

The Geography of Republicans in North Carolina: Voter Registration and Income

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The purpose of this research is to determine if the stereotype that Republicans are affluent is accurate; accordingly, the hypothesis is that median household income is positively correlated to the number of registered Republicans at the county level in North Carolina. Data on the number of registered Republicans and the total number of registered voters were obtained from the North Carolina State Board of Elections (2002). Median household income data was provided by the Economic Research Service of the United States Department of Agriculture (2002). The mean percentage of registered Republicans by county for North Carolina in 2002 was 31 percent with a high of 72 percent in Mitchell County and a low of 7 percent in Northampton County. The Spearman's Rank correlation coefficient for the percent registered Republicans and median household income of all North Carolina counties was 0.47 at the 1% significance level suggesting a moderate associational relationship exists between the two variables. However, the relationship between Republican affiliation and household income was not straightforward. Regional differences and nuances uncovered in this study are explained further in a discussion about the political history of the state.

Introduction

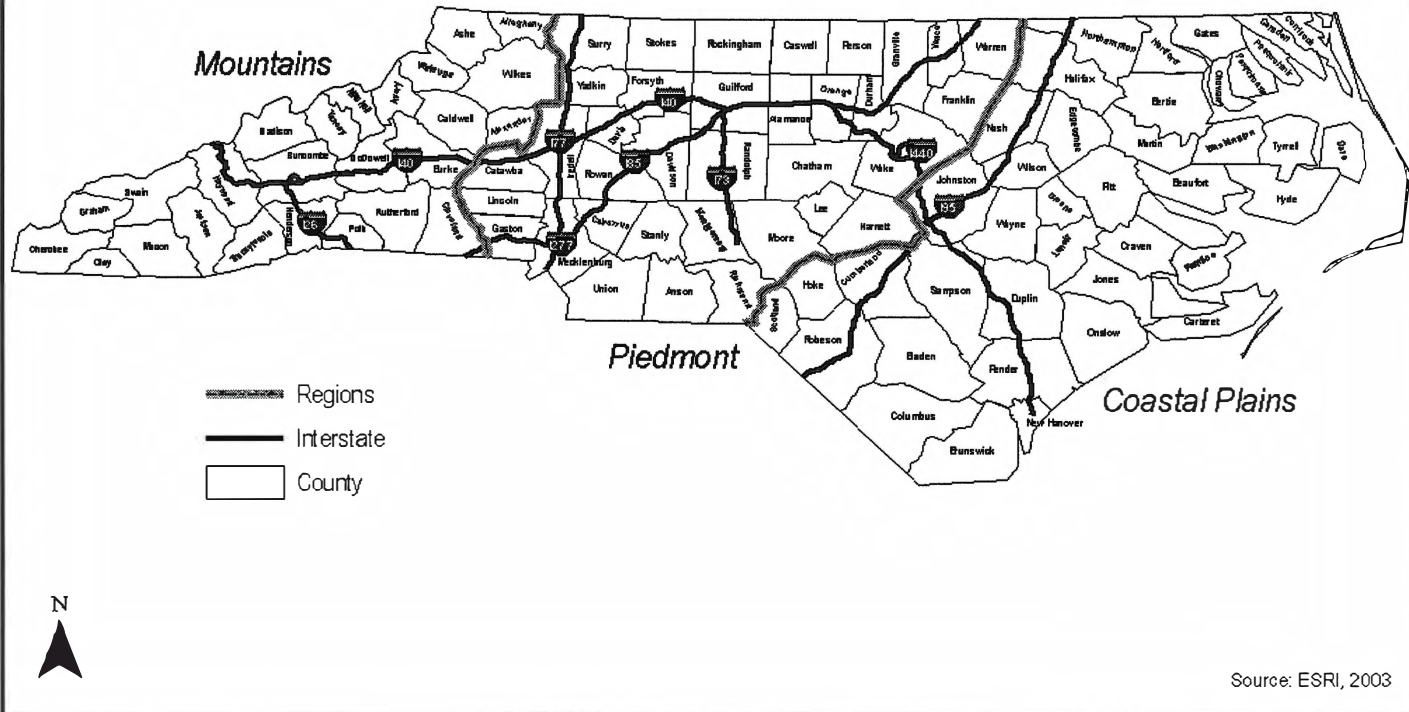
Political geographers have studied the spatial variation of voters for many years. Many variables including race, gender, educational level, poverty level and median household income can provide explanations for the spatial variation of voter behavior. The purpose of this research is to determine if the stereotype that Republicans are affluent is accurate; accordingly, the hypothesis is that median household income is positively correlated to the number of registered Republicans at the county level in North Carolina. For example, Republicans tend to support lower taxes for the rich and do not support policies that help lower income individuals through welfare programs. However, former North Carolina Senator Jesse Helms traditionally won the majority vote in several poor counties in both eastern and western North Carolina since 1973, suggesting that the Republican-income relationship may not be straightforward (North Carolina Board of Elections 1997). North Carolina (Figure 1) is an excellent area for this study because the effect of the 2001 national recession was exacerbated in North Carolina due to the state's dependence on manufacturing jobs and because the political nature

of the state is geographically complex as a result of the disparity between rural and urban counties.

Current literature on the geography of voter behavior has received much attention in the past decade. More recently, Americans interested in politics have developed a very real interest in political geography following Florida's impact on the 2000 presidential election (Warf and Waddell 2002). Race, unemployment and party registration choice are useful variables for describing the spatial variance of certain voting behaviors.

Kohfeld and Sprague (2002) analyzed the urban political geography of voter turnout and voting behavior in St. Louis, Missouri. St. Louis is a geographically segregated city, where blacks live on the North side and whites live on the South side. They examined the racial division in St. Louis to determine its influence on the structure of the city's urban politics by comparing voter turnout and neighborhood stability in two local elections in 1989 and in 1991. Neighborhood stability is defined by using the standard census measure, the percentage of people five years of age and older who have lived at the same address for five years. Results indicated that neighborhood stabil-

Figure 1: North Carolina Regions and Counties



ity is a predictor of voter turnout although race remains a substantial factor when determining voting behavior, that is:

On the North side, any candidate who receives substantial voting support gets it from black voters, and on the South side, any candidate with substantial support is receiving it from white voters. In these areas, the minority candidate, white or black typically receives very low levels of support (Kohfeld and Sprague, 2002, 184).

However, their research does not indicate whether party affiliation is driven by a person's race, only that a person is more likely to vote for a person of their own race, regardless of party.

Kim et al. (2003), examined voter behavior in the United States presidential elections from 1988 through 2000 and their impacts on the unemployment rate. They studied two voting theory models including the retrospective *reward-punishment* model and the *issue-priority* model. The retrospective reward-punishment model implies that voters re-elect incumbent administrations based on their overall level of achievement over the past term. The issue-priority theory "assumes that political parties pursue different policies by following their partisan or ideological priorities" (Kim et al, 2003, 3). This model assumes that voters know what issues parties or candidates consider important, so that even in times of uncertainty, partisan voters would rather re-elect an incumbent than risk the alternative. For example, they suggest that because Democrats in the United States are more concerned with handling unemployment while Republicans are more interested in maintaining stable economic conditions, voters would not "punish" a Democratic administration in times of high unemployment, as the Republican alternative may be even worse. The analysis found that voters in areas with high unemployment rates tend to support Democrats because "Democratic policies are more concerned with unemployment than the Republican policies" (18). However, the basic model is unable to determine whether the groups shift from one party to the other based on changes in the unemployment ratio. The extended analytical model that they used

showed the retrospective-voting model to be accurate only for the 1996 election. Their extended regression model, concluded that voters in high unemployment areas tend to support Democrats but that changes in unemployment rate do affect voting behavior.

Arrington and Grofman (1999) point out that party registration does not imply a vote for that party's candidate at the national level. This is especially true in states where there are closed primary elections and a dominant local party. They examined whether "strategic misrepresentation of party preferences still takes place in the South" by observing party registration at the county level in North Carolina in order to test their hypothesis (174). They hypothesized that for counties dominated by one party, party registration will understate the voting support in statewide elections for the minority party. North Carolina holds closed primaries and Democrats tend to dominate local party registration. However, they expected to find hidden support for the Republican Party, meaning that there are registered Democrats who often vote for a Republican in a national election. They were able to confirm their hypotheses with North Carolina data commenting that, "Hidden partisanship can be a sign of a transitional stage" (184). The transitional stage represents a period where the majority of voters are registered with the traditionally dominant party, but do not vote with their registered party. Their results indicated that "while most counties are still Democratic in voter registration, the extent of Democratic control changed greatly in the period from 1984 to 1996" (180). Thus, eroded Democratic Party support was indicated by the inverse relationship between voter registration totals and the presidential and election results in those years.

Luebke (1998) theorized that the geography of North Carolina politics can be explained by using the theory that most North Carolina politicians can be categorized as *modernizers* or as *traditionalists* and that North Carolina Republicans tend to be traditionalists, who Luebke describes as skeptical of modernization because of its reliance on a big and free-spending government and its disruption of small towns. He explains that most traditionalists are Baptists who advocate fundamentalist Christian values and gain

politically by maintaining the status quo, including the superiority of an idealized past. Traditionalists tend to work in historic industries in North Carolina such as textiles, furniture and apparel. Tobacco farmers and others associated with the agricultural economy also tend to be traditionalists. Former Senator Jesse Helms is a good example of a traditionalist (Luebke 1998).

North Carolina's modernizers support economic expansion and specific social changes that accompany economic growth. Although modernizers have a commitment to improving education, a shortage of public school buildings may be viewed as less worrisome than a missed opportunity for economic expansion. Modernizers tend to be bankers, developers and merchants who are involved in community development as well as those who expect to benefit from economic growth. The majority of modernizers live in major cities in the North Carolina Piedmont where they promote their ideal society of dynamic growth through transportation and infrastructure expansion (Luebke 1998).

In the 1980s and 90s, North Carolina's urbanized counties enjoyed unprecedented growth, while many rural counties lost population underscoring the disparity of economic boom and stagnation in the state. North Carolina's 1980 birth rate was the ninth lowest in the nation, while the state was ranked the tenth highest for in-migration, suggesting that much of the state's population growth resulted from in-migration to counties with an economic emphasis on research and development or an influx of affluent retirees and resort community development (Luebke, 1998). These radical changes in the state's demography and economic geography may indicate a systematic relationship exists between party affiliation and affluence in North Carolina's political geography.

Research Design

Do North Carolina counties with a higher percentage of registered Republicans have higher median household incomes? Table 1 shows the median household income (1999) and percentage of registered Republicans (2002) in North Carolina counties. Data on the number of registered Republicans and

the total number of registered voters were obtained from the NC State Board of Elections (2002). The percentage figure was acquired by dividing the number of registered Republicans by the total number of registered voters in each county. Household income is defined by the U.S. Census Bureau as the sum of money income received in the previous calendar year by all household members fifteen years old and over, including household members not related to the householder, people living alone, and others in non-family households. The median household income (1999) is reported in thousands of dollars. Median household income data was provided by the Economic Research Service of the United States Department of Agriculture (2002). It is understood that the use of county level data may be too general to show detailed income and voting patterns and that data analysis of census tracts and voting precincts may produce very different results. However, this analysis represents a first attempt at defining a current political geography of North Carolina.

Although it is assumed that those counties with a high percentage of registered Republicans are Republican strongholds, the residual value for each county does not also imply that the other registered voters in a county are Democrats. Although the United States is a two-party system, third parties do exist and voters are now able to choose the Reform or Libertarian party when registering to vote. Voters are also allowed to register as Independents with no party affiliation.

Furthermore, it is understood that other factors besides median household income influence a person's decision to register as a Republican. These other variables include educational level, population density, race, and gender, as well as historical and social factors such as religion and family tradition. None of these issues undermine the basic purpose of this research, which is to determine if the percentage of registered Republican voters correlate positively with above average median household incomes at the county level in North Carolina.

Table 1. North Carolina counties ranked by percentage of population registered Republicans (2002) and corresponding Median Household Income (1999). Sources: North Carolina State Board of Elections (October 2002) and Economic Research Service of the U.S. Department of Agriculture (1999).

County	% Republican	Median Income	County	% Republican	Median Income
Mitchell	72%	\$30,508	Burke	37%	\$35,629
Avery	67%	\$30,627	Brunswick	36%	\$35,888
Yadkin	61%	\$36,660	Mecklenburg	36%	\$50,579
Davie	58%	\$40,174	Wake	36%	\$54,988
Wilkes	55%	\$34,258	McDowell	36%	\$28,793
Randolph	54%	\$38,348	Alamance	36%	\$39,168
Stokes	48%	\$38,808	Onslow	35%	\$33,756
Henderson	48%	\$38,109	Nash	34%	\$37,147
Davidson	48%	\$38,640	Guilford	34%	\$42,618
Catawba	47%	\$40,536	Craven	34%	\$35,966
Caldwell	46%	\$35,739	Harnett	33%	\$35,105
Moore	46%	\$41,240	Wayne	33%	\$33,942
Ashe	45%	\$28,824	Buncombe	33%	\$36,666
Alexander	45%	\$38,684	Pender	32%	\$35,902
Graham	45%	\$26,645	Rutherford	32%	\$31,122
Union	44%	\$50,638	Dare	31%	\$42,411
Rowan	43%	\$37,494	Cleveland	30%	\$35,283
Cabarrus	43%	\$46,140	Franklin	30%	\$38,968
Iredell	42%	\$41,920	Alleghany	30%	\$29,244
Stanly	42%	\$36,898	Rockingham	30%	\$33,784
Cherokee	41%	\$27,992	Beaufort	29%	\$31,066
Clay	41%	\$31,397	Madison	29%	\$32,139
Lincoln	41%	\$41,421	Montgomery	29%	\$32,903
Macon	41%	\$32,396	Jackson	29%	\$32,552
Gaston	40%	\$39,482	Pitt	29%	\$32,868
Carteret	40%	\$38,344	Haywood	28%	\$33,922
Watauga	40%	\$32,611	Currituck	28%	\$40,822
Polk	40%	\$36,259	Wilson	28%	\$33,116
Transylvania	39%	\$38,587	Lee	28%	\$38,900
Surry	39%	\$33,046	Chatham	28%	\$42,851
Yancey	39%	\$29,674	Cumberland	27%	\$37,466
New Hanover	39%	\$40,172	Swain	26%	\$28,608
Forsyth	38%	\$42,097	Pamlico	26%	\$34,084
Johnston	38%	\$40,872	Duplin	25%	\$29,890
Sampson	37%	\$31,793	Person	24%	\$37,159

Table 1 (continued). North Carolina counties ranked by percentage of population registered Republicans (2002) and corresponding Median Household Income (1999). Sources: North Carolina State Board of Elections (October 2002) and Economic Research Service of the U.S. Department of Agriculture (1999).

County	% Republican	Median Income
Orange	23%	\$42,372
Lenoir	23%	\$31,191
Granville	22%	\$39,965
Chowan	22%	\$30,928
Durham	21%	\$43,337
Perquimans	21%	\$29,538
Pasquotank	21%	\$30,444
Camden	20%	\$39,493
Caswell	18%	\$35,018
Martin	17%	\$30,985
Hoke	17%	\$33,230
Scotland	17%	\$31,010
Richmond	17%	\$28,830
Edgecombe	16%	\$30,983
Jones	16%	\$30,882
Columbus	16%	\$26,805
Vance	15%	\$31,301
Greene	15%	\$32,074
Gates	15%	\$35,647
Halifax	14%	\$26,459
Anson	14%	\$29,849
Bladen	14%	\$26,877
Washington	13%	\$28,865
Hertford	12%	\$26,422
Hyde	11%	\$28,444
Warren	11%	\$28,351
Robeson	10%	\$28,202
Bertie	9%	\$25,177
Tyrrell	8%	\$25,684
Northampton	7%	\$26,652
Mean	31.4%	\$34,874
Standard Deviation	13.3%	\$5,758

Findings

Figure 2 illustrates the geography of registered Republicans by county in North Carolina. The mean percentage of registered Republicans by county in North Carolina in 2002 was 31 percent with a high of 72 percent in Mitchell County and a low of 7 percent in Northampton County. A belt of counties with high percentages of registered Republicans (54 to 72 percent) exists in the northwestern Piedmont and Mountain region including Mitchell, Avery, Wilkes, Yadkin, Davie and Randolph counties. The area is predominately white and rural; there, fewer than six percent of the registered voters are African-American. All of these counties are less than forty percent urbanized. Indeed, Avery and Mitchell Counties, located in the Mountains were less than one percent urban. Yadkin, Davie, Wilkes and Randolph Counties, which are outlying counties of the Piedmont Triad region, ranged between 14 and 40 percent urban.

The largest group of contiguous counties with the lowest percentage of registered Republicans (7 to 14 percent) stretches from Warren County in the northeastern Piedmont to Hyde County on the central coast. This area is rural and has a large African-American population. All of these counties are in the lowest group of median household income (\$25,170 to 29,680). Another area with similar characteristics is found in the southern interior stretching from Anson County in the southern Piedmont to Robeson, Bladen, and Anson Counties on the southern Coastal Plain.

Figure 3 illustrates the geography of median household income in North Carolina. The mean median household income for North Carolina in 1999 was \$34,874, with a high of \$54,990 in Wake County to a low of \$25,177 in Bertie County. Two contiguous groups of counties in the highest group of median household income (\$39,390 to \$54,990) exist in the Piedmont region stretching from a belt Union to Guilford County; and a group of counties in the Research Triangle region. Ten of the counties in these areas are more than fifty percent urbanized. The urbanized Piedmont counties contain most of

the largest cities in North Carolina, including Mecklenburg (Charlotte), Guilford (Greensboro and High Point), Forsyth (Winston-Salem), Wake (Raleigh), Iredell (Statesville), Orange (Chapel Hill) and Durham (Durham). A contiguous belt of nine counties with low median household incomes (\$25,170 to 29,680) exists in the northeastern Piedmont and Coastal Plains region stretching from Warren county in the northeastern Piedmont to Hyde County on the east coast.

The scatter diagram of percent registered Republicans and median household income (Figure 4) indicates that North Carolina counties with a high percentage of registered Republicans tend to have a high median household income, while counties with a low percentage of registered Republicans tend to have a low median household income (i.e., a positive linear relationship). Some anomalies exist. Mitchell County has a low median household income (\$30,508), but an extremely high percentage of registered Republicans (72 percent). By contrast, Mecklenburg and Wake Counties have only moderate percentages of registered Republicans (36 percent), but extremely high median household incomes (\$50,579 and \$54,988).

Several factors explain why Mitchell County has an extremely high percentage of registered Republicans. Mitchell County is located in the Mountains where there are few African-Americans (only 34 African-American residents in 2000). Of the seventy-three percent of Mitchell county residents who are registered to vote only 17 of those registered are African-Americans. Mitchell County has a low median household income which can be explained by the above average unemployment rate. Mitchell County is completely rural which suggests the lack of a diverse economy.

When the one hundred North Carolina counties are divided into topographical subgroups (e.g. Mountains, Piedmont and Coastal Plains), descriptive trend lines, or the line of best fit, provide interesting results (Figure 5). Both the Piedmont and Coastal Plains follow the overall positive relationship where counties with a high percentage of registered Republicans tend to have a high median household income, while counties with a low percentage of registered Republicans tend to have a low median household income. However, the descriptive trend line for the Mountain region suggests that counties with a high percentage of

Figure 2: Registered Republicans in North Carolina 2002

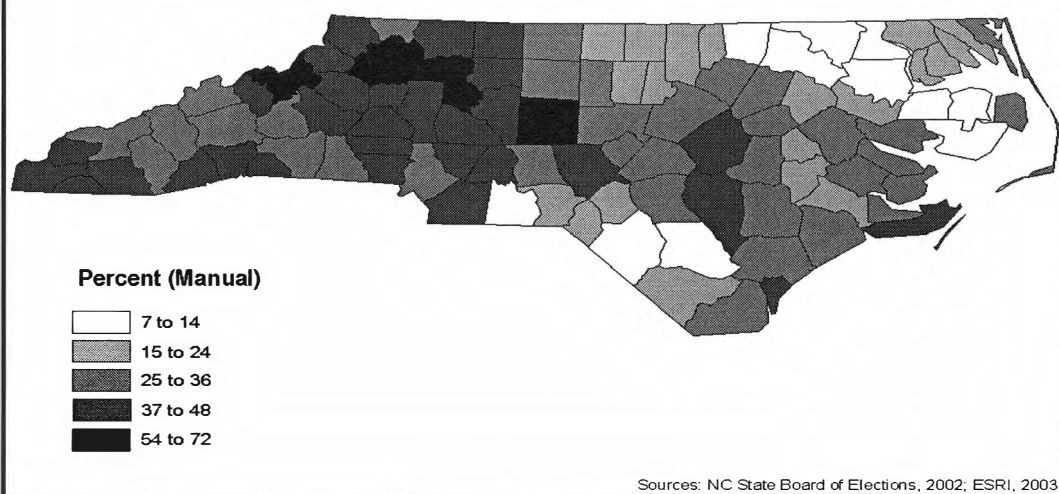
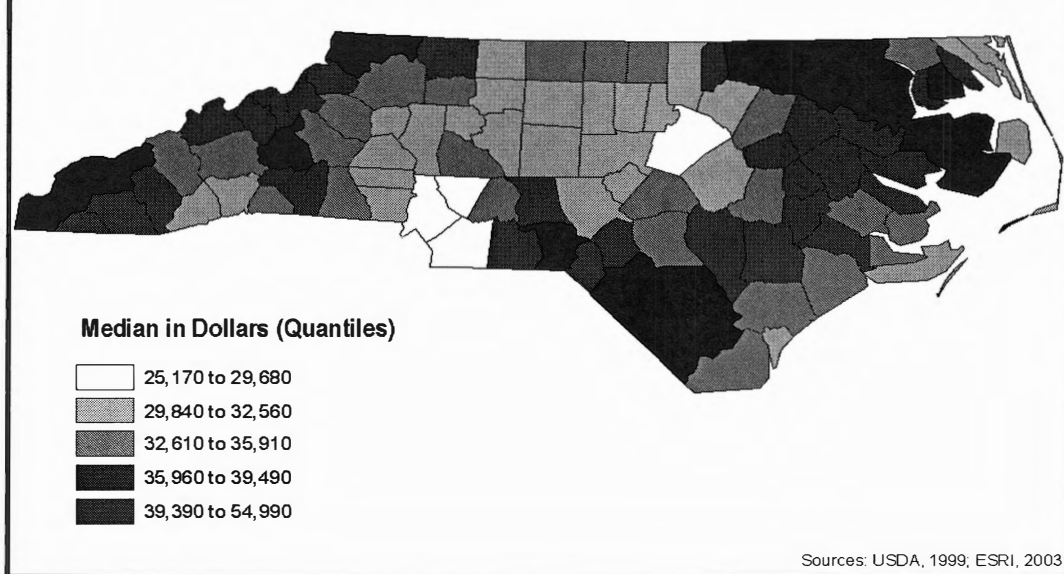


Figure 3: Household Income in North Carolina 1999

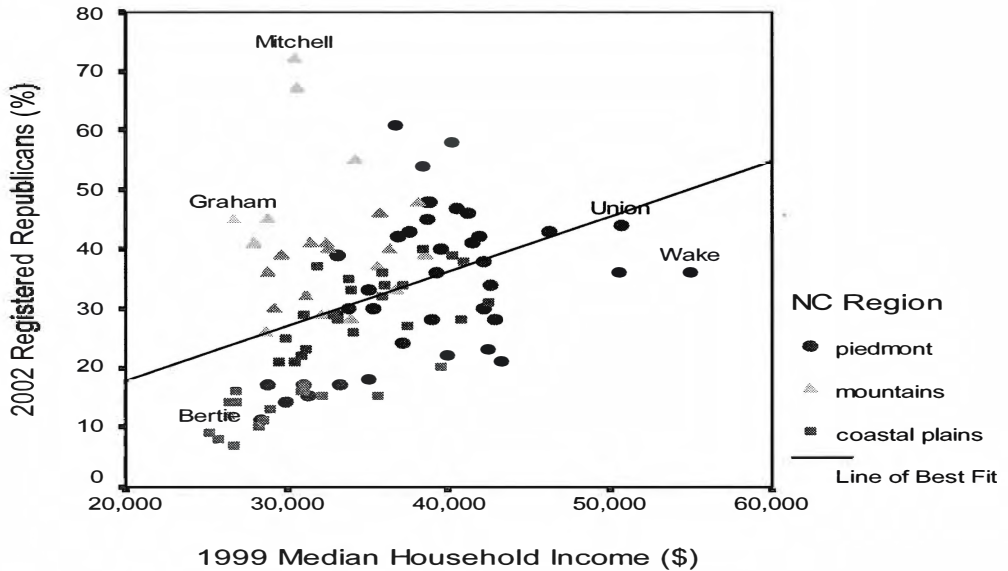
registered Republicans tend to have a low median household income, while counties with a low percentage of registered Republicans tend to have a higher median household income (i.e., an inverse relationship).

Test statistics for skewness and kurtosis verified that the registered Republican distribution had very little positive skew and some platykurtic kurtosis. However, the Shapiro-Wilk test statistic for normality indicated that the normality assumption was not appropriate at the 5% level of significance (Norusis 2002). Test statistics for skewness and kurtosis verified that the median household income distribution had some positive skew and some platykurtic kurtosis. Additionally, the Shapiro-Wilk test for normality indicated that the normality assumption was not appropriate at the 5% level of significance.

Because the Shapiro-Wilk normality test indicates that the percent registered Republicans and median household income of North Carolina counties were not normally distributed, this paper uses a non-para-

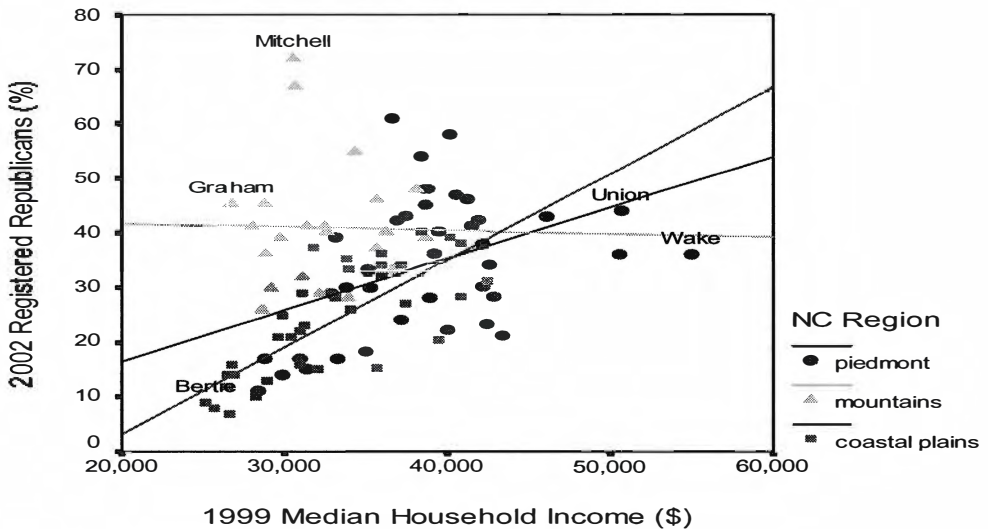
metric correlation test, Spearman's Rank correlation coefficient. The Spearman's Rank correlation coefficient for the percent registered Republicans and median household income of all North Carolina counties was 0.47 at the 1 percent significance level suggesting a moderate associational relationship exists between the percent registered Republicans and the median household income of North Carolina counties (Norusis 2002). The moderate degree of association may seem contrary to the aggregate North Carolina sample descriptive trend line that appears to display a clear positive relationship. But the descriptive trend lines of the sub-regions (Piedmont, Mountains, and Coastal Plains) within the aggregate North Carolina sample indicate how the overall association between median household income and registered Republicans in North Carolina is a combination of spatial variability in the relationship between the two variables. Accordingly, this analysis underscores the necessity for regional scale analysis for accurate assessment of the political geography of North Carolina.

Figure 4: Scatter Diagram of Registered Republicans (%) 2002 and 1999 Median Household Income for North Carolina Counties
--Line of Best Fit for NC



Sources: NC State Board of Elections, 2002
 USDA, 1999

Figure 5: Scatter Diagram of Registered Republicans (%) 2002 and 1999 Median Household Income for North Carolina Counties
--Lines of Best Fit for NC Regions



Sources: NC State Board of Elections, 2002
 USDA, 1999

Implications & Conclusions

The regional differences in North Carolina politics are not surprising and are rooted in political history, as Key noted in 1949. Key explained that "Most votes for Republican presidential and gubernatorial candidates are cast west of the fall line in counties that are more rural than urban," and that "Invariably, one Senator must come from the east and one from the west. The rule has been, too, that the governorship rotates between the east and the west." He further explained that "Many a crucial vote in North Carolina's history has divided along the fall line, which separates the Piedmont from the coastal plain..." and party loyalty has also tended to be sectional (Key 1949, 219-220).

The inverse relationship for the Mountain region where counties with a high percentage of registered Republicans tend to have a low median household income, suggests that mountain Republicanism still exists in the 21st century. Key defined Mountain Republicanism as those voters "in the highlands from southwestern Virginia to northern Alabama and in the Ozarks of Arkansas" that vote "a straight Republican ticket election after election" (280). Historically, mountain people in the South have had radically different political values than the rest of the South. When southern states began to consider secession, people of the mountains were "reluctant to abandon the Union for the cause of the planter and his slaves" (282). North Carolina's mountain region is no exception. In fact, Key states, "In the three states with considerable areas of mountain Republicanism—North Carolina, Virginia, and Tennessee—the Republican party has the strongest foundation on which to build a competing party. The existence of a two-party system virtually requires a sectionalism or an urban-rural division of sentiment" (285).

The results of the 2004 election suggest that mountain Republicanism still exists in North Carolina. Every county in the Mountain region of North Carolina supported George W. Bush, the Republican presidential candidate, in the 2004 election. Bush supporters across the state cited moral values as their number one concern, while those who supported the Democratic presidential candidate, John Kerry, were

more concerned about the economy (Christense, 2004). Research in this area should further study the 2004 election's regional differences to better understand the underlying mechanisms that shape North Carolina's mountain Republicanism.

It has become crucially important to study the geography of Republicans in North Carolina in the last decade, especially since November 1994 when the Democrats lost the majority in the North Carolina House of Representatives for the first time since 1896. The hypothesis that those counties with high percentages of registered Republicans also have high median household incomes appears correct with a correlation of 0.47 at the 1 percent level although, there are many other variables that can explain voting behavior. These variables include; race, gender, education level, population density, as well as the historical and social contexts that influence voting habits.

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