2] We do not discuss the fact that in their paper Rothwell and Diego-Rosell provide a very peculiar evaluation of their probit regression. They do not give an interpretation of the coefficients of their model specification. Instead they use the size of the corresponding t-Tests as an indicator of the importance of an independent variable (Rothwell/Diego-Rosell 2016: 13).

In summary, the existing empirical evidence points to eight potential influence factors on Trump's election success. These are the share of white population, evangelical Protestants, Veterans, poor education, unemployment rate, low income, population density, time related effects and other regional differences.[3]

3 Hypothesis and data basis

3.1 Hypothesis

Considering the existing empirical evidence of chapter 2, the following hypotheses are put forward for the regression analyses.

Hypothesis 1: The higher the share of white people in a county, the higher the share of votes for Trump.

White people are expected to have a tendency to vote for Donald Trump. A large number of studies confirm the idea that ethnical affiliations correlate with voting decisions (Jones et al. 2015, Hetherington/Engelhardt 2016, Irwin/Katz 2016).

Hypothesis 2: An increasing share of evangelical Protestants has a positive influence on votes for Trump.

An increasing proportion of evangelical Protestants should lead to a greater number of votes for Trump (Pew Research Center 2016). The reason for this expectation is the high racial resentments of white evangelical Republicans in connection with the fear to become a majority-minority, which make Trump interesting for them, because of his race-oriented statements (Hetherington/Engelhardt 2016, Nteta/Schaffner 2016). On the other hand Irwin and Katz (2016) find a negative correlation but this survey only examined the first 23 elections and the variable included only anglo-saxon people (see also Gallup 2016).

Hypothesis 3: More veterans in a county will lead to more votes for Trump.

A further positive correlation is highly probable between Veterans and Trumps success. Several studies back this proposition (Shane/Altman 2016, Gamino/Clement 2016, Harris 2016). For instance, Trump suggests a reform of the

[3] Several other papers exist scrutinizing distinct aspects. For instance, Oliver and Rahn (2016) underline the ethnocentric identity of Trump supporters. But their analysis concentrates on the relevance of "populism" based on a quantitative content analysis of the announcement speeches of the candidates.

veterans' administration to improve their situation and only intends to enter into conflicts that make America safer as a nation (Trump 2016a, Trump 2016b).

Hypothesis 4: A low education level goes hand in hand with more votes for Trump

It is expected that people without a college degree prefer Donald Trump. One specialty of Trump is his simple language (Oliver/Rahn 2016, Swaim 2016). Emphasizing key words which are mostly in the end of a sentence, avoiding subordinate sentences and the usage of short sentences are typical for him and untypical for "ordinary" politicians. Especially white men with no college degree suffer from globalization due to falling employment numbers in the field of manufacturing (Thompson 2016). Donald Trump is constantly talking about those problems and accordingly, this frustration of the people without a college degree is likely to be expressed by supporting Donald Trump.

Hypothesis 5a: High unemployment leads to more votes for Trump.

Hypothesis 5b: A low income per household increases Trumps vote share.

It is assumed that Trump´s support will grow with higher unemployment rates and low income per household. Both variables represent the people in the most sensitive situations: People and families without income and low income. A low or no income leads to a lot of frustration. Since 1980, the mortality rate for middle-aged white people is increasing (Khazan 2015). Causes are often alcohol, drugs and suicide, what indicates high dissatisfaction with one's life. One explanation for this dissatisfaction might be financial problems. The U.S. has lost millions of manufacturing jobs for people with non-college education since 2000. The numbers of jobs that involve working with one's hands like construction or especially manufacturing are decreasing, what effects the white working class (Irwin/Katz 2016).

Hypothesis 6: The share of votes for Trump will be greater in less populated states.

As a headline from an article of the Washington post says, there are two Americas, an urban one and a rural one (Bump 2014). This differentiation is explained by cultural differences. People in more rural areas tend to vote for republican nominees, where as in cities people are more liberal and vote for democratic politicians

(Hamilton 2006). Many other sources outline that Trump achieves better in regions with a low density of population (Bishop 2016).

As additional control variables we include first the timing of the primaries. The longer Trump remained a competitor in the Republican primaries, the better his results could be in the later primaries and caucuses. Such a kind of bandwagon or momentum effect should be visible in the primaries due to their sequential nature. Despite the first primaries being held in Iowa and New Hampshire, they do not have the same impact on the following results compared to the later primaries. The Super Tuesday states may have a larger impact on Trumps´ vote share. Additionally, the later a primary election takes places, the fewer candidates have a possibility to win. Candidates usually stop their campaigns, when they have no chance to win. It is basically still possible to vote for a candidate that stopped his campaign, but if voters want to influence the election for the presidential candidate of their party, they vote e.g. for a certain candidate to prevent an undesirable candidate to make the race. These effects should be more pronounced the later a primary takes place. Thus, we conjecture a non-linear time effect on Trump´s vote share.

Second, the US is a culturally and politically heterogeneous country. In general, it is possible to distinguish within the USA between nine census divisions that are subdivisions of four census regions (US Census Bureau 2017). But each state has its own government and its own political background and therefore it is straightforward to conduct the analysis by state and not just by more aggregated regions. Thus, we use a dummy variable for every state to control for regional specific impacts.

Finally, the literature review gives way to the idea that complex relationships between these variables exist. Tentatively we consider the following interaction effects: ´White and Protestant´, ´White and Unemployment´ and ´White and Low Education´.

3.2 Data basis

Given the obvious failure of polls to predict voters support for Trump (Economist 2016b, Graefe 2016), we use his actual vote shares in the Republican party´s

primaries at the most disaggregate level available, i.e. the county level.[4] This implies that we have to rely on socio-demographic and economic information on this level at minimum.

Table 1: Variable definitions

Variable name	Description	Unit
Dependent variable		
Result	Share of people who voted for Donald Trump.	% of total voters participating in the Republican primary in a county
Independent variables		
White	White non-Hispanic people.	% of total population of a county
Evangelicals	Evangelical Protestant denominations. There are 146 different Evangelical Protestant denominations in the US.	% of total population of a county
Veterans	Men and women who have served (even for a short time), but are not currently serving on active duty in the U.S. Army.	% of total population of a county
Low_Education	People whose highest educational attainment is a high school degree.	% of total population of a county
Unemployment	People who are over 16 years old and part of the civilian labour force but do not have a job.	% of total population of a county
Low_Income	Households with an income lower than $25.000 per year.	% of total population of a county
Pop_Density	People per square mile	metric
Date	Counties of a state get the same number according to the chronological order of the primary elections of 2016.	ordinal
States	Dummy variable, every county of the same state gets the same number.	nominal

For the analysis, we use information of 44 out of 50 states. Our study bases on 2764 counties from these 44 states. The United States of America consists of 50 states with 3144 counties or comparable units. Thus, this study contains about 88% of all

[4] In fact all of the different approaches to predict Trumps´ presidential election results failed. This is true as to prediction markets, voter surveys, econometric models and expert judgements. In comparison, the econometric models outperformed the other techniques (Graefe 2016).

states and approximately 88% of all counties from the United States of America. Appendix 1 describes the reasons as to the exclusion of several states and counties.

We use the results of Trump´s share of votes (in %) for each county as dependent variable. The independent variables related to hypotheses are ethnical and religious affiliation, military background, level of education, unemployment, level of income and population density. As control variables we include time, the date of the primaries and regions, i.e. the federal states. Table 1 explains the definitions of the dependent and the independent variables in more detail.

The following Table 2 provides an overview of the mean, standard deviation minimum and maximum of our variables. The share of Trumps´ votes is limited to 7.6 % in Madison county (Idaho) but reaches 94.6% in Poquoson city (Virginia). All the independent variables show a considerable amount of variation and indicate the great heterogeneity of socio-demographic circumstances and living conditions between counties in the US. Thus, our data at the county level are detailed enough to cover the very different characteristics of the electorate.

Table 2: Data description

Variable	Mean	Std. Dev.	Min	Max
Result	47.37442	15.86452	7.6	94.6
White	76.97858	19.96755	3.1	99.8
Evangelicals	24.2402	16.58369	.29	100
Veterans	10.18488	2.708517	0	26.3
Low_Education	50.80959	10.52479	12.1	78.6
Unemployment	8.934081	3.632718	0	29.6
Low_Income	28.2089	8.17055	5.2	58.3
Date	8.171129	4.198998	1	17
Pop_Density	216.7855	1309.548	.1654651	48827.73

4 Regression analysis

First, we conducted a regression analysis with the variables based on our hypothesis, that is our core model (= model_1).[5] This model includes the seven independent variables “White” to “Pop_Density”. The Breusch-Pagan and also the White-test indicate the presence of heteroscedasticity, therefore robust standard errors had to been used. Model 2 adds Date as an independent variable to control for possible momentum effects. Here, most likely a non-linear relation between the date

[5] The results are obtained using Stata Version 14.0.

of a primary and Trumps´ vote share exists. Thus, this specification includes Date2, the quadratic figures of the variable Date. The following Table 3 gives an overview of these models. Model 3 extends this and incorporates state specific dummy variables to control for state related differences. For this model too, homoscedasticity has to be rejected. Moreover there is strong evidence of intra-state correlation of the residuals. Hence, we rely on cluster robust standard errors.

All of our three models are significant at the 1-%-level. The explained variance increases from rather modest 13% of Model 1 to about 69% in Model 2 up to 84% with regard to Model 3.

Moreover we use different approaches to detect influential observations and outliers. In a lot of counties the standardized residuals and CooksD exceed the usual thresholds. The same result holds as to several coefficient estimates using Dfbetas. In order to check the robustness of the estimates Model 4 applies an iterative weighted robust regression (IWR) method (Hamilton 1991) and Model 5 presents the estimates of a least absolute deviation (LAD), i.e. median(50%-quantile)-regression (Cameron/Trivedi 2010: 211-222).

Table 3: Regression models

	Model_1	Model_2	Model_3	Model_4	Model_5
Method	OLS	OLS	OLS	IWR Robust	LAD Robust
White	0.0679	0.0442	0.0629	0.0539	0.0622
	(0.016)	(0.011)	(0.021)	(0.008)	(0.020)
	4.20***	4.16***	2.97***	6.62***	3.18***
Evangelicals	-0.3076	-0.0096	-0.0317	-0.0520	-0.0446
	(0.019)	(0.014)	(0.029)	(0.009)	(0.022)
	-16.33***	-0.71	-1.10	-5.81***	-2.01**
Veterans	0.663	0.466	0.382	0.539	0.488
	(0.121)	(0.079)	(0.156)	(0.043)	(0.101)
	5.46***	5.93***	2.45**	12.52***	4.83***
Low_Education	0.037	0.2335	0.216	0.284	0.279
	(0.041)	(0.028)	(0.057)	(0.014)	(0.034)
	0.89	8.29***	3.76***	20.39***	8.28***
Unemployment	0.339	0.612	0.183	0.230	0.293
	(0.104)	(0.064)	(0.070)	(0.042)	(0.059)
	3.24***	9.49***	2.63***	5.45***	4.97***
Low_Income	0.353	0.196	0.266	0.232	0.217
	(0.059)	(0.039)	(0.075)	(0.020)	(0.041)
	6.01***	5.06***	3.58***	11.74***	5.33***
Pop_Density	0.0006	0.0006	.0002	0.00004	0.0002
	(0.00037)	(0.00032)	(0.000096)	(0.00008)	(0.00044)
	1.66*	1.83*	1.85*	0.52	0.38
Date	-	0.374	-13.443	-12.552	5.122
		(0.157)	(0.496)	(0.745)	(0.409)
		2.39**	-27.08***	-16.85***	12.53***
Date2	-	0.137	0.866	0.814	-0.133
		(0.008)	(0.023)	(0.039)	(0.020)
		16.63***	38.00***	20.78***	-6.58***
State dummies	No	No	Yes	Yes	Yes
Constant	27.877	1.845	64.071	57.757	-7.584
	(2.611)	(1.768)	(3.502)	(3.382)	(2.395)
	10.68***	1.04	18.29***	17.08***	-3.17***
R^2	0.132	0.686	0.842	0.723	0.832
Adjusted R^2	0.130	0.685	0.839	-	-
F	58.01***	707.43***	288.44***	468.75***	-
N	2764	2764	2764	2764	2764

Notes: Coefficient/Robust standard errors in parentheses/t-value
Level of significance: ***1%-, **5%-, *10%-level
Robust standard errors: Model_1 and Model_2: HC_1-type, Model_3: Cluster robust clustered at the state level, Model_4: Standard errors are calculated using the pseudovalues approach (Street et al. 1988), Model_5: Machado-Santos Silva method (Parente/Santos Silva 2016) Model_4: Robust regression-R^2 (rregfit-procedure)

The variables White, Veterans, Low_Education, Unemployment and Low_Income are statistically significant at the 5-%-level across all the five models. The only exception is Low_Education in case of Model 1, which almost certainly suffers from misspecification, that is bias due to omitting time and regional influences. As we expected, these variables have a positive impact on Trump´s vote share.

Against our hypothesis Trump's election success cannot be explained by the variable Evangelicals. Its significance level depends on the model and in our preferred Model 3 (see below) it is not significant at the 10-% level. Neglecting the statistical significance it turns out to have even a negative impact. One approach to this result is that Trumps strongest competitor, Ted Cruz, who considers himself a very religious person, convinced more evangelical Protestants to vote for him instead for Trump. In addition especially highly religious voters had concerns whether Trump is a proper candidate (Gallup, 2016).

Tentatively, we add the three interaction variables White*Evangelicals, White*Unemployment and White*Low_Education. All of these interaction variables are not significant and do not improve the model fit.

Population density (Pop_Density) has no relation to votes for Trump. In all our models it fails to be significant at the 5-%-level. Ignoring this result, contrary to our hypothesis the coefficient is positive. But non-linear impacts are plausible as to population density. Therefore, we specify the reciprocal value of Pop_Density and also a log-log model to check for non-linear relations. These models do not reveal significant impacts of Pop-Density (we skip the depiction of the results). Thus, density effects per se are not relevant controlling the impact of the other variables (i.e. White to Low_Income and state dummies). Living in a rural community with a low population density has no own separate effect. Sociodemographic characteristics and economic situation turn out to be the relevant factors.

As to the practical importance of our statistically significant variables we use Beta coefficients (again not depicted for sake of brevity). Here, Low_Education has the largest Beta coefficient (0.143). Thus, a one standard deviation increase in Low_Education leads to a 0.143 standard deviation increase in the predicted vote share of Trump. Low_Income has the second most important impact (0.138). At the

other extreme, a one standard deviation increase in Unemployment rises Trumps´ vote share by only 0.042 standard deviations.

The impact of the variables Date and Date2 are significant (1-% level). But the coefficients change signs with regard to the five models in Table 3. Testing Models 2 and 3 for multicollinearity shows that our specifications are strongly affected. The mean VIF of Model 3 is almost 48 and multicollinearity affects the variables Date, Date2 and several states. In this respect, the estimations of Model 3 to 5 differ as to the (forced) exclusion of different states due to multicollinearity. Hence, with our data set it is impossible to isolate the impact of the variable Date and Date2 on one hand and several states on the other hand.

Finally we explore state specific differences. Leaving the time variables out of consideration and instead including the states leads to an adjusted R^2 of 84% (not presented in Table 3). Subsequently adding the variables Date and Date2 only eliminates two states because of multicollinearity but does not improve the coefficient of determination. Model 2 alternatively considers date related effects instead of controlling for states. It gives an adjusted R^2 of only 68%. Therefore, in comparison state specific differences play a dominant role.

Appendix 2 depicts the specific influences of the federal states. Digging deeper as to the means of Trump´s votes in these states we use an analysis of covariance and adjust for multiple comparisons (Bonferroni-method). This reveals that most of these differences between the federal states are significant on the 1-%-level.[6]

5 Conclusion and critical appraisal

Before the Presidential Primaries began Trump was seen as an underdog with poor chances of winning – not to speak of winning the presidential elections. A lot of articles have been published since his surprising victories in the primaries about his followers and the mindset of people who vote for Trump. But there are only few studies dealing in depth with this topic. This nationwide analysis aims to work on this research gap.

[6] The results are available from the authors upon request.

Our regression results confirm several widespread conjectures. The racial background as to white people, a low educational background, a high level of unemployment and a low family income lead to more votes for Trump. Furthermore, the regression analyses find a clear tendency of military veterans to support Trump. These variables predict Trump´s vote share controlling for state specific influences. Interestingly, these sociodemographic factors are statistically highly significant but only have a very limited relevance compared to regional differences.

The proportion of evangelical Protestants is not significant or may even have a negative impact. One explanation is that the variable Evangelicals covers 146 different Evangelical Protestant denominations (Association of Religion Data Archives 2010). Since all of them have more or less different kinds of beliefs, it is not precise to use only one denomination. Moreover, here our data may be flawed. This is possible, because of the definition: Evangelicals comprise people attending those services as a share of the population. These estimated figures are prone to errors and biases.

A striking finding is that there are no rural or urban effects. The population density does not play a role besides and above the sociodemographic and regional factors.

The existence of a momentum (bandwagon) effect remains an open question. A correlation between Trump´s election results and the temporarily succession of the voting states is probable. But our data set does not allow to discriminate between time-related effects and state specific influences. This is due to the fact that the primaries in all the counties of a state take place at the same date. Moreover in some states the primaries are conducted at the same time. This leads to the problems of multicollinearity mentioned above.

Above all, our study underpins that the United States of America are no homogenous country. Hence, regression analyses require controlling for regional differences. The results underline the tremendous relevance of state specific impacts to predict voting behavior. Its practical significance dominates all other factors. This corroborates results in the literature. For instance, Fisher (2016) finds that state political culture plays an important role for Donald Trump´s vote shares in a particular state.

In this regard the question arises if states are a useful bundling of regional clusters. Besides the aforementioned census regions and census divisions other regional

delineations are possible. These are e.g. the eight economic regions of the Bureau of Economic Analysis (BEA 2017) or the “Nine Nations of North America” (Garreau 1981). The former relies on economic characteristics the latter bases mainly on culture and values. In this respect rather different clusters are at hand. Another suggestion to map regional cultures consists of eleven regions. Woodard distinguishes eleven nations in the U.S. based on political, ethnical and ethnographic characteristics (Woodard 2011: 1-2). On the other hand the federal states may be an administrative boundary incorporating very diverse cultural entities. In this respect more disaggregated regions, e.g. the Core Based Statistical Areas (CBSA) might be more adequate (US Bureau of Census 2017b).

Further lines of research as to Trump´s success include the link between political party identification for GOP and people´s feelings about candidate affects (Jacobson 2016) or the influence of new Social media with regard to voter´s preferences (Oates/Moe 2016, Wang et al. 2016). Possibly a complex interaction of race, education and unemployment goes in hand with regional differences related to cultural and historical reasons (Katz/Irwin 2016).

In this respect, Trump bundled several items crucial for specific electorial groups and did not present a coherent political program. The most relevant of these special interest groups are “anti-immigrationists”, “anti-globalizationists” (= “old-industry-loosers”) and “anti-establishment-partisans”. These “soft factors”, such as dissatisfaction and lost trust in the establishment are very hard to measure and put into variables, but assumingly take a big part of why people vote for Trump. Summing up, the “Case of Trump” not only poses an important political challenge but also a defiance in empirical research.

A further extension to distinguish state and time related influences in the primaries would be the use of the outcomes of the presidential elections of November 2016. The relative share of Trump´s votes in this election between the states could be used as an indicator of cultural differences. In a Bayesian regression approach it would be possible to use this a-priori information to control for cultural differences in the primaries, thus identifying possible momentum impacts.

Several publications claim that in addition to our exogenous variables a low health status has an important (Gou 2016a, Guo 2016b) or even dominant (Economist

2016b) positive influence on Trump´s vote share. The inclusion of such indicator variables, e.g. obesity, diabetes or mortality rates of people ages below 65, is an interesting extension of our analysis. However, the empirical evidence in the medical literature underlines the impact of education on health and not vice versa, the so-called “Social Gradient” (Donkin 2014). Thus it is a question of further research if variables of health status add predictive power beside education or not.

Appendix 1: Data set delineations, sources and cleansing

Alaska, Kansas and Minnesota conducted a primary election, but these states do not display their results on county-level. Instead they have Congressional Districts, which are not comparable with counties, because they are much bigger. Colorado and North Dakota selected their delegates at a state-wide convention. Wyoming conducted a winner-takes-all caucus, which means that no results at the county level are available. Hence, all these states are not part of our analysis. In addition, the District of Columbia (Washington D.C.) is not a federal state of the United States of America and does not belong to any federal state. It directly reports to the congress of the Unites States. Thus, it is also excluded.

Moreover, the following Counties are excluded from this survey because a lack of usable data: Carroll County (Arkansas), Kalawao County (Hawaii), Clark County (Idaho), Arthur County and Logan County (Nebraska), Petroleum County (Montana), Buffalo County (South Dakota), Zavala County and Kenedy County (Texas), Dagget County, Juab County, Morgan County, Piute County and Rich County (Utah) and lastly Essex County and Grand Isle County (Vermont).

The data for the endogenous variable in this study was retrieved from New York Times and Politico (New York Times, 2016; Politico, 2016). The exogenous variables Veterans, Low_Education, Unemployment, Density, White and Low_Income are referable to the Census Bureau (US Census Bureau 2016). The data for the variable Evangelicals are retrieved from the Association of Religion Data Archives (2016). For states, all counties of the same state have the same number. The data variable is an integer number for each day an election took place. The counties in the state with the first election got the number 1 and so on (for example the Super Tuesday states/counties all have the same number). Data correction was necessary as to the variable Evangelicals. Here two counties (Fredericksburg City, Virginia, and Harmon county, Oklahoma) had a proportion of Evangelicals exceeding 100 % (Fredericksburg City: 103.57, Harmon county: 130.87). The figures refer to adherents attending Evangelical services as a share of the population, who may be residents of the neighboring counties (Association of Religion Data Archives 2016). In both cases this number was set to 100.

Appendix 2: The impact of the federal states

Model_3 of Table 2 depicting the federal states
Number of obs = 2764
R-squared = 0.8417

Result	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
White	.0629122	.0211627	2.97	0.005	.0202336	.1055908
Evangelicals	-.031735	.0289599	-1.10	0.279	-.0901382	.0266682
Veterans	.3819737	.1561267	2.45	0.019	.0671142	.6968333
Low_Education	.2159804	.057428	3.76	0.001	.1001658	.331795
Unemployment	.1831225	.0696276	2.63	0.012	.0427051	.3235399
Low_Income	.2675628	.0747717	3.58	0.001	.1167714	.4183543
Density	.0001794	.0000968	1.85	0.071	-.0000157	.0003746
Date	-13.44276	.496494	-27.08	0.000	-14.44403	-12.44148
Date2	.8659471	.0227878	38.00	0.000	.8199912	.911903
Arizona	8.102098	.6826064	11.87	0.000	6.725491	9.478705
Arkansas	-11.70907	.2773339	-42.22	0.000	-12.26837	-11.14977
California	-32.77878	1.728195	-18.97	0.000	-36.26401	-29.29354
Connecticut	8.540752	.6213004	13.75	0.000	7.28778	9.793724
Delaware	9.627238	.8826166	10.91	0.000	7.847272	11.4072
Florida	8.324027	.5126785	16.24	0.000	7.290112	9.357942
Georgia	-1.474405	.3956372	-3.73	0.001	-2.272284	-.6765268
Hawaii	12.71122	1.206284	10.54	0.000	10.27852	15.14392
Idaho	-9.293584	.5283779	-17.59	0.000	-10.35916	-8.228008
Illinois	2.189092	.124162	17.63	0.000	1.938695	2.439488
Indiana	-7.465641	.3739973	-19.96	0.000	-8.219879	-6.711404
Iowa	-51.09433	2.354818	-21.70	0.000	-55.84328	-46.34539
Kentucky	-6.44261	.5489969	-11.74	0.000	-7.549768	-5.335452
Louisiana	-.290113	.3938653	-0.74	0.465	-1.084418	.504192
Maine	-10.70741	.9939382	-10.77	0.000	-12.71188	-8.702945
Maryland	6.521519	.7376921	8.84	0.000	5.033821	8.009217
Massachusetts	7.280751	.9616835	7.57	0.000	5.341332	9.220171
Michigan	-1.792812	.6033954	-2.97	0.005	-3.009674	-.5759487
Mississippi	8.576739	.7960305	10.77	0.000	6.97139	10.18209
Missouri	3.072759	.3466237	8.86	0.000	2.373726	3.771793
Montana	-37.69779	1.369802	-27.52	0.000	-40.46026	-34.93532
Nebraska	-6.631008	.8975638	-7.39	0.000	-8.441118	-4.820898
Nevada	-9.539729	1.793862	-5.32	0.000	-13.1574	-5.922061
New Hampshire	-31.03503	2.250937	-13.79	0.000	-35.57448	-26.49558
New Jersey	-28.19034	1.775794	-15.87	0.000	-31.77157	-24.60911
New Mexico	-42.89561	1.636731	-26.21	0.000	-46.19639	-39.59483
New York	9.505675	.2794806	34.01	0.000	8.942049	10.0693
North Carolina	4.82399	.3936035	12.26	0.000	4.030213	5.617767
Ohio	-2.250446	.5542279	-4.06	0.000	-3.368153	-1.132739
Oklahoma	-14.37578	.434579	-33.08	0.000	-15.25219	-13.49937
Oregon	-15.77184	.8695526	-18.14	0.000	-17.52546	-14.01822
Pennsylvania	4.051262	.3544331	11.43	0.000	3.336479	4.766045
Rhode Island	9.760407	.5425649	17.99	0.000	8.666221	10.85459
South Carolina	-24.53144	.9849235	-24.91	0.000	-26.51773	-22.54516
South Dakota	-43.92947	1.438313	-30.54	0.000	-46.83011	-41.02884
Tennessee	-3.97033	.4599199	-8.63	0.000	-4.897847	-3.042813
Texas	-15.45749	.5762577	-26.82	0.000	-16.61963	-14.29536
Utah	-16.66636	.4826749	-34.53	0.000	-17.63977	-15.69296
Vermont	-10.871	1.096747	-9.91	0.000	-13.0828	-8.659196
Virginia	5.132275	.716315	7.16	0.000	3.687688	6.576862
Washington	-18.88855	1.236075	-15.28	0.000	-21.38133	-16.39577
West Virginia	0	(omitted)				
Wisconsin	0	(omitted)				
_cons	64.07088	3.502378	18.29	0.000	57.00766	71.1341

Notes: Coefficient/standard error/t-value/ empirical level of significance, 95% confidence interval. With regard to the impacts of the states Alabama is the reference category.

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