

## **Child Poverty and Education Attainment Disparity in the State Of Alabama, USA (1990-2006)**

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### **Abstract**

This paper assesses child poverty and education attainment disparity in the state of Alabama, USA between 1990 and 2006. The specific objectives are to: (i) analyze child poverty and education attainment (measured by high school completion) rates and trends in Alabama during the past fifteen years, (ii) examine how child poverty and education attainment rates vary by regions or urban, rural and Black Belt spatial locations, and (iii) assess the impacts of selected independent socio-economic variables on child poverty and education levels in the state. The data used in the study have been derived primarily from various secondary sources including US Commerce Department Bureau of the Census, Bureau of Labor Statistics, County and City Data Book, and Alabama Poverty Project. The study finds that in Alabama, no county is immune from poverty in general and child poverty in particular. Children under 18 years old in 1990 experienced the highest poverty rates (24%) compared to other age groups. In 2000, child poverty rate was 26.2%, but declined to 25.2% in 2006—higher than national average of 19.2% and 22.2% for 2000 and 2006 respectively. Child poverty rates vary by county with the lowest rate in Shelby County (7.4%) in 2000 in contrast with Sumter County (in the Black Belt) with 2000 rate of 47.7%. Child poverty and some dimensions of education attainment are closely linked as expected. Shelby County with a low 7.2% child poverty rate had only 8.3% of persons 16-19 not high school graduates or enrolled in high school in 2000 in contrast with the rate of 11.4% for Sumter County. In general, teen high school drop out rate declined across the state from 15.0% in 2002 to about 9.0% in 2006. Also, 8<sup>th</sup> grade students' proficiency level score in reading and math showed improvements as children poverty rate declined by a mere 1.% from 24% in 2002 to 23% in 2006.

### **I. Introduction:**

Since the 1990s, Alabama's development policy has emphasized job-creation and the importance of education to individual productivity, economic well being and poverty alleviation. At the same time, the state has pursued initiatives to improve local education attainment through improvement of elementary and high school education to enhance economic well being of urban and rural communities. These policy paths attest to the view that a better educated population leads to a greater economic growth. As Gibbs has observed, a recent study indicated that rural counties with high educational levels see more rapid growth in income and earnings than over the past two decades than counties with lower educational levels (Gibbs, 2005)

In general, education, among other things, provides some of the basic skills needed in the labor markets. The level of a person's education attainment is a contributing factor in obtaining good employment and incomes, and thus a potential factor in reducing personal and household poverty. High school graduation provides teens the opportunity for entry into college or jobs which require basic educational skills that help to improve personal or family's quality of life.

Studies on high school graduation and poverty show that there is a significant relationship between high school graduation and young people's earnings. Because the basic skills conveyed in high school and higher education are essential for success in to day's economy, students who drop out and those who do not receive these skills suffer with significantly reduced earnings and employment prospects. According to Greene, (2002) "among persons over 25 years old who failed to complete high school or receive a GED, 55% report no earnings in the 1999 Current Population Survey of the U.S. Census compared to 25% of those with at least a high school degree or GED. For people reporting any earnings the median income for those who left high school without a high school diploma or GED is \$15,334 compared to \$29,294 for people with at

least a high school degree or GED. Also, a U.S. Census Bureau Report showed that the average annual income for a high school dropout in 2005 was almost \$10,000 less than that of a high school graduate (Alliance for Education Excellence, 2007). Thus, failure to graduate from high school paves the way for poverty.

A study by the Southern Education Foundation highlighted the importance of high school graduation in a state's economy including the economic consequences of dropping out of high school such as low productivity, income and crime. The study finds that Alabama's dropout rate is the biggest threat to the state's future economic growth. Furthermore, the study opines that the gap between wage earners in Alabama and the rest of the nation is mostly caused by low education attainment. Also, in 2002, students who dropped out of high school made less than 29 cents for every \$1.00 the average college graduate earned" (Alabama School Journal, 2008), The study concludes that "when a young person's productivity is lessened because he or she did not finish school, it hurts all of us and slows Alabama's economic growth" (Alabama School Journal, 2008). Other studies show that the trend in the state's high school graduation rate which lags behind national averages is detrimental to the state's sustained economic growth and that high school dropout costs the state several billions of dollars that it cannot afford (Birmingham Business Journal, 2008, The Birmingham News, 2008). Other costly adverse effects include an increase in number of children in poverty, malnutrition or starvation, crime and un-healthy lifestyles such as obesity, smoking.

In order to remedy the situations described above, some people have called for more accountability of local education boards, better education funding and parental involvement and other initiatives to improve education attainment of the youth, especially minority population groups. Other measures suggested include dramatically improving state education systems and job opportunities for High school graduates in order to increase incomes and overall health.

Indeed, the success of the state's long term economic development is tied to the performance of schools which affects the education attainment and skills of youth in the labor force. However, like several states in the southern region of USA, Alabama is characterized by racial and ethnic differences in population, regional development disparity, including urban and rural differences in resource endowments and allocation. Some of the state's metropolitan counties have better access to education than their rural counterparts. Economic returns to education for rural areas continue to lag those for urban areas. Since the state's development objectives include promoting prosperity of persons and places, it is pertinent to examine child poverty and education attainment disparity in the state. This will help policy makers to gain a clear understanding of the nature, magnitude, spatial dimensions and determinants of the problem of child poverty and low education attainment as a basis for developing comprehensive intervention strategies for alleviating the problems.

This paper assesses child poverty and education attainment disparity in the state of Alabama, USA between 1990 and 2004. The study is based on the following research questions:

- (i) Is there a significant disparity in child poverty and education attainment among Alabama counties?

- (ii) Is there a relationship between child poverty and education performance of Alabama counties and school districts?
- (iii) What factors account for the disparity in high school completion in Alabama?

. The specific objectives of the paper are to:

- (i) analyze child poverty and education attainment (measured by high school completion) rates and trends in Alabama between 1990 and 2004,
- (ii) examine how child poverty and education attainment rates vary by regions or urban, rural and Black Belt spatial locations, and
- (iii) assess the impacts of selected independent socio-economic variables on child poverty and education levels in the state.

Following the introduction, section two presents a brief review of some literature and conceptual framework related to child poverty and education attainment disparity. Section III describes the methodology, data sources and measurement of child poverty and education attainment. Section IV presents the geographic context of the study. Section 5 presents the findings/discussion, and section VI provides the conclusions.

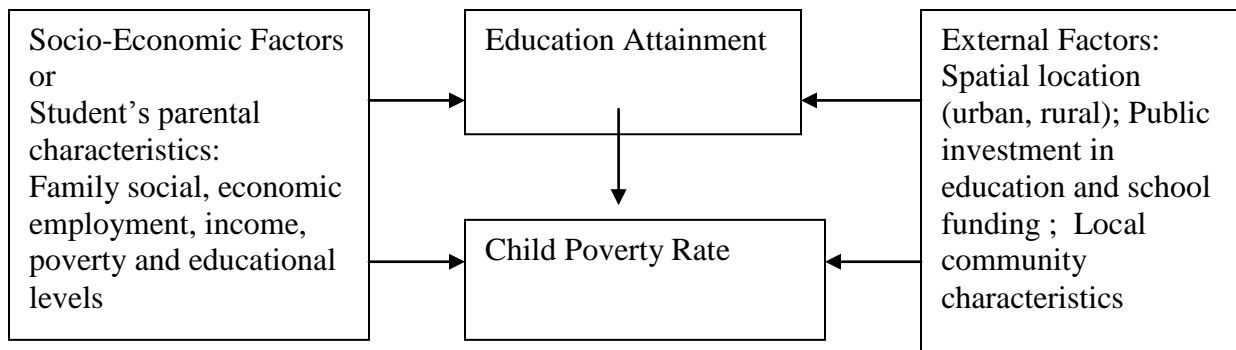
## II. Conceptual Framework

This study is framed around the concepts of poverty and educational attainment disparities in development of spatial units or regions and the factors which affect them. The key question revolves around the relationship between children poverty and their education performance, and the factors that affect them.

The conceptual framework as illustrated in Figure 1 shows two main interrelated components which affect child poverty and education attainment as development indicators at national, state/regional and local levels. The two components are: household socio-economic factors (child’s family/parental characteristics - parent’s income, ethnicity, employment and education) and external factors (spatial location in urban or rural setting, public investment in education, school funding and community or neighborhood characteristics including percent of minority population in locality).

As depicted in Figure 1 below, the interaction of these two sets of factors affects a child’s education and or poverty status and vice versa.

**Figure 1: The Conceptual Framework:**



Poverty is defined as the inability to achieve a certain minimum standard of living. In general, people are living in poverty if their income and resources (material, cultural and social) are so inadequate as to preclude them from having standard of living which is regarded as acceptable by the society. Also, poverty can be viewed as deprivation due to a lack of resources, both material and non material, e.g. income, housing, health, education, knowledge and culture. Thus, a child's poverty status is derived from parental work, income and socio-economic status.

In a practical sense, education attainment relates to acquisition of basic literacy knowledge, skills and values which are essential preparation for to day's world. It relates to manpower development and for young people who are beginning their adult lives, it means possession of a high school diploma. Also, education attainment has powerful effects on the socio-economic growth and development of any defined area (United States Commission on Civil Rights, 1978). This is more so when education attainment is measured by the more common technique of selecting the population of persons 25 years and older with a high school diploma.

Many studies of a school's or children's education performance show a relationship between students' characteristics and performance in test scores. In general, students from poverty backgrounds tend to have lower scores in standardized tests such as Stanford Achievement Test (SAT) than students from non-poverty backgrounds. While this may be a general patter, there are some schools at every poverty level that score much better than average, as well as schools that perform well below the average, (PARCA, 2006).

Mayer's study of economic segregation and children's education in the U.S. found that increase in economic segregation between census tracts in the same state hardly changes overall education attainment, but exacerbates inequality in education attainment between rich and poor children. (Mayer, 2001).

There are many factors that affect a child's economic or poverty status and schooling (education attainment). These include parental characteristics or family background factors and the characteristics of the political jurisdictions occupied. As Mayer observed, parental or family/household characteristics define whether a child is poor or not, and affect his/her choice of the political jurisdiction to live. The political unit which serves as residence (state, county or city) level of economic development, school funding policies and general support for education also affect a child's income status and education attainment. States or local school districts vary in the level of support provided for schools. So, a local school district or state with a good economic base is likely to provides adequate funding for its schools more than one with meager resources.

Disparity relates to major differences in quality of life indicators between different people or groups within a society. Moreover, disparity can be examined at several spatial scales, for example: the nation, states, counties, and urban and rural. Disparities exist between countries, between regions or states within a country, between urban and rural areas and between people within a given group. Many aspects of disparity are reflected in various economic, social and environmental indicators such as levels of income, poverty, education attainment, unemployment exposure to environmental hazards, access to infrastructure and information technology. These

disparity measures can serve as indicators of development. The differences or variations between regions can also indicate the presence of certain regions with deep-seated problems, which place the regions at a relative disadvantage to the rest of the country or state.

The identification and measurement of regional disparities is fundamental to the design of policies intended to address perceived inequalities between areas. As Wislade and Yuill (1997) have observed, this exercise, in practice, is fraught with several methodological issues and problems including:

- Choice of indicators to identify the presence of particular characteristics
- Comparative analysis across a wide range of spatial units (countries/states/counties, etc.)
- Designing a single map to encapsulate spatial inequalities

Furthermore, targeted spatial policies for reducing disparities depend critically on identification of the characteristics of different areas. This, in turn, hinges on the availability of information about the areas concerned, and the development of appropriate mechanism for interpreting and analyzing that information (Wislade and Yuill, 1997).

A key problem in the design of policies for addressing disparities is the development of a methodology to select the areas at which the policies should be aimed. A related problem is determining the threshold that a region must reach in order to be designated as “prosperous” or “underdeveloped” to qualify for policy intervention. The qualifying threshold may vary with the types of disparities. For social and economic disparities such as poverty and education attainment, it is common to use such measures as national, state or regional averages, or some percentage of the national average as a point of reference.

### **The importance of disparity study:**

Despite the achievement of substantial economic growth, disparities in levels of development continue to exist in the U.S. especially in the State of Alabama. The existence of disparities means poverty and inadequate standards of living for people in affected regions. This is of great concern and challenge economic development practitioners and policy makers.

Often, governments’ overt and unconscious efforts to maximize development tend to increase further existing development disparities. In addition, many social and economic development programs and policies have differential spatial impacts. These impacts need attention, evaluation and action so that they do not lead to increased level of development disparities. Thus, reduction of disparities or inequalities in development is considered a central purpose of development policies. According to the United Nations Development Program (UNDP, 1994), development patterns that perpetuate inequalities are neither sustainable nor worth sustaining. Also, Jenks (1976) warns that regional inequality presents a particular grave danger for the political unity of states where they are acute, especially when they are superimposed upon ethnic, cultural and historical differences.

Progressive governments are concerned with regional inequality for much the same reasons as personal inequality. They are concerned with lagging regions as with disadvantaged individuals. Durable and large gaps in living standards and levels of economic development between regions

often are unacceptable for societies professing a concern with social justice, and for the preservation of social harmony. Where these differences coincide with ethnic divisions, such disparities may well constitute the basis for regional disaffection especially if the region is rich in resources and proceeds from their exploitation flow to other regions.

Furthermore, in Alabama, there are important regional issues because of significant differences in urban and rural communities and among counties stemming partly from geography, history, economic structures and development policies. The uneven economic development that is likely to arise from differences in physical or natural environment as well as social, economic and political structures and institutions needs to be addressed. The study of regional disparities in poverty and education is also important because of the existence of regional consciousness and the significance of balanced development of territorial units in the state.

### **III. Data and Methodology:**

In order to analyze child poverty and education attainment disparity in Alabama, one must decide what geographical units to compare. One should select the geographical units that are relevant in terms of data availability and the outcome of interest.

The units of analysis for the study are Alabama's sixty-seven counties and the eight school districts. The number of counties in the school districts ranges from three in Districts 1 and 4 to 20 in District 5.

These units of analysis are important for several theoretical and practical reasons. First, counties as local government units operate schools, pursue local economic development activities and provide child welfare services. They receive financial support from the state and federal government for education. The information or data relevant for this study are readily available at the county level. The eight school districts are creations of the state and consist of a grouping of counties for schools administration purposes. Each county or city school system is a part of the school district. Thus, it is meaningful to compare the counties, as well as the school districts.

The main variables examined are child poverty and high school graduation or completion rates and high school dropout during the period 1990 to 2004. Other variables are county per capita personal income children 16-19 not enrolled in school and local government revenues for education.

The data used in the study have been derived primarily from various secondary sources including US Commerce Department Bureau of the Census, Bureau of Labor Statistics, Alabama County and City Data Book, KidsCount, Alabama Poverty Project- The Picture of Poverty for the State of Alabama and its Counties, Alliance for Excellent Education, Swivel.Com, National Center for Education Statistics, The Manhattan Institute -Black Alliance for Education Options, Southern Regional Education Board (SREB) – Getting Serious About High School Graduation, Education Week and The Internet.

High school graduation estimates the percentage of students who graduate within four years and are considered regular graduates. The rate is the number of graduates divided by the estimated count of freshmen four years earlier. The average freshmen enrollment count is the sum of the number of 8<sup>th</sup> graders five years earlier, the number of 9<sup>th</sup> graders four years earlier, and the

number of 10<sup>th</sup> graders three years earlier divided by three.(United Health Foundation, 2007). In this study, education attainment is measured by high school graduation rates “estimated by the percentage of students who graduate within four years and are considered regular graduates. The rater is the number of graduates divided by the estimated count of freshmen four years earlier...” (United Health Foundation, 2007).

While there is no one measure that gives a complete picture of the various dimensions of poverty, a number of indicators however has been suggested in the literature. These include: at risk of poverty, income, long term joblessness or unemployment, deprivation and inequality. However, the U.S. Department of Commerce, Bureau of the Census defines children in poverty rate in terms of related children under 18 living below the federal poverty threshold expressed as a percentage of all related children under 18. In this definition, “related children” include sons, daughters, grandchildren, nieces, nephews, etc., but not unrelated individuals such as foster children (U.S. Department of Commerce, Bureau of the Census. 1990 and 2000). Another definition of poverty used is the poverty level measured by the percentage of students who qualify for the federal program of free or reduced price lunch (FRL).

#### **Analytical Techniques:**

The methods employed to analyze the data on the key variables include: trend analysis to show changes in the counties and regions over the study period, comparative analysis of the counties and selected regions to show trends and changes over time in comparison with the state/nation, and descriptive statistics and correlation analysis. Descriptive statistics were used to quantitatively describe the changes and gap between the counties and their three regional groupings. Correlation analysis was used to determine the relationship or association between high school graduation as a dependent variable and a number of selected independent socio-economic variables (child poverty rate, household income, percent of 17 year old not in high school and percent of revenue for local school board). Also, the factors which appear to explain why some counties and school districts tend to have higher levels of high school performance than their counterparts are explored. In addition to examining trends in child poverty and education attainment, disparities between the sixty seven counties, urban and rural regions and school districts are analyzed. Gaps in education attainment between urban, rural and Black Belt locales relative to the state averages also are analyzed.

### **III. The Geographic Context: Some Demographic and Socio-economic Characteristics of Alabama:**

The State of Alabama covers an area of 50,758 square miles. Its local government structure comprises sixty-seven counties among which are eleven Metropolitan Statistical Areas (MSAs) and 358 cities and municipalities. Twenty-one of the counties with an urban population of 50% or more are classified as urban while the remaining 46 counties are classified as rural. Nineteen of the rural counties are located in the Black Belt region of the state. The sixty-seven counties, both urban and rural, are grouped into eight school districts shown in Figure 2 below.

#### **Population Change (1980-2005)**

- 1980 Total Population = 3,893,388
- Urban/Metropolitan population = 2,704,495
- Rural Population = 1,189,530

- 1990 Total Population = 4,040,587                      Growth rate (1980-1990) =3.7%
- Urban/Metropolitan Population = 2,709,530
- Rural Population = 1,330,859
- 2000 Total Population = 4,447,100                      Growth rate (1990-2000) = 10.1 10.1%
- Urban/Metropolitan Population = 2,993,867
- Rural Population = 1,453,233
- 2005 Total Population = 4,644,503                      Growth rate (2000-2005) = 4.4%
- Urban/Metropolitan Population = 3,124,451
- Rural Population = 1520052

(Source: <http://www.ERS.USDA.gov/Statefacts/al.htm>)

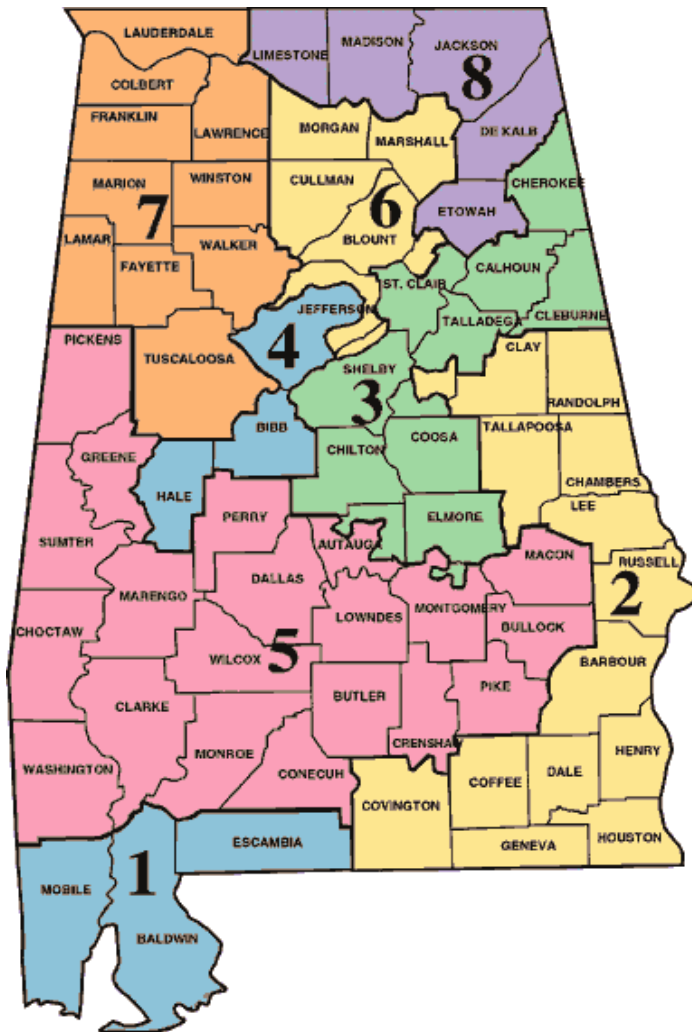
The population of Alabama, according to the 2000 U.S. Census, was 4,181,866. In 2005, it increased to 4,644,503 (an increase of 4.4 % from the 2000 number). The ethnic distribution of the population is shown in table 1 below.

**Table 1: Distribution (%) of Total Population in Alabama by Race/Ethnicity (2000-2005)**

<b>Distribution (%) of Total Population by Race/Ethnicity from 2000 to 2005</b>						
Race/Ethnicity	2000	2001	2002	2003	2004	2005
White	70.4%	70.1%	69.9%	69.7%	69.5%	69.3%
Hispanic, Latino	1.7%	1.8%	1.9%	2.1%	2.2%	2.3%
African-American	25.9%	26.0%	26.1%	26.1%	26.2%	26.2%
Native American, AK Native	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Asian, Pacific Islander	0.7%	0.7%	0.8%	0.8%	0.8%	0.8%
Two or More Races	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%

Source: U.S. Census Bureau, Population Estimates

**Figure 2 : Map of Alabama Counties Showing Board of Education Districts (Color coded and Numbered)**



There are currently about 33 million African Americans—about 13 percent of the total U.S. population. However, in Alabama, African Americans make up about 26 percent of the total population. The population of Blacks in the state in 2006 was estimated at 1,238,370 in contrast with the number 3,228,980 for whites, 112,470 for Hispanics and 42,350 for Asians. In 2005, Alabama’s MSA population for White, Hispanic and others was 1,911,624. The Black population in 2005 in metropolitan areas was estimated at 1,002,090 representing approximately 83% of the states’ total Black population. This implies that majority of Alabama’s Black population are found in the metropolitan areas. Only about 18.0% are in the non-metropolitan areas comprising mostly small cities, town and county jurisdictions.

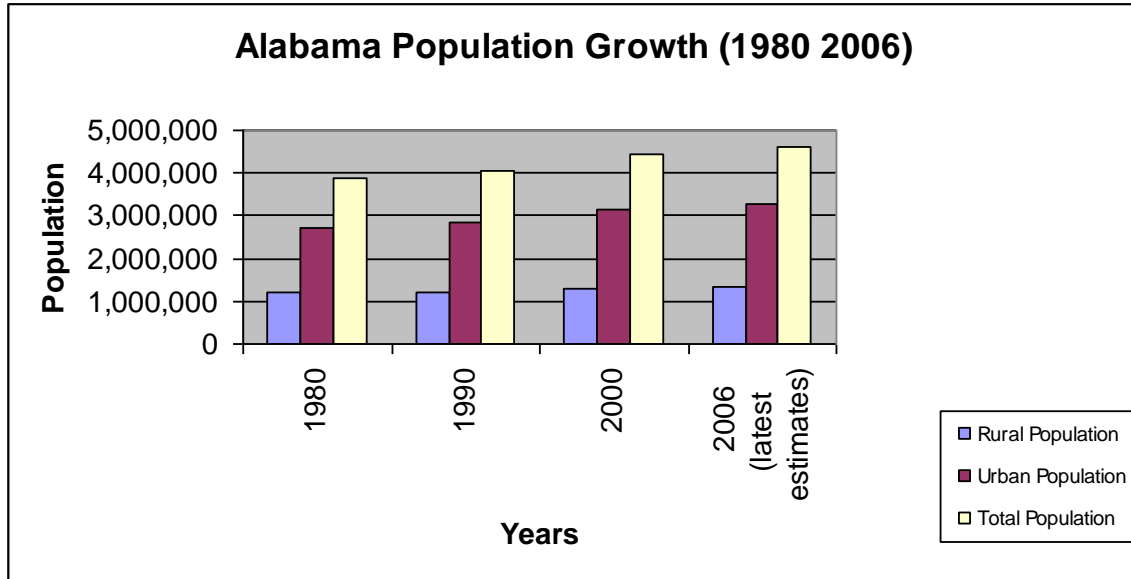
In 2004, the population of children eighteen and under in Alabama was 1,094,000 . This number increased to 1,112,000 in 2005 ( about 24.94% of the total poulation. In 2010, the population of

children is projected to decrease to 1,092,000 representing 23.76 % of the population (US Census Bureau : A Statistical Abstract Supplement -State and Metropolitan Area data Book, 2006).

**Trends in Demographic Change, Income and Poverty:**

The change and distribution of Alabama population between urban and rural areas from 1980 to 2006 are shown in Figure 3 below.

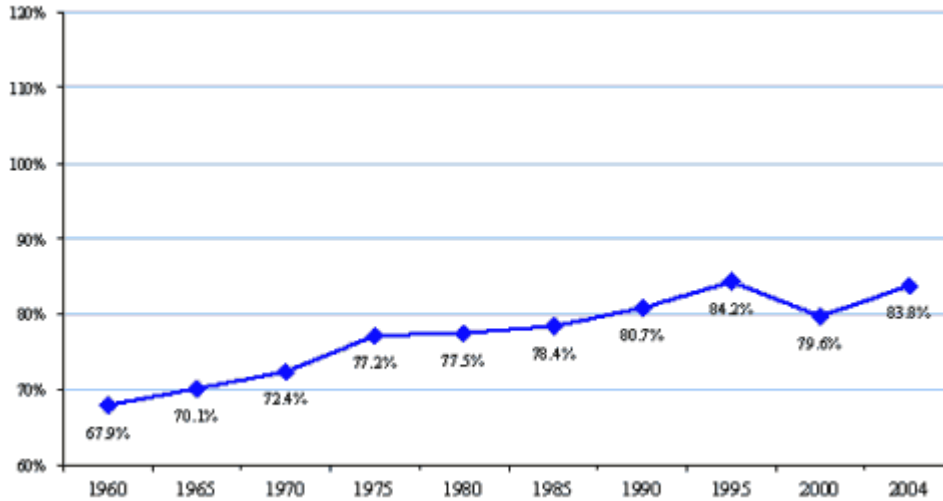
**Figure 3 :Alabama Urban and Rural Population Change (1980 -2006)**



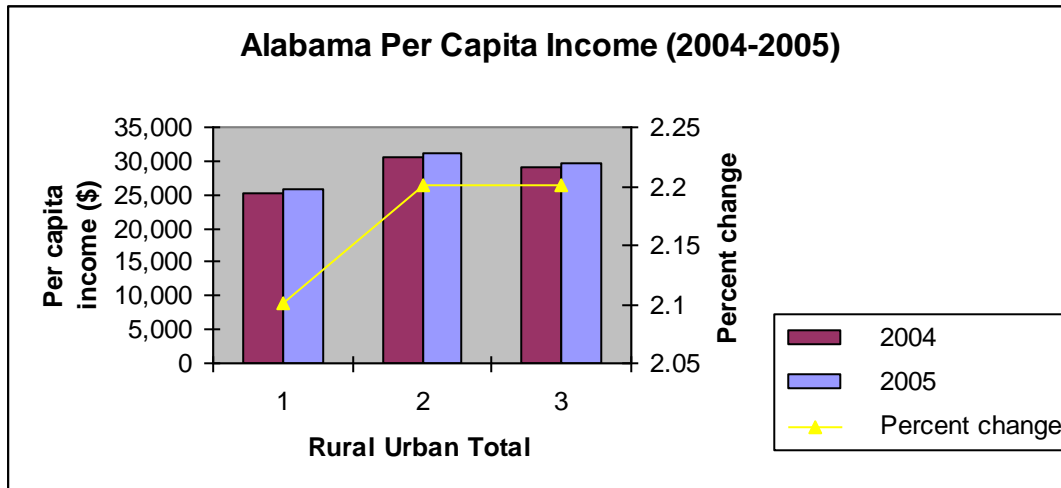
**Household income:**

In 2004, Alabama ranked 40th among the 50 states in personal income per capita (\$27,695 per resident). Alabama’s personal income relative to the U.S. rose from 68 percent in 1960 to 84 percent in 2004 – but still remains well below the U.S. average as shown in Figure 4. However, Alabama’s Shelby county ranked 87<sup>th</sup> among one hundred richest counties in the U.S. with a median income of \$55,440 and \$27,176 per capita income (USDA: Economic Research Service-Alabama Fact Sheet, 2007). On the other hand, seven of the counties are among US poorest by median household incomes, and four are among the one hundred poorest by per capita income. Thus, despite surface wealth, many people in the state are under the poverty line.

**Figure 4: Personal Income per Capita in Alabama as a Percent of the U.S. Average from 1960 to 2004**



**Figure 5: Alabama Per Capita Income (2004-2005)**



**Household poverty**

In 1990, 18.3% of Alabamians were poor by Federal estimates. During this period, twenty eight of Alabama’s 67 counties had poverty rates over 20%, and four of these ( Greene, Perry, Sumter and Wilcox ) had poverty rates of 40% or more. Using Alabama Poverty Project (APP) adjusted poverty rates data, as many as 23% of the population were poor, and 44% of Alabama’s poor were classified as living in extreme poverty, living on incomes less than one half of Federal the poverty threshold. (Dohoney, 1998) In general, the level of poverty in the state of Alabama has varied over the years. Unlike the US, poverty trends in Alabama have decreased. For example, in 1980, the poverty rate was 21.0% but in 2005, the rate decreased to about 15.0 % representing a decrease of 28.6% or 2.0% annually.

**IV: Findings:****(a) Trends in Child Poverty:**

Although poverty in Alabama has decreased since 1980, it is not the same with Alabama children. Since 2000, the number of Alabama children living in poverty has increased by 19%. In the period, 2000 – 2006, the number of children in poverty in the US increased by only 12%. According to 2007 findings from Annie E. Casey Foundation, Kids Count, in 1999, 21 % (about 233961 children) in Alabama were in poverty. In 2005, the number increased to 24.84% (about 266510 children) compared to the US average of 18.35.

(<http://www.higheredinfo.org/analyses/2005%20ACS>).

As shown in Table 2, percentage of children in poverty in the state declined by 4.2% from 1990 to 2006 while that of the US decreased by as much as 16%. Alabama child poverty as a percentage of US increased from 120% in 1990 to 136% in 2006, representing an increase of 13.4% during the period.

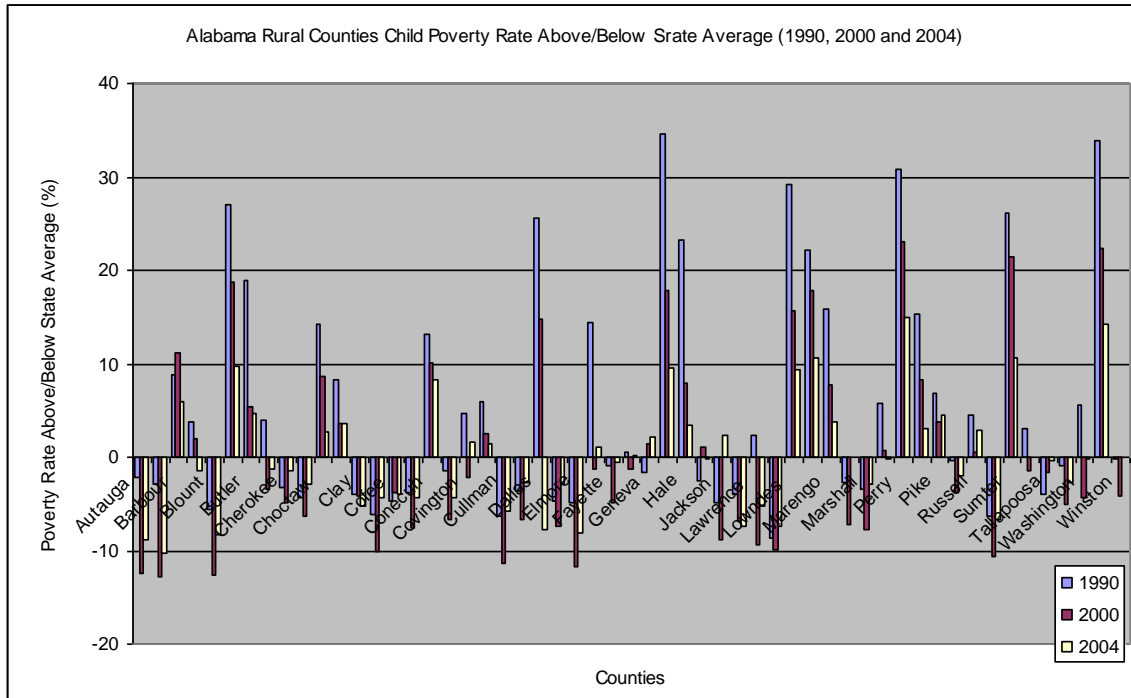
**Table 2: Percent of Children in Poverty (Alabama and USA) 1990-2006**

	Children in Poverty (%)							% Ch '90 – '06
	1990	2000	2002	2003	2004	2005	2006	
Alabama	24	22	24	24	23	25	23	-4.2
U.S.A.	20	19	16.7	17.6	17	17.1	16.9	-15.5
+/- US Average	+4	+3	+7.3	+6.4	+6	+7.9	+6.1	52.5
Percent	120	115.8	143.7	136.4	135.3	146.2	136.1	13.4

The distribution of child poverty in the State of Alabama is profiled at the level of the counties and at the level of the urban and non-urban counties, as well as the Black Belt region. Statistics from the National Center for Children in Poverty show that 24% of Alabama's children lived in poverty in 2006, in comparison to 26.2% in 2000 (National Center for Children in Poverty, 2006). In 2006, 38% of Alabama's poor children lived in urban areas compared to 25% that lived in rural communities.

A comparative analysis of child poverty by counties show that three counties had rates below the state average while fourteen counties had rates below national average.

**Figure 6: Alabama Rural Counties Child Poverty Rates Above/Below State Average (1990-2000-2004)**

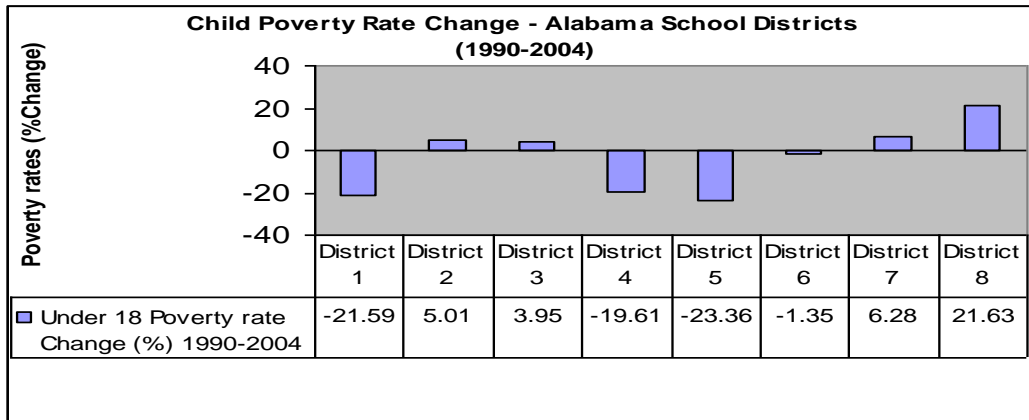


As the data in Table 2 shows, child poverty incidence tends to have improved in Alabama over the study period from 24% in 1990 to 23% in 2006. But, the change in poverty rate still remained below national average by about 53%. However, the improvement was not uniform in all the areas. The rate of poverty among children deteriorated in a few counties particularly in the Black Belt counties as depicted in Figures 10 and 11.

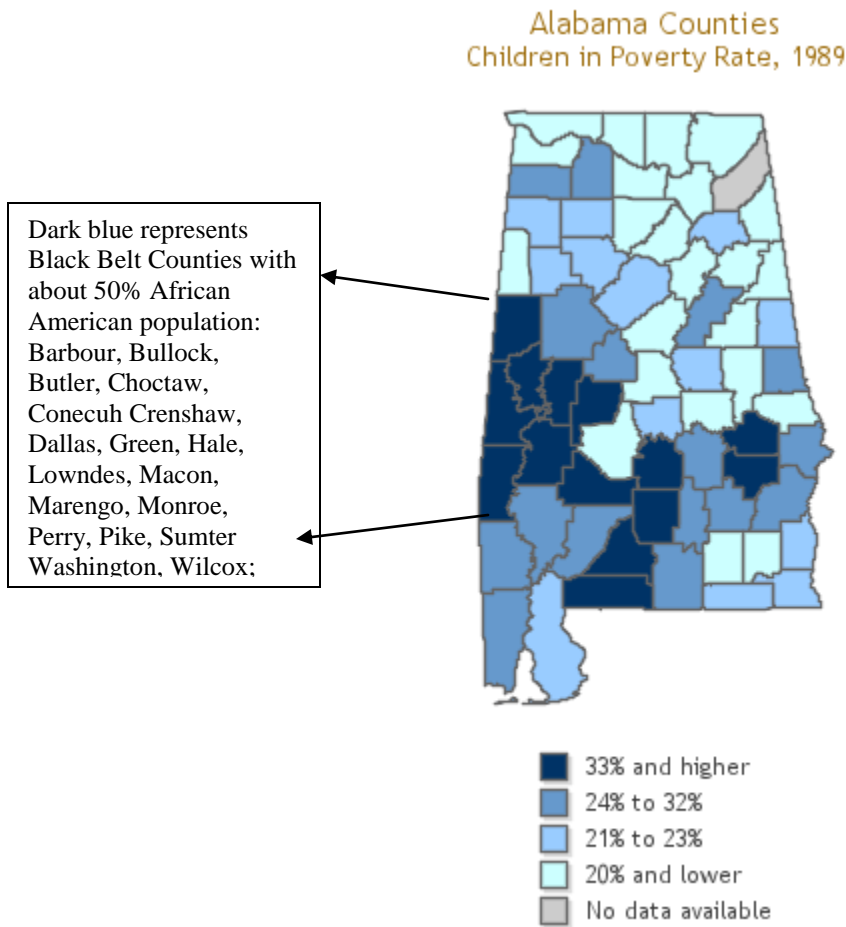
A comparative study of the 1990 and 2000 child poverty maps show that there is a high concentration of children in poverty in School District 5. As depicted in the legend, fourteen counties had children poverty rates of 33.0% and above. All but two of these counties are in district 5. The data for 2000 shows similar trends. The data tend to show a correlation between poverty and race in Alabama in the sense that Black children were almost 3.7 times more likely to be poor than white children. In general, the poverty rate is highest in counties that have a high percentage of Blacks as the Black Belt (see Figures 10 and 11).

However, analysis of changes in child poverty rates by school districts in the period 1990-2004 (see figure 9) showed a significant decrease in child poverty in three school districts (1,4 and 5) in 2004 compared to the increase in School District 8 which includes the counties around the Huntsville metropolitan area.

**Figure 9: Change in Alabama Child Poverty rates by School Districts (1990-2004)**

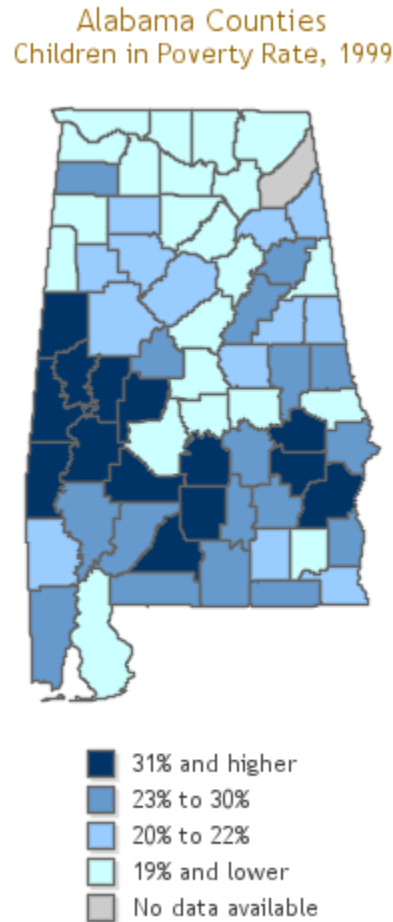


**Figure 10: Map of Alabama Counties Showing Children Poverty Rate, 1989**



Source: The Annie E. Casey Foundation- Helping Vulnerable Kids and Families Succeed.

**Figure 11: Map of Alabama Counties Showing Children Poverty Rates 1999**



Source: The Annie E. Casey Foundation- Helping Vulnerable Kids and Families Succeed.

(b) Education Attainment:

As stated earlier in the paper, education among other things provides some of the skills demanded in the labor market, and thus is a potential factor in reducing poverty.

While education attainment has generally improved in Alabama in the last 30 years, the state has not caught up to the national average. In 1998, about 78.8% of the state had at least a high school education compared to the national figure of 82.6%.

Tables 3 and 4 show high school graduation and drop out rates in Alabama from 1990 to 2006. As shown in table 4(a) in 1990, the state average high school graduation rate among persons aged under 25 was only 67 % with the U.S. average about 75% representing a graduation gap of 8%. In 2006, the gap widened to 11.0%

**Table 3: Trends in high school graduation/completion rates (1990-2006)**

	High School Graduation Rates (%)							% Ch '90 – '06	Gap AL/US 2006
	1990	2000	2002	2003	2004	2005	2006		
Alabama	67.4	62	61	60	65	61.3	58.7	-8.7	11.0%
U.S.A.	72.0	82.1	68	70	75	70.6	69.8	-2.2	
+/- US Average	-4.6	-20.1	-7.0	-10.0	-10.0	-9.3	-11.1	-5.7	
Percent	93.6	75.5	89.7	85.7	86.7	86.8	84.1		

Source: Education Testing Service: One Third of a Nation- Rising Dropout Rates and Declining Opportunities Policy Information report ([http://www.ets.org/Media/Education\\_Topics/pdf/one...](http://www.ets.org/Media/Education_Topics/pdf/one...))

**Table 4 Percent of Teens (16-19) Who Drop out of High School**

	High School Dropout Rate (%)							
	1990	2000	2001	2002	2003	2004	2005	2006
Alabama	14	13	12	15	10	7	9	9
U.S.A.	10	11	10	9	8	8	7	7
Difference	4	2	2	6	2	-1	2	2
% of USA	140.00	118.18	120	166.66	125	87.5	128.57	128.57

Source: Kidscount.org

([http://www.kidscount.org/datacenter/compare\\_results.jsp?i=440&dt=2&rt=2&yr7&S=a\)6/26/08](http://www.kidscount.org/datacenter/compare_results.jsp?i=440&dt=2&rt=2&yr7&S=a)6/26/08))

**Figure 12 Alabama HS Dropout Rate as a percent of US**

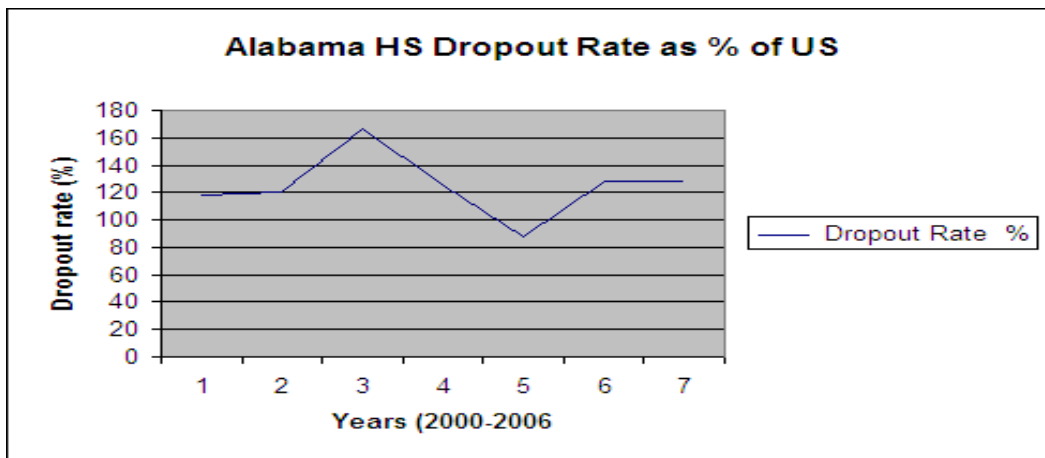


Table 4 and figure 12 illustrate percent of Alabama high school teens (16-19) dropout rate as percent of US during the period 1990 to 2006. The data shows a decline from the rate of 14% in 1990 to 9% in 2006. This represents a decrease of 35.7 % and demonstrates an improvement

over the years. But when compared to US average for the period, Alabama teens high school dropout rate has risen from the low point of 88% of US rate to the current 129%.

(c) Disparities in Alabama counties' child poverty and high school graduation/dropout rates:

This section of the paper presents a spatial analysis of child poverty and high school graduation and dropout rates in three groupings of Alabama counties (metropolitan or urban counties, rural counties and Black Belt counties). The analysis is to demonstrate that where a child lives in Alabama affects his/her chance of being poor and graduating or dropping out of high school.

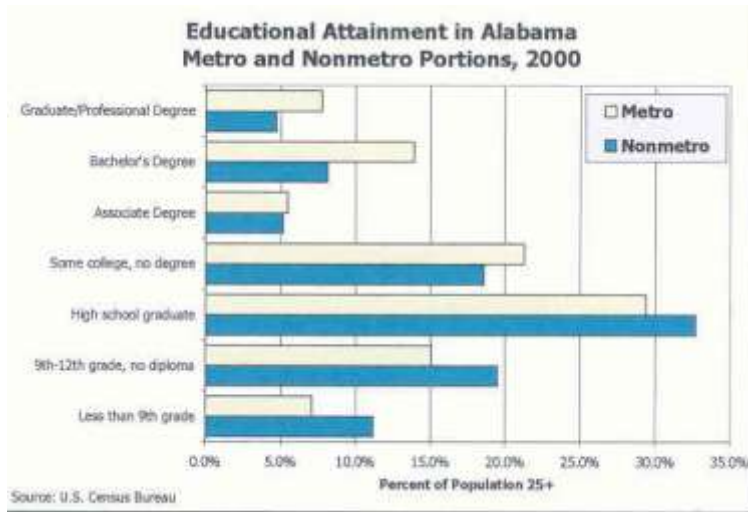
While Alabama children in urban and rural areas have relatively equal rates of poverty, (18.3% and 18.4%) children in the Black Belt counties have higher poverty rates ranging from 18 % in Dallas county to 40 % in Perry and Wilcox counties. In general, child poverty rate declined in Alabama's Black Belt counties by 28.8% between 1990 and 2004. The decrease ranged from 65% in Dallas county to 5% in Barbour county. It declined 20 -29% in Marengo (28%) Perry (27%) Pickens (28%) Macon (22%) Sumter (20%) and Choctaw (20%). Counties which record 30%-40% decrease in poverty rate include Butler (31%) Wilcox (31%) Bullock (31%), Escambia (31%) Hale (39%) Lowndes (39%) and Greene (4-%).

In the urban counties in general, poverty rate among children under 18 increased by 2.27% compared to 6.33% in the state as a whole during the period covered in this analysis. Five of the urban counties had child poverty rate increases well over the state average during the period. These are (Calhoun: 28.18%; Lauderdale: 24.06%, Etowah:15.38%, Madison: 10.81%, and Montgomery : 8.63%) However, poverty rates decreased in Morgan county (20.06%) Shelby county (12.38%; Lee county (11.22%) and Jefferson county (6.76%) compared to the state average.

In examining disparities in graduation or dropout rates of children in Alabama, the focus here is on comparing the differences between urban counties, rural counties, and the Black belt counties. In doing so, two questions are addressed, namely: (i) Do children in urban counties have a higher poverty or graduation rate or lower drop out rate than their rural counterparts?  
(ii) Is there a difference in high school graduation rate or dropout rate of high school students based on poverty rates in urban and rural counties?

As shown in Figure 13, education attainment in Alabama in 2000 varies between metropolitan and non-metropolitan area. A higher percentage of non-metro counties population aged 25+ (about 33%) graduated from high school while less than 30% of their urban counterparts did.

**Figure 13: Education Attainment in Alabama Urban and Rural Areas (2000)**



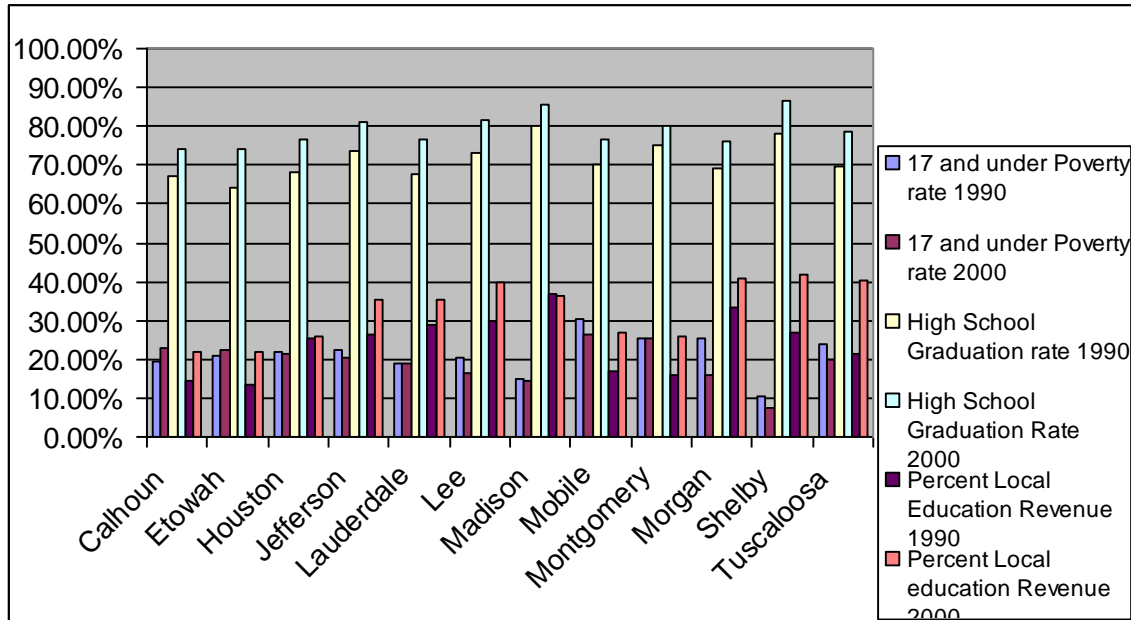
A county by county comparative analysis of high school dropout rates shows that in 2004, Alabama’s average high school drop out rate was 2.6%. The average dropout rate for the urban counties was 2.88 (about 10.77% above the state average) with Tuscaloosa county recording the highest rate followed by Montgomery, Calhoun and Etowah counties in that order. While the average high school drop out rate in the rural counties was 2.65% (about 1.92% above the state average) five counties: Coosa, Lamar, Geneva, Dale and Marion had dropout rates equal to the above urban counties. But the rate for the Black Belt counties was 2.09 (about 19.62% lower than the state average for 2004). Only Butler county a little above the urban counties. This implies that more Black Belt teens tend to complete high school than their urban or non Black Belt rural counterparts.

In contrast, the Black Belt counties average child poverty rate for the same period compared with the state average was 22.4% above the state average) The rate for the urban counties was 21.66% (about 14.05% less than the state average) while the rate for the rural counties was 25.5% ( about 1.19%)above the state average. So, while there may be less number of poor high school teens in urban areas than their rural counterparts, the data tend to suggest an inverse relationship between child poverty and high school dropout or completion rates. The significant implication of this finding will be explored later in subsequent section of this paper.

(h) Relationship between child poverty, education attainment (high school graduation and dropout rates) and local education revenue:

As illustrated in Figure 14, 1990 and 2000 data on poverty rate for children under 17, high school graduation, persons aged 17 not in high school and percent of local education revenue for School Boards for Alabama urban counties showed increases in the above variables of interest to varying degrees. The largest percentage increase was in local education revenues with Madison, Morgan, Shelby and Tuscaloosa counties recording the highest (40%) in 2000.

**Figure 14: Percent Change in Child Poverty, High School Graduation, Local education Revenue for Alabama Urban Counties (1990 and 2000)**



The relationship of these factors to high school graduation in the state and the three county groupings is statistically examined in this section. Table 5 below shows descriptive statistics of key socio-economic variables (High School Graduation, Children not in high school; Children 17 in Poverty, Per capita personal income and Revenue for Local Education Board) analyzed for three distinct geographical or spatial classifications of Alabama counties for the year 1990 and 2000. The table shows the mean, and standard deviation for each of the variables. A comparative analysis of 1990 and 2000 data shows an increase in the mean values for all the variables except poverty rate which decreased in the three regions. While the mean value for students not in high school decreased for urban and Black Belt counties, it increased in 2000 for rural counties without the Black Belt. The mean value for students not in high school was lowest in the Black Belt among the three regions in 1990, but increased slightly in 2000.

**Table 5 Descriptive Statistics of High School Graduation Rates, Children 17 and Under Poverty, County Per Capita Personal Income, 17 Year Olds not in high school and local Education Revenues (1990 and 2000)**

1990	Urban Counties		All Counties		Black Belt Counties		Rural Counties without Black Belt	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Variables	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
HS GRAD	71.46	4.75	59.63	7.85	55.82	3.86	57.69	6.45
U17POV	20.28	5.35	27.73	11.60	43.34	9.32	21.97	3.87
NOT in HS	11.09	2.49	13.64	4.33	10.59	2.45	16.10	4.10
LRLEB	24.11	7.75	16.62	6.70	14.17	4.89	15.42	5.43
PCPI	12505.67	1755.94	10032.25	1984.35	8100.89	1034.24	10227.44	1319.13

2000	Urban Counties		All Counties		Black Belt Counties		Rural Counties without Black Belt	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Variables	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
HS GRAD	78.97	4.14	69.65	6.39	66.72	3.74	68.09	5.23
U17POV	17.86	6.34	24.91	9.90	37.23	8.11	20.76	4.62
NOT in HS	11.13	3.28	13.08	3.12	13.23	2.94	13.66	2.98
LRLEB	32.64	7.68	23.09	7.55	17.54	4.92	22.84	5.33
PCPI	24030.83	3307.31	20534.51	3252.54	18072.95	1647.28	20668.22	2759.86

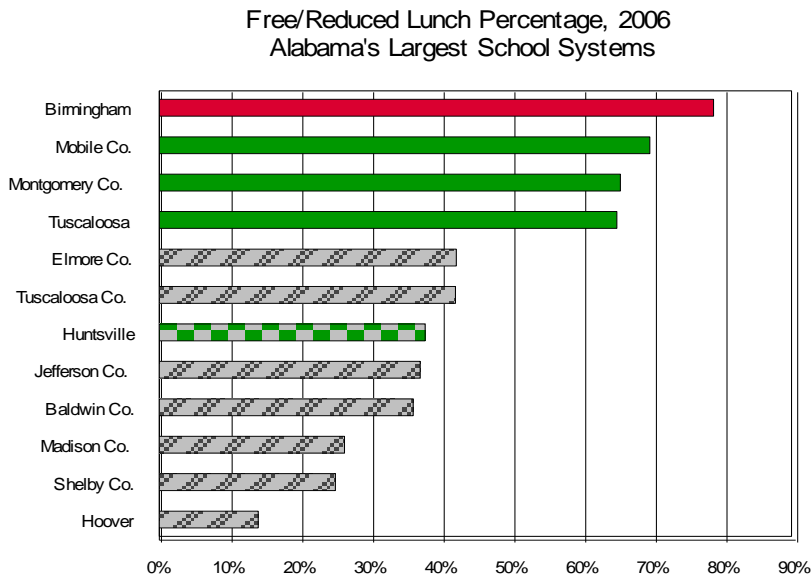
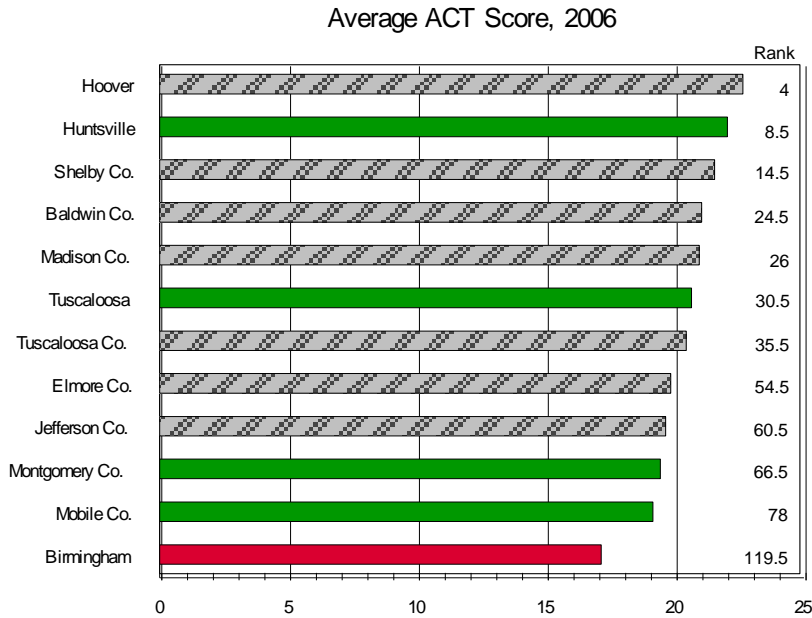
**Relationship between Poverty and Education Performance in Alabama Schools:**

In 2005, more than half the 730,000 children in Alabama public schools were eligible for free and reduced meals because of family poverty (Alabama Poverty Project). In 2006, Alabama had 54% of public school students living in a low income household which is defined based on whether the student is eligible for free and reduced lunch at the public school or live in households of three with an annual income of \$31,765 or less (Birmingham Business Journal, Oct. 30, 2007)

Figure 15 show percentage of free/reduced lunch and average ACT score for Alabama’s largest school systems in the major urban areas for 2006. Also, Figure 16 illustrates the relationship between ACT scores and percent free/reduced lunch for the school systems for 2006. The figure

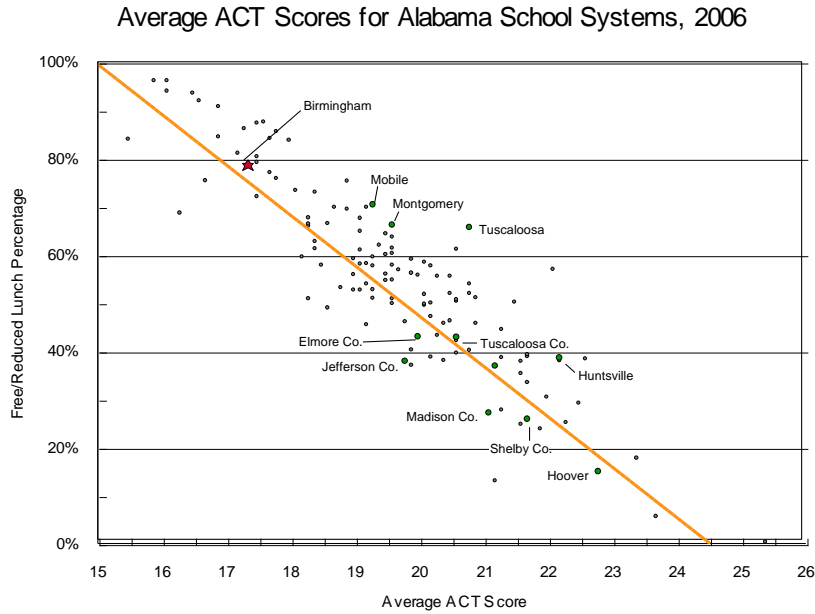
shows that the major urban centers (Birmingham, Mobile and Montgomery) with a higher percentage of free or reduced lunch are associated with the lowest ACT scores. Also, statewide results on reading and math tests, as expected, showed that poor students performed much lower than non poor students.

**Figure 15: Percent Free/Reduced Lunch for Alabama’s Major School Systems (2006)**



Source: Public Affairs Research Council of Alabama Schools System Performance, 2006

**Figure 16: Relationship between Average ACT Scores and Free/Reduced Lunch Alabama School Systems**



Source: Public Affairs Research Council of Alabama, Schools System Performance, 2006

As Figure 16 above shows, there is a strong negative relationship between percent of free/reduced lunch and average ACT scores in the school systems analyzed. Thus, schools with a higher percentage of students receiving free lunch are associated with lower average ACT scores.

Also, a bivariate regression analysis of public school students' academic performance based on standardized tests (SAT) and percent of the students that receive free or reduced lunch showed a moderately strong negative correlation between the independent variable (child poverty) and academic performance (dependent variable) as illustrated in table 6 below showed that children from poor parental backgrounds had lower scores than those from non poor parents. A comparison of education performance data for 7<sup>th</sup> and 8<sup>th</sup> graders from 15 urban schools and 30 rural schools showed similar results with significant disparity in academic performance poor and non-poor students from urban and rural areas.

**Table: 6: Standardized Correlation Coefficients (Betas) for Dependent Variable (SAT scores) and an independent variable (Reduced/Free Lunch) for Selected Alabama Schools**

Variables	Grades	Standardized Correlation Coefficients* (Beta )	R	R2	Adj. R2	
Free/Reduced Lunch (Independent Variable) Academic Performance (SAT SCORE) Dependent variable	7th	-.656	.656	.430	.419	
	8th	-.668	.668	.447	.437	

\*Correlation coefficients are significant at 0.01 level

(e) Some Socio-economic Determinants of High School Graduation/

Results of regression analyses to determine the effect some selected socio-economic factors have on high school graduation in the state are presented in Tables 7-10 . The multiple R, R2 and adjusted R2 values are shown at the bottom of the tables while the Pearson’s correlation coefficients ( r ) appear in the matrices. The R and R2 values suggest a strong (positive) relationship between the dependent variable (HSGRAD) and the independent variables. The r values show a strong positive relationship between the dependent variable, high school graduation, and revenue for Local School Boards in the three areas. Similarly, there is a strong positive relationship between high school graduation and per capita income especially, although the strength of the relationship is weak for urban counties in 2000 in comparison to rural and Black Belt counties. The relationship between high school graduation and non enrollment in high school was negative and moderately strong as expected. The variable, Under 17 poverty, also gave similar results for urban and rural counties. This variable was negative and week for rural counties in 1990, but not in 2000. All the coefficients (betas) were positive for local school board revenue and per capita income indicating that increasing local education board revenues and per capita personal incomes would lead to improved graduation rates.

**Table 7 Pearson’s Correlation Coefficients for Urban Counties: 1990(upper diagonal) and 2000 (lower diagonal)**

Variables	HSGRAD	U17POV	NOT in HS	LRLEB	PCPI
HS GRAD		-.239	-.446	.512	.847
U17POV	<b>-.276</b>		.012	-.601	-.658
NOT in HS	<b>-.564</b>	<b>.190</b>		-.322	-.121
LRLEB	<b>.620</b>	<b>-.288</b>	<b>-.496</b>		.571
PCPI	<b>.335</b>	<b>.237</b>	<b>.163</b>	<b>.118</b>	

1990: R= .947; R2= .897; Adjusted R2= .838

2000: R= .620 R2= .382 Adjusted R2 = .322

**Table 8: Pearson’s Correlation Coefficients for Rural Counties: 1990(upper diagonal) and 2000 (lower diagonal)**

Variables	HSGRAD	U17POV	NOT in HS	LRLEB	PCPI
HS GRAD		-.399	-.390	.652	.582
U17POV	<b>-.508</b>		-.412	-.318	-.712
NOT in HS	<b>-.447</b>	<b>.041</b>		-.253	.197
LRLEB	<b>.704</b>	<b>.610</b>	<b>-.212</b>		.539
PCPI	<b>.673</b>	<b>-.543</b>	<b>.146</b>	<b>.569</b>	

1990: R= .822 ; R2= .676 ; R2 Adjusted = .655

2000: R= .833 ; R2 = .694 ; R2 Adjusted = .674

**Table 9: Pearson’s Correlation Coefficients for Black Belt Counties: 1990(upper diagonal) and 2000 (lower diagonal)**

Variables	HSGRAD	U17POV	NOT in HS	LRLEB	PCPI
HS GRAD		-.502	-.175	.453	.532
U17POV	<b>-.672</b>		-.245	-.176	-.844
NOT in HS	<b>-.330</b>	<b>-.013</b>		-.312	.112
LRLEB	<b>.356</b>	<b>-.696</b>	<b>-.178</b>		.231
PCPI	<b>.639</b>	<b>-.623</b>	<b>-.054</b>	<b>.503</b>	

1990: R= .661; R2 =.437 Adjusted R2= .277

2000: R= .804 ; R2 =.646 Adjusted R2= .544

**Table 10: Pearson’s Correlation Coefficients for Rural without Black Belt Counties: 1990(upper diagonal) and 2000 (lower diagonal)**

Variables	HSGRAD	U17POV	NOT in HS	LRLEB	PCPI
HS GRAD		-.219	-.511	.469	.531
U17POV	<b>-.511</b>		-.149	-.094	-.406
NOT in HS	<b>-.330</b>	<b>-.138</b>		-.198	.025
LRLEB	<b>.527</b>	<b>-.332</b>	<b>-.010</b>		.524
PCPI	<b>..556</b>	<b>-.374</b>	<b>-.093</b>	<b>.305</b>	

1990: R= .759; R2=.576; Adjusted R2= .522  
 2000: R= .792; R2= .627; Adjusted R2= .579

**VI. Summary and Conclusion:**

In Alabama, it is estimated that “close to half of all students in the public schools fail to finish and only about 14% of 9<sup>th</sup> graders is likely to graduate from college” (Lawson, 2008). According to a 2006 report, the drop out rate for Autauga county was 37.87%. The data for Elmore county and Montgomery county were 42.82 % and 51.19% respectively.

In this study, we find uneven distribution of high school graduation and drop out rate among Alabama counties as well as a high probability of drop out rate in metropolitan areas, and counties with high child poverty rate, high family poverty and single mother families. Similarly, some population groups are more prone to a high rate of high school drop out and conversely low graduation rate. For example, in 1998, African American high school graduation rate was 56%, 78% for Whites non Hispanic and 54% for Latino students. In 2005, the average freshman graduating rate for Alabama as calculated by the US Department of Education was 65.9% (Hall, 2007).

The results of this study show that high school students from poor backgrounds have a lower dropout rate than their counterparts from non poor backgrounds, and high school students from rural, and especially the rural Black Belt counties have lower dropout rates than their urban counterparts. However, the poor students’ education performance especially in standardized tests such as SAT and ACT is lower than the performance of their non-poor counterparts.

Also, the study show that two sets of factors that affect high school graduation and students’ performance in the state are variables associated with a students’ parental background, for example, income, and external or community factors, especially the percentage of revenue available to the local school board through public school funding..

The issue of funding is also related to quality of school including its desirability as a learning environment for children, quality of instruction and the incentives/motivation the children have

to learn and do well. This has a significant implication for the low performance of schools in the state's rural counties especially the impoverished Black Belt counties.

In Alabama, many rural schools do not look as good as their urban counterparts. The quality of the schools including availability of technology use also varies greatly. Some systems have access to good teachers and equipment including the best computers and software in the classroom. But others have had limited access due to costs and support needed to make technology useful in the classroom (Alabama School Journal, July 21, 2008).

Some counties and school districts have performed well below state and national averages in child poverty and education attainment. However, the districts and counties with low levels of academic attainment/ performance are not distant outliers but part of a continuum of relatively good performers. This calls for some level of cooperation between rich schools and poor schools in use of education facilities and resources so as to reduce the effects of poverty on students' education performance outcomes and school completion or graduation in the state..

If the economic future of Alabama is tied to the education attainment of its youth, then its development policies should pay attention to reducing disparity in children poverty and education attainment. After all, as one of the State house of Representative members, Lara Hall, observed: "a rising tide lifts all boats..." . Therefore, Alabama's economic development programs and policy should be designed to incorporate reduction of disparity in children poverty and education attainment among the School Districts and urban and rural counties in the state.

The initiatives adopted by the state such as Alabama Reading, Math and Science programs, Technology initiative ACCESS Distance Learning program should be expanded and the Federal "No Child Left Behind" program made to work for all schools with special attention on the disadvantaged. Alabama's economic development programs and policy should lead to reducing ethnic/racial gaps in education attainment and poverty, as well as convergence of rates of children poverty decrease and education attainment increase with the pace of the state 's rate of economic growth.

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