The Median Hourly Wage and Poverty Rate Among States

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Since elections are coming up in November, living wage and poverty will be debated by progressive college students in Brooklyn and retired corn farmers in Nebraska alike. Problem is, few Americans have a grasp on the differential impact wage may have on an individual. The poverty threshold is the line below which it is difficult, if not impossible, to afford basic needs. The federal government develops the federal minimum wage in consideration of this metric. Currently, $7.25 is the legal minimum wage with some cities having hourly wages as high as $15. So, who is to decide how much is enough for someone to have the ability to afford basic needs? Unfortunately, no one. However, what can be analyzed is what players are involved and how large their involvement is. Due to the size and diversity of the US, a state comparison can provide insight into the shifting landscape and needs of each that may not necessarily eradicate poverty but show gaps in policy that lawmakers can effectively approach.

The discovery process is important in researching a topic that one has little prior knowledge of. Many variables affect poverty and it is vital to learn from other sources that have attempted to explain changes in poverty levels. Initially, defining what poverty is and some of the key causes were paramount to come up with other variables that could impact poverty rates among the states. Secondly, relative to what was learned about the factors of poverty to wage levels in the United States, one in nine American workers were found to still be in poverty even when working full-time. This shows a link between the median hourly wage and the poverty rate in the U.S. which piqued curiosity about their relationship. Lastly, the action of the government is crucial in mitigating or exacerbating the poverty rate in that respective state. One way to measure the state benefits is through TANF (Temporary Assistance for Needy Families). Evidence from this source shows that states that increased the monthly assistance saw a reduction in the poverty rate. This generated interest in how government action plays a role in the median hourly wage and poverty rate among the states. These three sources help aid the understanding of the relationship between the median hourly wage and poverty rate among states, but also connect to the purpose of the topic which is driving positive change through public policy based on the results.
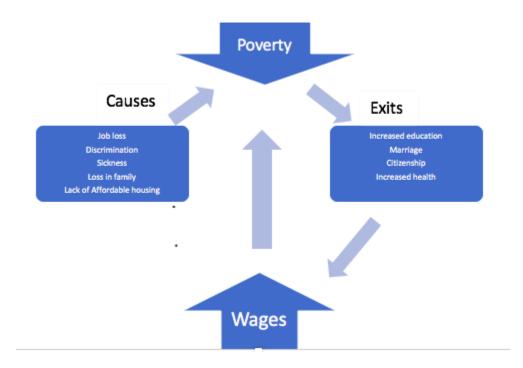
Quantifying poverty is necessary to address policymakers with the intent to transform current laws. Data from the 2010 Census Bureau was used in the assumption that without radical policy change, much of the data will be corresponding with only slight variance. When

reviewing the health of the population, the Center for Disease Control provided relevant data on asthma which is commonly used to measure health and living conditions. Other data has been collected from academic institutions that have previously collected data for similar research topics.

The poverty threshold is the minimum level of income is the minimum level of income an individual can earn to meet basic needs. To be included in the poverty rate for an individual under the age of 65 is an income of $12,760 annually. Education is recognized as a common indicator of success in the US. Educational attainment is used by statisticians to refer to the highest level of education an individual has completed and often coincides with job opportunities. More job opportunities should increase the likelihood of obtaining a job and having a job implies income; a higher level of education will correlate with increased wages. To measure the amount of affordable housing, the percentage of a state's population who is rent burdened was used. Rent burden is defined as spending more than 30% of household income spent on rent. Percentage of a state's population that are foreign born and a percentage of a state's population that is white are used for essentially the same reason. Historically, foreign born individuals have less opportunities for work and therefore are either unemployed or earn low wages. White population is measured because median wages for white people are normally higher than non-white counterparts which would therefore increase average wage in a state and potentially lower the poverty rate. Temporary Assistance for Needy Individuals (TANF) is the primary cash assistance program for families living in poverty and varies by state. Based on the amount of assistance, struggling families can have sufficient resources to cover basic expenses such as food, clothes, transportation, and personal care products. Higher divorce rates can increase poverty by having only one provider of income instead of two. This will lower the earning potential for the household and increase the chance of residents falling into poverty. Using an ordinary least squares regression and descriptive statistics gave the team insight on the relationship between poverty rate and all the independent variables listed.

Based off past research on the topic, how much a person is earning, and the status of their current situation are highly related. In reviewing the topic, the research team found it appropriate to separate several related but separate components. Recent literature also suggests there are different subgroups in which confounding variables should be placed. Namely, causes of poverty

and exits from poverty. In the graph below, the underlying theoretical model has been developed to capture the nature of poverty with the data available to the public

Poverty is often cyclical given the current state of the economy or events in one's life that create financial stress. In the box on the left, the first cause of poverty is listed as job loss. A loss of employment is the most obvious sign of a person who is at risk or is experiencing poverty. Without income, paying rent, making payments, and something simple like groceries can be a trade-off that is difficult to recover from. However, since unemployment for the average person is usually temporary, many recover. One cause of poverty that is dark and unavoidable for many is discrimination. Take Greensboro for example, the economic outcomes of non-white vs. white are large and disparate in favor of white. Greensboro, and cities around the US are rooted in discriminatory lending practices that began in the 1850's. Not only that, but housing deeds and redlining from the 1930's make social and class mobility a struggle to this day. Often, whiteness and high socioeconomic status are related, so measuring race is unfortunately a commonly used variable as it pertains to race. Sickness is used as a cause of poverty to our asthma variable. Given that those who are close to the poverty line experience an unexpected event with poor or no health care, the chances of falling below the threshold are high. Asthma is used as a measure

of health because it indicates an exposure to poor living conditions or lack of resources. Asthma is rarely inherited but brought on by external factors. So, take a family living near a bridge that cuts through the city; cars are releasing exhaust and decreasing the quality of the air. Compound that with mold or mildew in the house and respiratory issues are difficult to avoid. An individual who is diagnosed with something that may seem simple to an individual in the middle class can be the final domino for a person struggling to comfortably earn income. Grim but realistic, death or loss of family can cause a family to fall the threshold as well. Divorce rates are used to track the separation of families where one person is now responsible for potentially more mouths and a larger fraction of the rent, monthly payments, etc. to discrimination, a lack of affordable housing is a sign that cities have not provided enough opportunity to low-income earners to achieve a certain standard of well-being. In the case that renters are spending more than 30% of their income on rent, they are considered rent burdened. In a place where a large sum of low-income families are unable to find housing that makes up less than 30% of their income, the occurrence of poverty will be greater. Since the number of people around the poverty threshold is significant, poverty is based on the trade-offs and funding allocated towards different expenses. In a family where there is a lack of affordable housing, trade-offs become more noticeable and money scarcer. More extreme poverty, not poverty itself, is a result of a small amount of affordable housing.

Exits from poverty are consistent with what was mentioned above in terms of the temporary nature of poverty. An increase in education is used to highlight that more education creates a foundation for greater opportunities in the labor market. A simple economic analysis that is often used is the value of greater educational attainment. Many claim that by obtaining greater levels of education, an individual is more secure in terms of employment levels. Therefore, getting an education can lift a person out of poverty because the individual has increased skills which are applied to a job that has a higher wage. Hence, our hypothesis that a higher wage should decrease poverty levels. Many conservative-minded individuals who have experience in the economy have assessed the role that marriage has in financial security. However, this presents an issue of correlation vs. causality in that marriage itself will not cure poverty, but two incomes may. For research, the team can infer that marriage is typically a positive factor in terms of economic stability. In 2012, the United States was home to 29 million

foreign-born residents. To consider the impact of a country of origin on your financial well-being, the team analyzed foreign-born residents. Usually, the impact is both short and long term positive. In the short-term, residents of other nations do not have citizenship status and are limited to what work is available to them. Speaking for the benefit of the US economy, most newly arrived residents will work in positions that Americans are unwilling to do. The impact of gaining legal residency is oftentimes seen in the second generation of migrants to the US and countries in general. At this point, the child is a citizen of the US, speaks the language and grows up in a diverse household. An ethos of hard work is usually preached, and opportunities are much greater given the difference in citizenship. The probability of poverty rates is significantly lower in 2nd and 3rd generation children and can eliminate some of the impact of discrimination. The opposite of falling below the poverty line due to poor health would be to rise above it given that health has been restored and the individual can return to work, even if the distance from the poverty line is marginal. Exits from poverty increase wages and decrease poverty levels. Conceptually, whatever an individual can do to increase and sustain a higher wage, the lower the likelihood of experiencing poverty is.

H1: States with a higher median wage will have lower poverty rates than states with a lower median wage.

One big reason why states with a higher median hourly wage will have a lower poverty rate than states with a lower hourly median wage is because of the higher incomes it will generate for those susceptible to poverty. When the median hourly wage increases because poorer populations are making more money, this allows them to increase their income. Greater income for the poor population at lower income levels allows them to avoid poverty by being above the income threshold. This would lead to a lower poverty rate in that state because residents in lower income levels are seeing hourly wage increases that are increasing the median hourly wage for the entire state. The median hourly wage is an effective measure because it cannot be distorted by higher values whereas the average can. This makes the median a better measure because when a significant amount of wages increases for residents susceptible to poverty, it increases the typical figure and captures the economic health for poorer residents. A higher median hourly wage

would lead to a higher income for the poor which would help them stay above the poverty threshold, lowering the poverty rate in the respective state.

Another reason why states with a higher median hourly wage may have a lower poverty rate can be attributed to the higher wage gives residents more money to spend on both regular expenses and unexpected expenses. When the median hourly wage increases in a state, this allows residents to have more money left over after paying for necessities such as healthcare, food, and childcare. As a result, the median wage lets residents retain more of their earnings. A greater access to these resources along with higher retained wages for residents would lead to a lower poverty rate in the respective states. On the contrary, when states have a lower median wage compared to others, residents in the lower class may be rent burdened and allocate a lot of their income towards housing. When a large proportion of income is being spent on housing costs, this leads to less money available to be spent on food, childcare, and other expenses. This can cause an increase in stress and a decline in health for the residents. Also, for all individuals and households there are unexpected expenses that crop up and must be paid. Unexpected expenses can include housing maintenance, automobile repairs, and medical emergencies. In states where the median hourly wage is lower, residents may not be able to pay for these expenses immediately. As a result, an individual's ability to pay for basic needs or resources will be challenged if they do not have reliable housing or transportation, potentially pushing those residents into poverty. In states that pay a higher median hourly wage, residents will have an easier time paying those unexpected expenses and avoid poverty as a result.

A reason why states with a higher median hourly wage may not have a low poverty rate is because the median hourly wage is not a good measure for those that are susceptible to poverty. The median or the typical number in wages for a state simply measures where the middle class is. For the number to be significant, there would need to be a considerable number of individuals in poverty that are working to change the median hourly wage. If there is a surge of residents that are above the typical hourly wage, this will increase the median hourly wage figure without a shift in the percent of the population in poverty. According to the research hypothesis, a reduction in the poverty rate is expected. However, an increase in higher wages would not affect those who have lower incomes. With an unknown factor of what is increasing the median hourly wage - either more high wages in the upper classes or higher wages in the lower classes –

ambiguity will arise as to what is affecting the poverty rate in the state. Since poverty rate is a measure of residents in the lower income levels, there would need to be a variable to explain what is happening at the lower income levels. The median hourly wage measure is not the best measure for explaining the activity at lower income levels in a state since it primarily examines the middle class.

There are more variables that the median hourly wage does not capture in the state poverty rate. The median hourly wage only attempts to explain those who are of working age in each state. Children and the elderly still make up a considerable proportion of those who are in poverty or are at risk for being in poverty. Among states, the median hourly wage may increase but they may not necessarily have a lower poverty rate because children and the elderly are not able to work. Therefore, they are not feeling the effects of the wage increase and would still be living below the poverty threshold for that state. The median hourly wage only provides insight on who is working and most of all who can work. This excludes those who may be injured or incapacitated in some other way from working. By only focusing on working age residents susceptible to poverty through the median hourly wage, you are missing a proportion of the population that can affect the poverty rate—children and elderly residents. With median hourly wage only able to explain part of the poverty rate in the state, this suggests that the two variables may have a weak relationship.

A glaring reason why increases in state median hourly wage may not lead to lower poverty rates is because people living in poverty are not necessarily working many hours. This limitation only helps us draw conclusions on full time workers. Residents that are in poverty or are susceptible to poverty may be in their economic position because they are unable to work enough hours. An individual experiencing poverty could be in a state with a high hourly median wage, but if they are not working significant hours, the income they earn will not be enough to get over the poverty line. Critics say that companies will cut hours for workers to keep labor costs low. If this is happening in a state with forced increases in the minimum wage - leading to a higher median hourly wage - workers in poverty can feel the ill-effects and may lower hours than desired. This would create the environment of a state having a high median hourly wage, but the poverty rate

remaining high because many of those in poverty are unable to work more hours that will help them earn the income they need.

Another reason certain states can have higher median hourly wages with a high poverty rate is because of the cost of living. The overall cost of living could increase or decrease poverty rates more in certain states. States with higher costs in housing, childcare, food, and healthcare can increase the burden on individuals who are near the poverty level. With costs increasing, residents have less and less earnings to retain. This can lead to forced choices such as not having childcare, healthcare, and/or being unable to pay rent. When these events perpetuate, they lead to the residents falling below the poverty line, causing the poverty rate to increase. The opposite could be true as well, states with lower median hourly wages could have lower poverty rates because the cost of living in the state is not very high. Residents near the poverty line could have an easier time paying their rent and getting adequate nutrition because it may not be a significant proportion to their earnings. As previously mentioned, unexpected expenses arise all the time for individuals and households. A higher cost of living can prevent residents who are already burdened with costs from paying for those unexpected expenses. When an individual must give up their car because they cannot afford the repairs, this can make it more difficult to find reliable transportation to work. Problems that may arise from getting to work can easily affect the resident's income. Undoubtedly, there can be more examples with housing and health issues. As a result, the cost of living may be a better indicator for what causes the poverty rate to increase or decrease rather than the median hourly wage.

 Several confounding variables can increase or decrease the poverty rate in a state. Educational attainment could lead to increased income or financial literacy that is necessary of avoiding poverty. The lack thereof could lead to limited job opportunities and income, causing poverty rates to rise in a state. Another confounding variable could include the number of residents who are rent burdened in a state. Those who spend a decent proportion on rent have less income to retain, thus increasing the likelihood to give up healthcare and food, ultimately falling into poverty. The health or sickness of a resident may also increase poverty rates for this same reason. Poor health can potentially lead to someone not being able to work or

have income and lead to poverty. Higher divorce rates in certain states could lead to only one income per household instead of two, increasing the likelihood that the household is below the poverty threshold. Ethnic background may also increase the chance for higher poverty rates in certain states. States that have a higher proportion of refugees and those seeking asylum from their home country could experience a higher poverty rate. Since those individuals generally arrive in the United States with little resources. It is now clear that the United States has a history of racism with government policies giving whites with more opportunities to build wealth and to increase educational attainment. Lastly, the benefits that states give to the poor and residents in poverty can have a big impact on the poverty rate. States that give more in TANF benefits may give those in poverty more resources to pay for expenses and allow time to improve their economic situation, lowering the poverty rate in the state. Critics of this view would argue that states that give more in TANF benefits let residents rely on the government too much and disincentivize a return to the labor force. Whichever view is correct, the benefits states give to the poor are likely to affect the poverty rate in that state.

Median wage by state is the independent variable and poverty rate is the dependent variable. Five other independent variables can increase or decrease the poverty rate in states. The rent burden is measured by the percentage of renters with 30% or more of their income spent on rent. If residents are spending that proportion of their income on rent, there's limited room for other needs such as food and healthcare. This is a measure of the cost of living and will allow us to analyze the potential for poverty based on the amount of money going towards rent. Educational attainment as measured by the percentage of adults with bachelor's degrees in the state, this reduces poverty because people with bachelor's degrees have more employment opportunities. Higher divorce rates can increase poverty by having only one provider of income instead of two. This will lower the earning potential for the household and increase the chance of residents falling into poverty. Percent foreign born can increase the poverty rate depending on how many resources the immigrants had when they were coming to the United States. For example, if they are refugees or escaping poor economic situations, they will be likely to fall into poverty. Government assistance plays an important role in the outcomes of individuals in poverty. Temporary Assistance for Needy Individuals (TANF) is the primary cash assistance program for families living in poverty and varies by state. Based on the amount of assistance, struggling

families can have sufficient resources to cover basic expenses such as food, clothes, transportation, and personal care products. With added assistance, a family will be able to spend earned income on rent and not be burdened as Asthma rates by state is a confounding variable that will examine the relationship between health and wealth. Families experiencing poverty may experience higher rates of asthma due to poor rental housing or living conditions, proximity to a highway, and not being able to afford care just to name a few.

Descriptive statistics will provide a micro view of the variables chosen to analyze and the nature of each. For the dependent variable of poverty rate, there is no significant data to interpret except for the coefficient of variation. For every 4 values, one point will deviate from the mean showing a relative dispersion but not significant enough to highlight. Rent burden, divorce rate, and foreign born are insignificant but add an element of the conceptual understanding that is paramount to sound research.

Two highly significant skewness measures are viewed in the bottom right section of the table. A large, negative skew left relative to percent of the population with asthma indicates that there are more states with residents with asthma than average. A -.91 statistic for percent white shows a similar skew but this value is significant because it shows a large left skewness where a large portion of states have white populations that are greater than the average. An additional skewness measure that sticks out is .70 for TANF. This right skewness shows a positive right skew indicating that a large portion of states receive more government benefits than others. Skewness for TANF and asthma paint a picture of few states with large government assistance and a large number of states with high asthma rates. Now consider the main independent variable of median hourly wage with the most significant skewness measure in the table and a problem occurs. A large percentage of states' median hourly wage and government assistance fall toward the lower side of the scale and there are very few higher scores. Add in a large percentage of states with high asthma rates and one can start to conceptualize how money may be stretched for those with a low median wage, low government assistance and health complications. Developing connections with different values is crucial for understanding confounding variables especially with an issue with complexity.

	Poverty Rate	Median Hourly Wage	Rent Burden	Divorce Rate	Foreign Born (%)	Asthma	TANF	White (%)
Mean	12.9%	$19.50	44.93%	8.1%	9.67	0.79	$477.	79%
Median	12.8%	$18.46	44.50%	8.1%	9.40	0.81	$486	81%
Mode	10.7%	$18.46	42.40%	9.8%	10.00	#N/A	$292	N/A
Standard Deviation	2.78	$3.37	4.00	1.77%	1.22	0.12	$194	12%
Skewness	0.55	2.56	0.19	0.50	0.57	-0.91	0.70	-0.91
Range	12.2%	$20.74	17%	8.3	4.9	0.54	896	54%
CV	.22	.17	.09	.22	.13	.15	.40	.15

When researching the effects of state median hourly wage and several other variables on poverty rate, it is vital to demonstrate the extent of their relationship and the signs of their coefficients. In the table below, the state median hourly wage coefficient is -0.21. This negative coefficient shows that the median hourly wage and poverty rate have an inverse relationship. This sign supports the hypothesis that states with a higher median hourly wage will experience lower

poverty rates. Next, is the coefficient for percent rent burdened in each state. The coefficient for rent burden is also negative at -0.15, which is different than what one would expect. This coefficient is saying as the percentage of residents rent burdened in a state increases, the poverty rate decreases. This is unexpected because as residents incur a higher cost in housing, they have less income to spend for other necessities, increasing the likelihood of falling into poverty. The sign may be this way because percent rent burden and the poverty rate are measuring something similar. Another variable, the divorce rate coefficient is also unexpected with an inverse relationship with poverty rate at -0.074. This sign indicates that as the divorce rate increases among the states, the poverty rate goes down. This is the opposite of what was predicted, as divorce rates increase, there is one less income in the divorced household which increases the likelihood of poverty. The next coefficient is the percentage of foreign-born population in each state. This coefficient also has an unexpected negative inverse relationship with the poverty rate in the state at -0.01. The prediction was that immigrants, refugees, and those seeking asylum were vulnerable to poverty if they came to the United States with very little, causing an increase in poverty rate. However, the next coefficient displayed has a close link with percent foreign born, which is the white population percentage in each state. The coefficient had an inverse negative relationship with the poverty rate which was expected given the history of systemic racism in the United States and the increased opportunities for whites to create wealth and attain education. The coefficient of state percentage with asthma serves as an indicator of the relationship between health and poverty. The asthma rates have a direct relationship with the state poverty rate. This positive sign is expected given that those with asthma may not be able to work certain jobs and can have poor housing conditions, as a result this would increase the poverty rate. The last coefficient is the TANF benefits spending among the states. This has an inverse relationship with the state poverty rate. The negative sign is expected since more benefits to the poor would allow them to pay for necessary expenses and lower the chance of staying in poverty as a result.

To draw conclusions and gain insights on what the coefficients mean as they relate to the state poverty rate, it is vital to put them in an economic context. The coefficient for median hourly wage means that as median hourly wage increases by $1, the poverty rate will go down 0.21% in that state. This is a slight decrease in the poverty rate, indicating that the two variables may not be greatly related. However, this is evidence that states with a higher median hourly

wage tend to have a slightly lower poverty rate compared to other states that pay a lower wage. This evidence means that states should prioritize policies that increase wages such as raising the minimum wage or supporting unions that advocate for wage increases in the goal of lowering the poverty rate. Another key insight from the regression table is the percentage of residents with asthma in the state. The coefficient indicates that as residents with asthma increase by 1%, the poverty rate goes up by 0.83%. This is a large increase at almost one percentage point and indicates that those with asthma have an increased risk of falling into poverty. Asthma leads to residents not being able to complete certain jobs. It also says that the living conditions of those susceptible to poverty may not be the best and can cause health issues such as asthma. Also, it is a measure of health and if residents are worrying about income then they are less likely to take care of health issues related to asthma such as obesity. A significant finding in the regression table lies within the percentage of white residents in a state. The coefficient indicates that as the white population increases by 1% in the state, the poverty rate falls by a massive 11.1%. This means that states with a higher white population are expected to have a far lower poverty rate, this shows the systemic racism that the white population has benefited from in the United States. The advantages in educational attainment, ability to obtain credit, and job opportunities for white residents has lowered the likelihood of them falling into poverty. Lastly, the state's TANF benefits per month coefficient has an impactful effect on the state poverty rate. The coefficient indicates that when states increase the monthly TANF benefits by $100, the poverty rate decreases by 0.8%. States that give a higher amount in TANF benefits allow individuals and families to pay more expenses while searching for a source of income to get out of poverty. Also, when they start earning an income again, the larger benefits decrease the time it would take to get out of poverty since they have had help meeting their obligation. This as a result would lower the poverty rate in the state. This shows evidence to policymakers that increasing the TANF benefits will lower the poverty rate in the state and supports the argument for more assistance to the poor. The poverty rate intercept coefficient simply means that if the median hourly wage was $0, the percentage with housing burden was 0%, the divorce rate was 0%, there was 0% foreign born, 0% white residents, 0% of residents had asthma, and if there were $0 in TANF benefits the poverty rate would be 29%.

After examining the regression coefficients and determining how the many variables affect poverty rate, it is important to check if the coefficients are statistically significant. The

coefficients or variables that are statistically significant with a large T-stat are the poverty intercept coefficient, the median hourly wage, percent of residents with asthma, and the percent of white resident coefficients. The poverty intercept, percentage of residents with asthma, percentage of white residents', and monthly TANF benefits coefficients are all below the 0.05 threshold. As for the percentage of rent burdened residents, median hourly wage, divorce rate, and foreign-born residents, their results were too common to be considered statistically significant and by rule there is not enough evidence to reject the null hypothesis. Notably, the state median hourly wages relationship with the poverty rate in the state was not statistically significant. In an experiment this would be insufficient evidence to reject the null hypothesis. In the table below the regression table lies another test for significance, the significance F-test. This figure measures whether the entire regression model is statistically significant. The significance F-test is below the threshold of 0.05, the notation in the table is 7 decimal places filled with zero. This means that the regression model results are too unusual and allows the rejection of a null hypothesis, making the regression model statistically significant.

	Coefficients	*t Stat*	*P-value*
Poverty Rate Intercept	29	4.99	0.000
Median Hourly Wage	-0.21	-1.96	0.057
Percent Housing Burden	-0.15	-1.90	0.064
Divorce Rate	-0.07	-0.41	0.683
Percent Foreign born	-0.01	-0.29	0.773
Percent with asthma	0.83	3.66	0.001
Percent of White	-11.14	-3.93	0.000
TANF Benefits per Month	-0.008	-4.41	0.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	7	239.12	34.16	9.93	2.64E-07
Residual	43	147.96	3.44		
Total	50	387.08			

After examining the statistical significance of the data and economic interpretations, it is important to examine the strength of these relationships. The correlation matrix had some unanticipated change in signs from the regression table. In comparison to the state poverty rate, both the divorce and percentage of residents foreign-born changed their sign to positive. The divorce rate and the poverty rate have a positive, weak linear relationship at 0.25. This means the divorce rate would increase with the poverty rate among the states. This is expected because with a divorce there is now only one income in the household instead of two. Also, the state divorce rate has a moderate negative linear relationship with the median hourly wage at -0.42. This shows the divorce rates link to loss of income in the family unit. There tends to be less divorces when economic circumstances are better, a higher hourly wage would measure that. This also explains the weak positive relationship with the poverty rate and divorce at 0.25, the loss in income would increase the poverty rate. The percentage of residents foreign-born also becomes positive at .09, this shows an extremely weak linear relationship with the poverty rate increasing as the percentage of foreign-born population increases. It is worth noting that both coefficients were not statistically significant which may explain why the signs change.

The results in the correlation matrix show relationships between the independent variables that can generate greater insights. Beginning with the independent variable, state median hourly wage and poverty rate there is an inverse linear relationship of -0.36 which is weaker than originally expected. However, it still confirms that higher wages among states can lead to a lower poverty rate. The percent of state residents with asthma indicates a weak direct linear relationship with the poverty rate at 0.17, this is supported by the findings in the regression table. The proportion

of white residents in each state has considerable relationships with the other variables. The weak negative linear relationship at -0.25 with white residents and the poverty rate is somewhat of a surprise given the large coefficient in the regression results. This still supports the notion that the poverty rate decreases while the white population increases. The negative linear relationship between the proportion of white residents in the state and median hourly wage contradicts the percentage of white residents' relationship with the poverty rate. The strongest linear relationship for the state percentage of white residents is with the percent housing burden. This is a negative linear relationship of -.5 which indicates that when the proportion of white residents increases, they are less likely to be housing burdened. White residents are less likely to be spending a large proportion of their income on housing, which in turn could lead to a lower poverty rate. The percentage of white residents in a state and the percentage of foreign-born residents have a somewhat moderate negative linear relationship. This suggests that residents may choose to live with their race when choosing a community to live in. The strongest linear relationship with state poverty rate is the TANF benefits with a negative relationship at -0.64. This confirms the regression table that an increase in state TANF benefits lowers the poverty rate. It also has a moderate linear relationship with the state median hourly wage at 0.53, showing that TANF provides the poor with an extra income that is much needed. Lastly, the TANF benefits have a weaker negative linear relationship with the state divorce rate. This indicates that there is a lower divorce rate when economic assistance is provided in the state. In the correlation table, there is a limited threat of multicollinearity among the independent variables as none of the relationships are stronger than 70%.

	Poverty Rate	Median Hourly Wage	% Housing Burden	Divorce Rate	% Foreign born	% w/ asthma	% White	TANF Benefits Per Mon.
Poverty Rate	1							
Median Hourly Wage	-0.364	1						
Percent Rent Burden	-0.040	0.274	1					
Divorce Rate	0.250	-0.419	-0.287	1				
Percent Foreign born	0.092	0.085	0.221	0.119	1			
Percent with asthma	0.168	0.108	-0.001	0.048	-0.017	1		
Percent White	-0.253	-0.371	-0.502	0.199	-0.317	0.191	1	
TANF Benefits Per Mon.	-0.639	0.534	0.015	-0.391	-0.087	0.132	0.058	1

A key part of the research process is finding out how much the model explains about the independent variable. In this case, discovering how much the independent variables explain the state poverty rate will test the validity of the insights from the regression equation. The adjusted R-square is 0.56, this means that the regression equation explains 56% of the variability in the poverty rate among states. This is more than half and explains a decent amount of the dependent variable, with 46% being unexplained.

Regression Statistics	
Multiple R	0.79
R Square	0.62
Adjusted R Square	0.56
Standard Error	1.85

Poverty in the United States is a complicated and pervasive topic that has a huge significance to the country. Initially in the research, the preconceived notion was that median hourly wage in each state was the end-all-be-all when determining the poverty rate. As evidence was added, it became evident that wage played a small part in diminishing the poverty rate. Variables such as housing, race, heath, marriage, and government benefits play an active part in state residents avoiding poverty. Other variables such as education and unemployment in their relation to poverty should be examined further and were omitted in the regression due to multicollinearity. The insights from this research are used to understand the great complexities that come with mitigating poverty among the states. The research results emphasize state and local policy that prioritizes increasing income, improving health, and reducing inequality will prove to be effective. Targeting poverty through these methods will help the United States restore economic choice and social mobility to the poor who so desperately need it.

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Appendix

STATE	Poverty Rate	Median Hourly Wage	Rent Burden %	Divorce Rate	% Foreign born	Percent with asthma	Percent White (%)	TANF Benefits
Alabama	16.8	$16.73	44.5	9.8	26.9	10.5	69.85%	215
Alaska	11.1	$23.34	37.1	7.6	22.8	9.2	72.39%	923
Arizona	14.1	$18.46	45.6	8.0	22.8	10	80.34%	278
Arkansas	16.8	$15.84	40.7	13.0	21	9.8	79.31%	204
California	12.8	$21.24	53.9	6.7	19.4	8.5	64.10%	785
Colorado	9.7	$21.28	50.9	8.7	18.7	9.1	87.35%	508
Connecticut	10.3	$23.33	48.6	6.8	17.4	10.3	78.92%	698
Delaware	12.2	$19.66	49.5	11.8	17.2	10.1	71.25%	338
District of Columbia	16.1	$35.74	46.9	5.8	15.1	11.6	45.10%	642

Florida	13.7	$17.23	54.1	8.0	14.7	8.7	77.63 %	303
Georgia	14.5	$17.75	46.2	8.1	14.6	8.9	61.04 %	280
Hawaii	9	$21.35	50.8	6.7	14.1	9.3	43.06 %	610
Idaho	11.7	$17.00	43.8	8.2	13.9	8.6	93.07 %	309
Illinois	12.1	$19.74	47.7	6.6	13.4	8.7	73.81 %	520
Indiana	13	$17.77	44.3	9.9	13.2	10	85.83 %	288
Iowa	11.2	$18.41	40.1	7.1	12.5	7.9	92.22 %	426
Kansas	11.9	$17.79	42.4	8.6	10.3	9.8	87.78 %	429
Kentucky	16.7	$17.09	41.9	10.5	10.1	11.5	89.17 %	262
Louisiana	18.7	$16.66	49.8	7.6	9.6	8.9	63.94 %	240
Maine	11.6	$18.45	43.8	8.3	9.5	12.3	96.56 %	594
Maryland	9.1	$22.10	46.7	7.4	9.4	9.3	58.85 %	709

Massachusetts	10	$24.14	47.9	7.5	8.6	10.2	81.25%	633
Michigan	14	$18.60	46.7	6.9	8.6	11.2	81.08%	492
Minnesota	9.6	$21.21	43.4	7.1	8.2	8.3	85.92%	532
Mississippi	19.8	$15.00	42.4	8.7	7.9	9.7	59.79%	170
Missouri	13.2	$17.88	41.8	9.2	7.2	9.4	84.58%	292
Montana	12.9	$17.51	37.1	9.1	7.2	10	91.53%	588
Nebraska	11	$18.46	40.9	7.0	7.2	8.9	89.77%	468
Nevada	13.1	$17.51	48.8	9.6	7	8	70.10%	386
New Hampshire	7.6	$19.95	42.4	8.4	6.1	11.8	94.97%	1066
New Jersey	9.5	$21.64	49.7	5.7	6	8.4	69.95%	559
New Mexico	18.8	$17.03	44.9	6.6	6	9.9	77.12%	447
New York	13.7	$22.44	51	5.7	5.5	10.1	66.14%	789

North Carolina	14.1	$17.75	44.6	8.6	5.3	9.4	71.06 %	272
North Dakota	10.6	$20.44	39.8	4.7	5.1	8.2	89.37 %	486
Ohio	13.8	$18.54	43.2	7.2	5.1	9.4	84.07 %	497
Oklahoma	15.5	$17.18	41.3	10.8	5.1	10.3	79.49 %	292
Oregon	12.5	$19.83	49.3	10.1	4.9	11.6	88.80 %	506
Pennsylvania	12.2	$18.99	44.5	6.5	4.8	10	82.94 %	421
Rhode Island	12.8	$21.24	47.4	4.9	4.8	11.9	83.23 %	554
South Carolina	15.2	$16.68	45.5	7.5	4.7	9.1	69.17 %	292
South Dakota	12.9	$16.71	37.5	12.1	4.2	7.9	86.99 %	615
Tennessee	15.2	$17.26	44.4	9.1	4.2	9.8	79.62 %	277
Texas	14.9	$18.28	45.2	8.4	4	7.4	76.56 %	295
Utah	9.1	$18.23	41.8	9.3	3.8	9.3	89.10 %	498

Vermont	10.7	$19.68	44.4	6.3	3.5	12	96.15 %	640
Virginia	10.7	$27.28	46.5	8.1	3.3	8.5	71.16 %	442
Washington	10.3	$23.15	45.6	9.6	3	9.6	81.12 %	569
West Virginia	17.4	$16.31	41.9	9.8	2.4	12.3	94.83 %	340
Wisconsin	11.1	$18.79	42.4	6.2	2.2	9	87.75 %	653
Wyoming	10.7	$20.02	39.7	9.4	1.5	8.7	93.98 %	697