Inequality in Alabama: A County-Level Analysis*

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ABSTRACT

Economic inequality in the United States is growing. This paper examines inequality at the county-level using data from the U.S. Census. Inequality for all 67 counties in Alabama is measured via the Gini index. It was found that inequality levels were higher when the percent of adults with a college degree was high, the percent of female-headed households was high, and the median household income was low.

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“We must make our choice. We may have democracy, or we may have wealth concentrated in the hands of a few, but we can’t have both.” ~ Justice Louis D. Brandeis

INTRODUCTION

Income inequality in America has grown noticeably over the past 30 years. The gaps in after-tax income between the richest 1 percent of Americans and the middle and poorest fifths of the country more than tripled between 1979 and 2007 (Sherman and Stone, 2010). Income inequality levels are based on the Gini index, a statistical measure that ranges from zero to one. The Gini index indicates the extent to which the distribution of income among households differs from an equal distribution. A Gini index of one would indicate that one household in a particular area has all the income and all the others have none, and an index of zero would indicate that every household has the same income. As the growing income inequality in America becomes more pronounced, there is mounting concern that wealthy Americans are better positioned than poor Americans to exercise substantial influence over political outcomes. This is problematic and has many implications for the policy process because, as Gilens (2005, 794) points out, “a government that is democratic in form but is in practice only responsive to its affluent citizens is a democracy in name only.”

The purpose of this paper is to review the literature on inequality, to identify key county-level variables that are likely to impact inequality, and to analyze those variables to determine how they operate across counties. County-level predictors are important because such data provide insight into the demographic, social, and economic mechanisms that generate inequality at a relatively local level. Understanding the causes and effects of inequality is a central concept
to our understanding of American social and political processes since the growing disparity can affect the power dynamics among citizens, and, therefore, affect policy outcomes.

LITERATURE REVIEW

Like most Deep South states, Alabama is notorious for its history of slavery, white supremacy, segregation, class consciousness, poverty, and isolation. The best way to understand the larger political, social, and economic structure of Alabama is to place the state in the proper historical and theoretical framework. Daniel Elazar offers a comprehensive theory of political culture that describes the attitudes and evaluations people have toward government. Elazar categorizes states as traditionalistic, moralistic, and individualistic. Elazar defines each of these cultures by researching the social and historical immigration patterns within each state. Alabama has a traditionalistic culture rooted in the elitist agricultural social order that previously described the region. In states with a traditionalistic culture, the primary purpose of government is to preserve the social order relative to the position of various social and economic classes (Elazar 1984). The social and economic elites control politics and they benefit from their position at the top of the social hierarchy. These attitudes and patterns of life have been passed down from generation to generation through political socialization and participation. As a result, the Deep South has not fully recovered from the legacy of slavery, tenant farming, and racial discrimination (Tolnay 1999). Because of the history of Alabama, understanding the political culture of the state is important for identifying possible mechanisms for inequality.

In the following subsections I provide a brief overview of the literature on inequality and I pay particular attention to the specific demographic, economic, and social variables related to
inequality. The methods used in this study are then presented, and the findings discussed and conclusions drawn.

Inequality

Social science researchers across a number of disciplines such as political science, economics, and sociology have offered theories about the growing inequality. Declining unionization, immigration and outsourcing, and the demand for high-level cognitive skills have all been cited as the cause for the rising levels of inequality (Varian 2006). According to the Census Bureau, the Gini index for the United States is .469. While inequality is growing around the country, the gap is more pronounced in the South than in any other part of the country. According to data from the 2010 Census, six of the ten counties with the highest levels of income inequality are in the South (Bee 2012). According to American Community Survey data from 2006-2010, almost one-third of the 1,423 counties in the South have Gini indexes ranking in the top fifth among all U.S. counties. Like the rest of the South, Alabama has a disproportionately large number of counties with high income inequality. Twenty-four counties in Alabama have Gini indexes higher than the national index and seven of those counties have Gini indexes of .500 or higher. According to an analysis by the Center for Budget and Policy Priorities, Alabama has the second widest gap between rich and poor in the nation. The top five percent of wage earners in Alabama make 13.5 percent as much as the poorest 20 percent combined (Bernstein et al. 2008). Research shows that inequality affects society in several ways. Wealthy individuals are more likely than poor individuals to have access to political resources and to participate in political activities (Verba, Nie, and Kim 1978; Verba, Schlozman, and Brady 1995; Wolfinger and Rosenstone 1980). Inequalities in political activity are likely associated with inequalities in
the way the government responds to the needs and preferences of citizens (Verba, Schlozman, and Brady 1995). As society becomes increasingly dualistic, individuals on one end of the economic spectrum are better able to assert their political will. The voice of poor, on the other hand, is seldom heard (Verba et al. 2004). Growing income inequality also leads to less trust in the political process and, therefore, depresses political participation (Uslaner and Brown 2005). The recent growth in inequality raises new questions about the possible reemergence of a racial and ethnic “underclass” living in areas of concentrated poverty (Wilson 2008-09). If citizens lose faith in democratic government as a result of this disparity, the unequal citizenship could change the landscape of American politics for a long time to come.

*County Labor Structure*

Research has shown that the level of inequality in an area is affected by the labor structure of that area. In particular, inequality levels in an area are likely to be high when a higher proportion of the labor force works in service sector jobs (Alderson and Nielsen 2002; Nielsen 1994; Nielsen and Alderson 1995, 1997). Service sector jobs can be divided into high-pay, high-skill and low-pay, low-skill positions. Jobs in areas such as education, finance, and medicine are considered high-pay, high-skill positions (Sassen 1990). Many other service jobs, though, are low-pay, low-skill positions (Albrecht 2004). Low-skill service jobs often pay less, offer fewer benefits, and involve more part-time employment (Morris and Western 1999). Most of the new jobs are either high-pay jobs (Florida 2002) or low-pay jobs that provide services for high-income families (Rudzitis 1999). The educated and skilled workers usually get the high-pay service jobs. The less skilled workers, in contrast, usually get the low-pay jobs (Levy 1998; Levy
and Murnane 1992). I expect that in the counties where service jobs are more prevalent, there will be higher levels of inequality.

**Educational Attainment**

The literature shows that one of the factors contributing to growing levels of inequality is the widening gap between the incomes of those with a college degree and those without a degree (Elman and O’Rand 2004; McCall 2000). The number of high-quality service jobs has grown and, as such, the average incomes for individuals with college degrees have also increased (Morris and Western 1999). Obtaining a college degree significantly improves an individual’s average lifetime earnings. Since 1980, the percentage difference in earnings between those with and without a college degree has more than doubled (Kane 2001). Individuals with a bachelor’s degree earn about $2.27 million over their lifetime (Carnevale, et.al. 2011). This amount is considerably more than the $1.30 million in lifetime earnings of individuals with only a high school diploma (Carnevale, et.al. 2011). The level of inequality in a county, therefore, is likely related to the education levels of residents in the area. As a result, I expect that inequality levels will be greater in counties where higher proportions of the population have a college education.

**Median Household Income**

Median household income is related to inequality and it provides a measure of the overall economic status of county residents. When high proportions of the households in an area live in poverty or have low incomes, the median income for the area will be low. As a result, inequality levels in the area will be very high (Albrecht et al. 2005). Thus, I expect inequality levels to be high where median household incomes are low.
Family Structure

The structure of the family has a number of implications for inequality. Over the last few decades, there has been a significant increase in the number of female-headed households. In 2003, approximately 13.8 million households were headed by females (DeNavas-Walt et al., 2004). Married couple households have substantially more income than female-headed households. Inequality levels are likely to be high in areas where there are a high number of female-headed households. The literature shows that the percent of female-headed households in a community is one of the best predictors of poverty levels in that community and that poverty rates are strongly and positively related to the level of inequality (Albrecht et al. 2000; Snyder and McLaughlin 2004). I expect that inequality levels will be greater in counties where there are higher percentages of female-headed households.

Minority Concentration

The racial make-up of an area is also expected to be related to the level of inequality. Over the past few decades, the minority population in the South has been redistributed from being dispersed throughout the region to being concentrated in predominately black communities with extensive problems (Aiken 1990). The research shows that inequality is more pronounced in areas where there are high concentrations of minorities (Albrecht et al. 2005; Cohen 1998; Fossett and Seibert 1997; Frisbie and Neidert, 1977; Wilcox and Roof 1978). Typically, minority communities are economically disadvantaged because of discrimination, insufficient capital, and a lack of resources (Falk and Rankin 1992). Furthermore, even in communities where there is a large minority presence, the income for whites is still higher (Albrecht et.al 2005). As a result, I
expect that the inequality levels will be higher in the counties where the residents are mostly minorities.

**County Region**

It is important to compare Black Belt counties to counties not located in the region. The Black Belt region accounts for the South’s poorest rankings on many socioeconomic indicators compared with the rest of the country. Seventeen counties—Barbour, Bullock, Butler, Choctaw, Crenshaw, Dallas, Greene, Hale, Lowndes, Macon, Marengo, Montgomery, Perry, Pike, Russell, Sumter, and Wilcox—are included in the Alabama Black Belt region. The phrase “black belt” was initially used to refer to the rich, dark soil found in the region. Because of the fertile soil, an agricultural economic system emerged in the Black Belt. Like other Deep South states, the agricultural structure was based on large plantations and slavery. Extensive inequality and minority disadvantage were the obvious outcomes. The Black Belt region is now characterized by the large concentration of minorities, high rate of unemployment, low rate of educational attainment, limited access to healthcare, and poor housing conditions. Today very few households are involved in agriculture, but the benefits attained by advantaged families in the past have implications that extend for generations (Scholz and Levine 2004). As a result, I expect inequality to be even greater in the Black Belt region.

**METHODS**

The data for this study are from U.S. Census Bureau databases. The county is the unit of analysis and both Black Belt (N=16) and Non-Black Belt (N=51) counties in Alabama are analyzed. The dependent variable is inequality and is operationalized using the Gini Index 5-year
estimates from the 2006-2010 American Community Survey. The Gini index was computed by the Census Bureau for each county. The Gini provides comparable numbers across study counties and is therefore useful for this analysis. The Gini indexes for Alabama ranged from .399 to .533, with a mean of .459.

The independent variables are county labor structure, educational attainment, median household income, family structure, and minority concentration. County labor structure is operationalized by determining the percent of residents age 16 and over in each county working the service industry. The North American Industry Classification System (NAICS), a system used by the federal government, classifies establishments into industry categories. Industries fall into either goods-producing or service-providing sectors. The goods producing industries are defined as the natural resource industries of forestry, fisheries, mining and agriculture, manufacturing, and construction. The service industry includes finance, insurance, and real estate, professional, educational, medical, arts, entertainment, recreation, public administration, and other services. Approximately 42.4 percent of the labor force in Alabama is employed in the service industry.

Educational attainment is measured based on the percent of the population age 25 and over in each county with a bachelor’s degree or higher. Approximately 13.5 percent of Alabamians had a bachelor’s degree or higher. Median household income is operationalized using data from the census. The average county has a median household income of $30,152. Family structure is operationalized as the percent of female-headed households in each county. The average county has 14.7 percent female-headed households. Minority concentration is operationalized as the percent of black residents in each county. The average county has a population of 28.2 percent blacks and 68.4 percent whites.
The analysis consists of a descriptive overview of the relationship between inequality and each of the independent variables utilized in this analysis. Counties are analyzed based on region: Black Belt and non-Black Belt counties. Even though Montgomery County is in the Black Belt, the county is often excluded from analyses of the region because of its significant urban development. Therefore, Montgomery County is not included as a Black Belt county in this analysis. A set of regression models is also used to predict variations in inequality by region and statewide.

**FINDINGS**

Shelby County has the highest median household income and the highest educational attainment level. Lawrence County has the lowest level of inequality with a Gini index of .399. Bullock County has the highest level of inequality with a Gini index of .533. Table 1 presents some of the key characteristics of the ten Alabama counties with the highest inequality levels. Six of the ten counties with the highest levels of inequality are in the Black Belt region. Five of those counties—Wilcox, Lowndes, Bullock, Sumter, and Dallas—are also ranked among the ten counties for highest minority concentration. Overall, minority concentration is higher in the Black Belt counties. Additionally, among the counties with the highest inequality levels, Wilcox and Sumter have the lowest median household incomes in the state. Bullock has the highest proportion of female-headed households in the state.

Table 2 presents descriptive data for inequality and the independent variables for Black Belt, Non-Black Belt, and all counties. The data show that inequality levels are higher in the Black Belt than in non-Black Belt counties. Table 2 also shows that in Black Belt counties, compared to non-Black Belt counties, the percent of black residents is greater; median household
incomes are significantly lower; the proportion of female-headed households is substantially greater; and the educational attainment levels are lower. The mean percent of the labor force employed in the service industry is roughly the same across all regions.

Table 3 shows the bivariate relationship between inequality levels and the independent variables. There is a very weak relationship between inequality and employment in the service industry in the Black Belt and the state; there is no relationship in non-Black Belt counties. Minority concentration is represented as the mean percent of blacks in each county. There is a strong positive relationship between inequality and minority concentration in the Black Belt and for the state. The relationship between inequality and minority concentration is moderate positive in non-Black Belt counties. The data also show there is a strong negative relationship between median household income and inequality levels in Black Belt counties and in the state; there is a weak negative relationship in non-Black Belt counties. As the average median household income increases, inequality levels tend to decline. Table 3 also shows that there is a strong positive relationship between inequality and the percent of female-headed households in the Black Belt and in the state; there is a moderate positive relationship in non-Black Belt counties. The relationship between inequality and educational attainment as represented by the mean percent with a college degree is weak in the Black Belt counties and in the non-black Belt counties; there is no relationship for the state.

For Table 4, a regression model is computed for the entire state. A county region variable is added and coded 1 for Black Belt counties and 0 for non-Black Belt counties. The variables presented in the model explain 61 percent of the variation in inequality. Mean percent employed in service industry, average median household income, mean percent of female-headed households, and mean percent with college degree are statistically significant. The model shows
that inequality levels are likely to increase when the percent of the labor force employed in service industry decreases, median household income decreases, percent of female-headed households increases, and the percent of adults with a college degree increases.

CONCLUSION

The primary goal of this analysis was to examine the relationship between inequality and various county-level social, economic, and demographic variables. The other goal of this analysis was to provide a comparison of Black Belt and non-Black Belt counties in Alabama. It was expected that inequality levels would be higher in counties where service jobs were more prevalent. It was also expected that inequality levels would be higher in counties where higher proportions of the population had college degrees, where the proportion of female-headed households was higher, and where the proportion of minorities was higher. It was expected that inequality levels would be higher were median household incomes were low. Additionally, it was expected that inequality levels would be higher in the Black Belt region.

The descriptive analysis showed that the mean inequality level in the Black Belt was not only higher than the mean level for non-Black Belt counties but also higher than the mean level for the state. The mean percent of female-headed households was also significantly higher in the Black Belt than in non-Black Belt counties. Minority concentration is higher in the Black Belt and the mean household income is substantially lower than in other counties.

It was also found that the structure of the labor force had little to no effect on inequality when analyzed at the bivariate level. Also at the bivariate level, minority concentration and the percent of female-headed households had statistically significant impacts on inequality across all regions. The Black Belt counties and the state had median household incomes that were
statistically significant. In the Black Belt, inequality levels increased when median household income decreased, the percent of female-headed households increased, and the percent of blacks increased. In non-Black Belt counties, inequality levels increased when the percent of blacks increased and the percent of female-headed households increased. When analyzing all counties together, inequality levels increased when the percent of blacks increased, median household income decreased, and when the percent of female-headed households increased.

The regression model reveals that the most important variables affecting inequality levels are percent of adults with a college degree, the percent of female-headed households, percent of the labor force working in the service industry, and median household income. Inequality levels increased when the percent of adults with a college degree increased, the percent of female-headed households increased, the percent of the labor force working in the service industry decreased, and the median household income decreased.

Understanding rising inequality is important and if this trend is not reversed, continued increases are likely. We know that median household income is lower in the Black Belt. One of the main reasons for the economic disadvantage of minorities in communities with high minority concentrations is the lack of opportunities. However, more research is obviously needed on this topic to determine relationships that are not revealed in this analysis and to determine the best way to reduce inequality. Future research should focus on identifying other county-level mechanism for inequality and on identifying other ways to measure inequality.


Table 1. Characteristics of Ten Alabama Counties with Highest Inequality Levels

<table>
<thead>
<tr>
<th>County</th>
<th>Gini Index</th>
<th>Median Household Income($)</th>
<th>Minority Concentration (%)</th>
<th>Female-headed Households (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bullock*</td>
<td>.533</td>
<td>20,605</td>
<td>73.1</td>
<td>28.2</td>
</tr>
<tr>
<td>Clarke</td>
<td>.523</td>
<td>27,388</td>
<td>43.0</td>
<td>15.7</td>
</tr>
<tr>
<td>Dallas*</td>
<td>.515</td>
<td>23,370</td>
<td>63.3</td>
<td>25.4</td>
</tr>
<tr>
<td>Pike*</td>
<td>.514</td>
<td>25,551</td>
<td>36.6</td>
<td>16.8</td>
</tr>
<tr>
<td>Sumter*</td>
<td>.512</td>
<td>18,911</td>
<td>73.2</td>
<td>23.5</td>
</tr>
<tr>
<td>Lowndes*</td>
<td>.506</td>
<td>23,050</td>
<td>73.4</td>
<td>25.7</td>
</tr>
<tr>
<td>Wilcox*</td>
<td>.501</td>
<td>16,646</td>
<td>71.9</td>
<td>26.5</td>
</tr>
<tr>
<td>Tallapoosa</td>
<td>.497</td>
<td>30,745</td>
<td>25.4</td>
<td>14.3</td>
</tr>
<tr>
<td>Lamar</td>
<td>.495</td>
<td>28,059</td>
<td>12.0</td>
<td>10.9</td>
</tr>
<tr>
<td>Morgan</td>
<td>.493</td>
<td>37,803</td>
<td>11.2</td>
<td>11.2</td>
</tr>
</tbody>
</table>

*County in the Black Belt Region
Table 2. Overview of Inequality and Independent Variables in Black Belt counties, Non-Black Belt counties, and all counties

<table>
<thead>
<tr>
<th>Variables</th>
<th>Black Belt (N=16)</th>
<th>Non-Black Belt (N=51)</th>
<th>Total (N=67)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Gini Index</td>
<td>.485</td>
<td>.451</td>
<td>.459</td>
</tr>
<tr>
<td>Mean Percent Employed in Service Industry</td>
<td>44.3</td>
<td>41.8</td>
<td>42.4</td>
</tr>
<tr>
<td>Mean Percent Black</td>
<td>58.3</td>
<td>18.8</td>
<td>28.2</td>
</tr>
<tr>
<td>Average Median Household Income ($)</td>
<td>23,147</td>
<td>32,349</td>
<td>30,152</td>
</tr>
<tr>
<td>Mean Percent Female-headed households</td>
<td>22.1</td>
<td>12.4</td>
<td>14.7</td>
</tr>
<tr>
<td>Mean Percent with College Degree</td>
<td>11.6</td>
<td>14.1</td>
<td>13.5</td>
</tr>
</tbody>
</table>
Table 3. Overview of the Relationship Between Inequality as Determined by the Gini Index and Independent Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Black Belt (N=16)</th>
<th>Non-Black Belt (N=51)</th>
<th>Total (N=67)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Percent Employed in Service Industry</td>
<td>.107</td>
<td>.075</td>
<td>.137</td>
</tr>
<tr>
<td>Mean Percent Black</td>
<td>.499*</td>
<td>.374**</td>
<td>.591**</td>
</tr>
<tr>
<td>Average Median Household Income ($)</td>
<td>-.502*</td>
<td>-.270</td>
<td>-.499**</td>
</tr>
<tr>
<td>Mean Percent Female-headed households</td>
<td>.566*</td>
<td>.379**</td>
<td>.603**</td>
</tr>
<tr>
<td>Mean Percent with College Degree</td>
<td>.238</td>
<td>.174</td>
<td>.071</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).
Table 4. Regression Model Showing Unstandardized and Standardized (in parentheses) Coefficients of the Relationship Between Inequality, Independent Variables, and County Region

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Percent Employed in Service Industry</td>
<td>-.003*</td>
<td>(.696)</td>
</tr>
<tr>
<td>Mean Percent Black</td>
<td>-.001</td>
<td>(.387)</td>
</tr>
<tr>
<td>Average Median Household Income ($)</td>
<td>-3.968E-6**</td>
<td>(.824)</td>
</tr>
<tr>
<td>Mean Percent Female-headed households</td>
<td>.005*</td>
<td>(.833)</td>
</tr>
<tr>
<td>Mean Percent with College Degree</td>
<td>.005**</td>
<td>(1.082)</td>
</tr>
<tr>
<td>County Region</td>
<td>-.009</td>
<td>(.127)</td>
</tr>
<tr>
<td>Intercept</td>
<td>.589**</td>
<td></td>
</tr>
<tr>
<td>Model R²</td>
<td>.61</td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant at the 0.05 level
**Statistically significant at the 0.01 level