

Research

A correlation analysis of poverty with race, education, and economic well-being in Mississippi with suggested policy alternatives

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Abstract

Mississippi is a financially poor state with nearly a quarter of its population living in poverty. This paper examined the county level relationships among poverty, race, economic well-being, and educational attainment in the state of Mississippi. Poverty, race, education, and wage-related data collected by federal and state agencies were used to define statistical relations among the socio-economic variables. The findings showed that there are statistically significant relationships among poverty, wage, education attainment, unemployment, and race. Poorer Mississippi counties and cities have shown higher Afro-American populations, lower wages, and high unemployment. Poverty impacts all races in Mississippi, but its most serious impacts are felt among black Mississippians. Wages and educational attainment tend to be worse in areas populated by more Afro-American persons than white persons, particularly in more rural areas. There are a number of policy alternatives available to help ameliorate this crisis such as increasing wages of Mississippi's public employees, increased funding for public education, and a state-based Earned Income Tax Credit. These options have incredible potential to lift thousands of Mississippians, particularly racial minorities, out of chronic cycles of poverty.

Introduction

Regrettably, Mississippi has been experiencing chronic poverty causing educational attainment and economic growth to be stifled. Labor statistics regarding Mississippi's labor market are troubling. For example, fewer Mississippians are working today than nearly ten years ago, and a single net additional job has not been created since the late 1990s (Bureau of Labor Statistics, 2015).

This paper reviewed Mississippi's economic and educational data, mostly since 2005, to understand how the economy of Mississippi stands following the economic downturn of 2008. Also, the relationships among poverty, race, income, and educational attainment in Mississippi were explored. Finally, policy options to alleviate poverty in the state were discussed.

Literature Review

Research on race and education, particularly in the South, is not a well-researched topic (Morris & Monroe, 2009). The American South is home to a majority of the country's Afro-American population, and it is important to understand the relationships between race, education, and employment outcomes in order to

explain the sense of community felt by Afro-American Americans. Findings show that 41 percent of Afro-American Mississippi children live in poverty while only ten percent of white Mississippi children do (Morris & Monroe, 2009).

The Mississippi Delta, populated by more Afro-American persons than other races, has been an example of economic failures for generations (Fontenot, et al., 2010). During the 1990s, the United States' economy was doing quite well. Job creation was increasing, poverty was being reduced, and the global economy was becoming more interconnected than ever before. However, during the same time period, the Mississippi Delta did not enjoy the same boon as the rest of the nation (Fontenot, et al., 2010).

Impoverished children are subject to psychological problems associated with their financial status (Blair & Raver, 2012). Adults impact their children's upbringing in a host of ways, particularly in the way the child's psychology is affected at an early age. Poorer parents are less likely to be involved in their child's upbringing, which has a negative impact on the child (Katel, 2015). A parent's stress and anger can be placed upon the child. Thus, a poor upbringing in unhealthy conditions changes the psychology of the child that lingers for a lifetime.

Income for better-educated workers is higher than for those who did not complete high school. From 1990 to 2013, working men ages 30-45 who received an advanced degree earned 13 percent higher wages than men with no high school diploma, and earned 20 percent fewer wages (Irwin, 2015). There are a number of factors which lead to such problems. First, the information age in which we now live is moving the American economy away from heavy manufacturing and into more technology-based services that requires greater education. Second, the manufacturing jobs, which do exist pay less per capita now than they did in 1990 (Irwin 2015). This helps explain the rise in low-skill, low-education jobs in the food service and custodial industries.

Research Methods

Data

The data used are county-level population, employed persons, weekly wages, poverty rates, high school and college graduate rates, race populations, labor force rates, and median household incomes. We reviewed the limited empirical research on this subject and data collected from sources such as the United States Government Accountability Office, the United States Census Bureau, the United States Department of Labor's Bureau of Labor Statistics, and the Mississippi Department of Employment Security.

Statistical methods

After conducting descriptive statistical analyses of the socio-economic variables for the counties in the state of Mississippi, focusing on the poverty issue, we conducted a series of Pearson's correlation analysis to define statistically significant relationships among the variables.

A brief description of poverty in Mississippi

The Mississippi's poverty rate is estimated at nearly 23 percent continues to be one of the highest in the nation (see Table 1) (Bureau of Labor Statistics, 2015).

Table 1. Portions of below-poverty line by different race groups in Mississippi for 2013.

Race	% below poverty line	State population	Below poverty line
Black	37.6	1,087,782	408,684
Latino	31.9	74,169	23,626
White	15.1	1,714,885	259,484
Asian	13.2	27,645	3,659
Total	22.7	2,904,481	671,827

Source: American Community Survey

This affects all citizens in Mississippi, regardless of race, gender, or background. Impoverished persons and families in the United States face immense financial obstacles in meeting their daily needs. In Mississippi, Afro-Americans show the highest level of poverty, followed by Latino, White, and Asian groups. Around 400,000 Afro-Americans in State are under the poverty line.

Employment data is particularly troubling. Mississippi has one of the highest unemployment rates in the United States, and county data show that higher Afro-American and Latino populations tend to have fewer persons being employed (Table 2). Among 1.3 million people who are older than 16 years old, only 1.1 million have jobs, and about half (46%) of the unemployed people are under the poverty line (see Table 2).

Table 2. Employment status and associated poverty level in Mississippi in 2013

Employment Status	State total	Below poverty level	% below poverty
Labor force over 16	1,330,716	200,612	15.1
Employed	1,191,798	136,697	11.5
Unemployed	138,918	63,915	46.0

Source: American Community Survey

About half (46%) of the unemployed people are under the poverty line. Further, more people are not employed (911,443) than worked full time (863,408) (see Table 3). People who do not work tend to easily fall into the poverty.

Table 3. Employment experience and poverty in Mississippi for 2013.

Employment experience	% below poverty line	Below poverty line	State total
Did not work	32.4	295,395	911,443
Worked part time	27.0	127,190	471,657
Worked full time	5.6	38,168	863,408

Source: American Community Survey

These high levels of poverty have an effect on educational attainment. Even though many examples of high-performing school districts and counties with high graduation rates in the state are available, there are far too many Mississippians who did not complete high school and many with less than college degrees. Mississippi has 1,882,481 persons 25 years of age or older (see Table 4). Of those, 354,399 or 18.8 percent are below the federal poverty level. However, bachelor’s degree holders have recorded only 6.7 percent poverty level, while about 35 percent of people who have less than high school fall below the poverty level.

Table 4. Education level and poverty in Mississippi for 2013.

Education attainment	State total	Below poverty level	Percent below poverty
Less than high school	322,747	113,663	35.2
High school	572,747	122,563	21.4
Some college	597,107	92,063	15.4
Bachelor’s degree or higher	390,397	26,110	6.7

Source: American Community Survey

A 2013 United States Census projected Mississippi’s black population to be 37.6 percent, the highest per capita of any state in the country. In 25 counties among the 82 counties in the state, the Afro-American population takes greater than 50 percent of their residential population. Most of these 25 counties lie along the Mississippi River and the Mississippi Delta region.

Mississippi has poor counties that do not have high populations of Afro-American persons, particularly in northeast Mississippi (American Community Survey). There are moderate levels of high school graduation, yet the average wages are not much higher than those in counties with high Afro-American populations. This leads us to believe that Mississippi tends to have low wages regardless of race or region. Still, 23 of Mississippi’s 82 counties have more than 25 percent of their county population below the Federal Poverty Level, which is \$24,250 for a family of four or \$11,700 for one person (Health and Human Services, 2015).

Table 5. Top ten counties with high and low liquid asset poverty rates in Mississippi

High rates		Low rates	
County	Rate (%)	County	Rate (%)
Tunica	67.5	Madison	27.1
Humphreys	58.0	Lamar	34.3
Leflore	57.9	Rankin	34.9
Quitman	56.6	Hancock	35.1
Coahoma	55.9	DeSoto	35.5
Holmes	55.8	Stone	36.3
Noxubee	55.7	George	38.5
Sunflower	55.1	Jackson	39.7
Washington	54.9	Tate	43.4
Bolivar	54.2	Harrison	43.6

Source: Assets and Opportunities Local Data Center

Mississippi has a very high rate of liquid asset poverty, primarily impacting counties with high populations of Afro-American residents. Liquid asset poverty is defined as the “percentage of households without sufficient liquid assets to subsist at the poverty level for three months without income” (Count, 2014). Liquid assets are best understood as savings accounts, stock equity, and retirement accounts. They do not include homes, vehicles, businesses, and real estate. This means that in poorer counties with higher Afro-American populations, nearly a majority of their populations cannot survive past three months without income. Conversely, more affluent counties in metropolitan areas are less likely to be damaged by income loss (Count, 2014). Additionally, these communities with the best chance of not losing their livelihoods after income losses are found in counties with better-performing school districts like Rankin and Madison Counties. Table 5 shows the counties with high and low liquid asset poverty rates.

On the municipal level, there are more relationships linking race, poverty, and educational attainment. Of the nine cities surveyed, each of these is located on Interstates 55, 20, or 10. The purpose of reviewing these cities was to show that cities from across the state have similar issues with poverty and race. The data show that while there is progress being made in high school graduation rates, there is a link between race and income (Table 6). For instance, the median household income of a city like Meridian with nearly 62 percent Afro-American population is less than half of the income of a city like Brandon with nearly 17 percent Afro-American population (Table 6).

Table 6. Racial distributions, economic affluence, and education for selected municipalities in Mississippi

City	% of Afro-American	% of White	Median household income	% of high school graduates
Canton	74.7	19.5	\$33,692	69.0
McComb	66.3	31.2	\$31,312	74.3
Meridian	61.6	35.7	\$29,741	82.6
Brookhaven	54.1	43.8	\$27,308	83.8
Batesville	45.2	51.8	\$42,248	80.5
Clinton	33.9	60.1	\$59,355	91.3
Biloxi	19.6	68.4	\$39,666	86.3
Brandon	16.9	80.6	\$67,997	92.3
Madison	10.2	85.5	\$99,124	98.3

Source: United States Census Bureau

An outlier in the data is the city of Madison, which is a moderately-sized city that is over 85 percent white, has median household incomes of nearly \$100,000, and graduates over 98 percent of its high school students (Table 6). On the other end of the spectrum is the city of McComb, which is a small city with over 66 percent of Afro-American population, median household incomes just over \$31,000. Its high school graduate rate is nearly 74 percent. These two examples should not be viewed in the same context, though. Madison is located near Jackson and is home to affluent residents of the state while McComb is a nearly 90 minutes' drive from Jackson. Still, there is noticeable difference in the numbers for these two examples.

We also conducted a series of correlation analyses to define statistical relationship among poverty, wage, education, unemployment, and race in Mississippi for the eighty-two counties in the state. We used the percentage of population below poverty in 2012 for poverty, average weekly wage for wage, the percentage of high school graduates in 2010 for education, unemployment rate in 2015 for unemployment, the percentage of Afro-American population in 2010 for race. Table 7 shows the results of correlation analyses. The Pearson's correlation analysis clearly shows that the poverty in Mississippi is significantly related to wage ($r = -.251$; $p < 0.05$), education ($r = -.478$; $p < 0.01$), unemployment ($r = .658$; $p < 0.01$), and Afro-American ($r = .714$; $p < 0.01$). Especially, the ratio of Afro-Americans indicates strongest relationships with poverty, followed by unemployment (Table 7)

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Table 7. Correlation matrix for poverty, wage, education, unemployment, and race in Mississippi

	(1)	(2)	(3)	(4)	(5)
(1)Poverty	X				
(2)Wage	-.251*	X			
(3)Education	-.478**	.475**	X		
(4)Unemployment	.658**	-.236*	-.618**	X	
(5)Afro-American	.714**	-.122	-.452**	.752**	X

*Significant at 0.05 level.

** Significant at 0.01 level.

Conclusions and Policy Alternatives

As the data above show, we can conclude that there are relationships between poverty, race, educational attainment, and unemployment. The analysis also shows that individuals and families are more likely to be poor if they are unemployed, and Afro-American Mississippians are more likely to live in poverty. Each of these variables depend on one another, and policy makers in Mississippi should understand the importance of each in order to move Mississippi beyond the crisis it has yet to resolve.

One of the most meaningful policies that should be explored, developed, and expanded is a state-based Earned Income Tax Credit (EITC). The federal EITC was established in 1975 as a means to boost wages of low-income laborers (Davis et al., 2014). The key element is that an individual must work in order to qualify for the credit. This is not a handout or welfare program; it is a proposal to lift persons and families out of poverty, putting more revenue into local economies, and reducing the tax liabilities for thousands of Americans. Mississippi Governor Phil Bryant (Davis & Wiehe, 2014) proposed such a credit in 2014, but his proposal did not include a refund. Still, the development of a state based income tax credit, based on the federal model is one that merits much discussion and implementation. The goal is to have low-income workers working more hours and able to keep more of the money that they earn, thus lifting them further from poverty. We know this will occur because during the 1990s, hundreds of thousands of Americans were lifted out of poverty thanks to the federal EITC (Gundersen and Ziliak, 2004).

At the same time, workers are able to provide for themselves and their families while simultaneously injecting revenue into their local economies. In areas of severe poverty, particularly in communities of color, having increased revenue leads to the ability to provide additional funding for infrastructure and public safety, two critical elements in building a sustainable community where business will establish operations. Currently, Mississippi taxpayers making \$54,300 or less constitute 40.3 percent of the state and local tax base in Mississippi (Davis, et al., 2014). If the state were to implement light-to-moderate levels of the EITC, the state could reap benefits (Davis, et al., 2014). For example, Mississippi could implement a 16 percent EITC. This would reduce the number of the state's poorest taxpayers, those making less than \$14,000 annually, by 2.4 percent. Those taxpayers with incomes between \$14,000 and \$25,000 would see their tax rates offset by 1.9 percent. Should the state institute a 30 percent credit, under \$14,000 earners would have a credit of 4.5 percent, and those making between \$14,000 and \$25,000 would earn a credit of 3.6 percent. A credit of 50 percent

would see a 7.5 percent credit for lowest-income earners and a 5.9 percent credit for the following 20 percent.

Baldwin, Borrelli & New (2011) showed a positive relationship between increased funding for public education and economic growth, and argued that moderate increases or “cost-of-living adjustments” in education spending are insufficient to meet the needs of students and the public school system. Higher rates of educational attainment are an investment in future benefits. Better-educated persons are likely to be better consumers because their wages are higher than lower-income earners. Additionally, families move to areas where local governments invest more in their education systems (Fernandez and Rogerson, 1996).

Increases in federal and state minimum wages have the potential to boost incomes for millions of workers across the country (Hall & Cooper, 2012). At this time, there is little appetite in Mississippi government for a state-sanctioned minimum wage increase. Federal law, however, could be the force that moves Mississippians’ incomes higher. The current policy priorities of Congress do not lead to much optimism that it is willing to entertain a minimum wage increase.

The American economy could reap thousands of new jobs as tens of millions of dollars are injected into local economies. A majority of the beneficiaries of increased wages would be women and white persons. Additionally, increased minimum wages can lead to higher wages for persons with limited educational attainment. For example, a person working a part-time job with a college degree has the potential for a wage increase. There is some opposition to raising wages, arguing that higher wages will result in job losses. However, when the federal minimum wage was increased in previous years, more jobs were created than lost (Hall and Cooper, 2012).

References

- Baldwin, J. N., Borrelli, S. A., & New, M. J. (2011). State educational investment and economic growth in the United States: A path analysis. *Social Science Quarterly*, 92(1), 1-20.
- Blair, C., & Raver, C. (2012). Child Development in the Context of Adversity. *American Psychologist*, 67(4), 300-318.
- Bureau of Labor Statistics. (2015). *Local Area Unemployment Statistics*. Retrieved, from Unemployment Rate for States, www.bls.gov/web/laus/laumstrk.htm
- Counts, F. A. (2014). Assets and Opportunity Local Data Center. Washington, D.C. Retrieved from <http://assetsandopportunity.org/localdata/>
- Davis, C., Davis, K., Gardner, M., Mitchell, D., & Wiehe, M. (2014). *Improving Tax Fairness with a State Earned Income Tax Credit*. Institute on Taxation and Economic Policy, Washington, D.C.
- Davis, K., & Wiehe, M. (2014, November 21). *Tax Justice Blog*. Retrieved from www.taxjusticeblog.org/archive/2014/11/mississippi_governors_tax_cut.php#.VTMOtkthr8F
- Fernandez, R., & Rogerson, R. (1996). Income distribution, communities, and the quality of public education. *The Quarterly Journal of Economics*, 111(1), 135-164.

- Fontenot, K., Singelmann, J., Slack, T., Siordia, C., Poston, Jr., D. L., & Saenz, R. (2010). Understanding falling poverty in the poorest places: An examination of the experience of the Texas Borderland and the Mississippi Delta, 1990-2000. *Journal of Poverty*, 14, 216-236.
- Green, D. (n.d.). *2010 Census Data*. Retrieved from The State Data Center of Mississippi: <http://www.olemiss.edu/depts/sdc/census2010.html>
- Gundersen, C. and Ziliak, J.P. (2004). Poverty and macroeconomic performance across space, race, and family structure. *Demography*, 41(1), 61-86.
- Hall, D., & Cooper, D. (2012). *How Raising the Federal Minimum Wage Would Help Working Families and Give the Economy a Boost*. Washington, DC: Economic Policy Institute.
- Health and Human Services. (2015). *2015 Poverty Guidelines*. Retrieved from U.S. Federal Poverty Guidelines: aspe.hhs.gov/poverty/15poverty.cfm
- Irwin, N. (2015). Why American Workers Without Much Education Are Being Hammered. *The New York Times*. April 21.
- Katel, P. (2015). Child Poverty. In CQ Researcher (Eds.). *Urban Issues*. 7th Ed. (pp.242-269). California, LA:Sage.
- Morris, J. E., & Monroe, C. R. (2009). Why study the US South? The nexus of race and place in investing black student achievement. *Educational Researcher*, 38(1), 1-16.
- US Census. American Community Survey. Retrieved from <https://www.census.gov/programs-surveys/acs/>