Analysis of Factors Contributing to Poverty in the United States: An Empirical Study

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Abstract

This research seeks to answer the question “What social and economic factors correlate to high or low poverty rates?” through an analysis of quantitative and qualitative studies. This empirical study was conducted using data on the 50 states in the United States. The dependent variable, poverty, was correlated with seven independent social and economic variables, namely education, divorce, female-headed household, crime, welfare, unemployment, and minimum wage.

This study finds significant data in support of and contrary to previous literature. The major findings were that the strongest correlation existed between female-headed households and poverty rate, and between unemployment and poverty rate. It also finds that minimum wage and government spending on welfare had no correlation with poverty rates.

As state governments and policy makers pursue their agendas, these findings may be useful in identifying factors that need further attention and policies that need to be restructured in the fight to eradicate poverty.

Introduction

Poverty is an issue that affects different aspects of the American society ranging from social to economic facets. Over the past decades, poverty—coupled with recessions, increased inflation and high unemployment—has reduced the standard of living of many Americans. The fight against poverty is embedded in recent American history and has evolved over the decades to incorporate various policies—such as Medicaid, Social Security, and housing subsidies—aimed at eliminating poverty. While the federal government and state governments, through actions such as the federal welfare reform of 1996, have been trying to create strategic policies that would more effectively target the segments of the population that need help, it can be argued that poverty remains a threat to the economic growth and social stability of the American society.

According to a report by the Center for American Progress (2015), “in 2014 more than one in seven Americans—46.7 million people—lived below the official federal poverty level of less than $24,000 per year for a family of four” (1). This striking statistic indicates the ongoing poverty struggle that many families are facing. An individual is
considered poor if his or her total family pretax income in a given year is below the poverty threshold for the family size and age composition. By definition, all persons in the same family have the same poverty status. The segment of the population considered poor and living below the poverty line is faced with challenges that make daily life a struggle. The adversities that result from poverty permeate through different aspects of an individual’s life and affect their overall well-being.

Given the seriousness of poverty and its adverse effects, this research project addresses the following question: “What social and economic factors correlate to high or low poverty rates?” Using quantitative and qualitative data from all 50 states in the United States, made available in the MicroCase database (LeRoy 2013), the researcher analyzed the correlation of the dependent variable, poverty, with seven independent social and economic variables: education, divorce, female-headed household, crime, welfare, unemployment, and minimum wage. The incidence of female-headed households and the unemployment rate were found to most strongly correlate to poverty rates, while high minimum wage and high government spending on welfare—which might be expected to affect poverty rates—were found not to coincide with low poverty rates.

**Literature Review**

Poverty has become one of the broader indicators by which the welfare and the standard of living of some nations are measured. In the United States (US), the Census Bureau officially measures poverty by determining the number of persons or households living below an established level of income that is estimated to be minimally sufficient to support them. The federal government, working with state governments, continues to strive toward helping individuals and families living in poverty by providing services and income transfers through various programs and welfare reform initiatives. Creating these programs means considering factors that contribute to the prevalence of poverty. It is crucial to analyze and understand these factors.

This literature review discusses four schools of thought concerning the origins of poverty, in order to provide insight into the various factors contributing to the prevalence of poverty. The purpose of this section is to survey the existing literature about various causes of poverty. Four influences will be examined: welfare programs, family structure, economic factors, and structural factors.

**Welfare Programs**

The aggregate-level relationship between welfare benefits and poverty rates is of interest to establish the overall impact of public assistance on poverty rates. Murray (1984) argues that increases in the generosity of welfare programs with the “War on Poverty” initiated an opposite effect by increasing the poverty rates. He claims that welfare alternatives to work make people less eager to work towards securing employment and that criminal activity offers another economic choice for people (Murray 1984).

Fording and Berry (2007) conducted analysis of data from the states and empirical tests highlighting the effect of welfare programs as a work disincentive. Their
results were consistent with critics of welfare programs such as Murray (1984). They found that

the ability of an increase in welfare benefits to reduce the poverty rate declines as three variables decrease: (i) the size of the initial cash benefit in relation to the poverty threshold; (ii) the relative share of the benefit increment that is provided via cash, as opposed to in-kind, assistance; and (iii) the wage level earned by unskilled workers. (Fording and Berry 2007, 55)

Family Structure

Significant changes in family structure and living arrangements over the past years have arguably affected poverty rates. Mangum, Mangum and Sum (2003) assert that the relatively high American poverty rate is because of the increasing proportion of single-parent families. These researchers claim that family size and family structure impact poverty across the board. Data reflects that family poverty problems have become more concentrated over time among families with children and families headed by women. According to researchers, “Married-couple families consistently have the lowest rate of poverty with statistics showing a 4.7% rate as opposed to 11.5% among male householders with no spouse present to a high of 24.7% among female householders with no husband present for the year 2000” (Mangum, Mangum and Sum 2003, 59).

Some highlighted characteristics that make female-headed families more poverty-prone include the limited potential for earned income, as in most cases these families tend to be headed by young females with less work experience and lower commensurate earnings potential. This point is highlighted by Iceland (2013), who states that female-headed families are more likely to be poor because women who are the sole heads of their households face the challenge of supporting a family on a single income and often must pay for child care while they work. Sugrue (1994) argues that unmarried and divorced mothers encounter discrimination in the labor market; this is reflected by the fact that, on average, women earn only 66% of the amount men earn, an inequality that is probably greater among poorly educated and untrained female workers.

The family structure school of thought is also supported by Rodgers and Rodgers (1993), and their analysis of cross-section data reflects how the intensity of the poverty of female-headed households is more pronounced than annual poverty measures show. The poorest group identified by this researchers contained people living in families headed by African-American females without high-school diplomas, for whom chronic poverty was reported to be about twelve times as intense as in the overall population (Rodgers and Rodgers, 1993).

Economic Factors

According to Iceland (2013), economic processes affect trends in poverty in two ways; these include the view that economic growth determines the absolute increases and reductions in the average standard of living of individuals, and the proposition that economic inequality affects the distribution of income. Mangum, Mangun and Sum (2003) state that the relatively high American poverty rates result from a less-equal income distribution, low earnings for the underprepared, and a less-generous income support system. In this view, the lack of improvement in poverty rates despite rising
living conditions is due to the stagnation in growth of median wages and increasing inequality (Hoynes, Page, and Stevens 2006).

Additionally, “the poverty rate is extremely sensitive to the level of unemployment, which has trended upward in recent years. Another critical variable is inequality (the variance as opposed to the mean of earned incomes), and the increase in earnings inequality over the past few decades has worked to raise the incidence of poverty even when growth or other factors were operating to reduce it” (Sawhill 1988, 1092).

**Structural Factors**

Supporters of the structural school of thought maintain that most poverty has structural roots that often foster economic and social barriers for different groups: discrimination grounded in racial or gender identification form the most threatening obstructions.

Abramovitz (1996) argues that the disproportionately high rate of poverty among women could be viewed as the result of a patriarchal society that continues to resist their inclusion in a part of society that has been primarily dominated by men, and consequently welfare programs have been structured in ways that condemn public support for women as distinct from marital support; both arrangements tend to reinforce patriarchy. As a result, the rise in poverty among women is an important structural variable to analyze.

**Conclusion**

To position the research on the prevalence of poverty, four schools of thought have been described. Essentially all aspects—effect of welfare programs, economic inequality, structural factors, and family structure—contribute in different ways and at the same time they are inter-linked. The research literature that has been developed by different researchers sheds light on the underlying causes of poverty and the various ways poverty is exacerbated.

In the next section, the methodology and the variables that correlate to existing theories and research will be described, and hypotheses defined.

**Methodology**

This section of the paper concentrates on the operationalization of the research topic in addition to defining the variables that contribute to the prevalence of poverty. The literature review highlights various scholars and schools of thought that have attempted to provide insight into the various factors contributing to poverty in the different states. The research question “What social and economic factors correlate to high or low poverty rates?” will be examined by identifying independent and dependent variables, and hypothesizing the correlation between these variables. The independent variables selected are expected to convey the economic and social factors that contribute toward and cause poverty. The States file from MicroCase software (LeRoy 2013) will be used to retrieve data for this study.
Concepts and Variables

This research paper will use variable number 704) POVERTY04, sourced from the States file, in order to operationally define the dependent variable, which is poverty. The variable description states that it reflects “percent of population in poverty” in 2004. According to Hoynes, Page and Stevens (2006), “In 2004, the poverty threshold for a family of four was roughly $19,000, and for a single individual it was approximately $10,000.” (49).

The independent variables that will be treated as contributing to the prevalence of poverty include education, divorce, female-headed household, crime, welfare spending, unemployment, and minimum wage. In the following paragraphs, these variables will be conceptually defined.

Social Variables.

1. Government spending on education (955 ED$PC 02)—This is a ratio variable that indicates the per capita state and local government expenditures for education for the year 2002. The range of this variable is from 1546 to 3287.

2. Female-headed households (287 FEM.HEAD 00)—This is a ratio that indicates the percent of households that are female-headed with no spouse present for the year 2000. The range is from 8.23 to 17.72.

3. Violent crime rate (1211 VCRIMES 04)—This is a ratio variable that indicates the number of violent crimes per 100,000 population.

4. Divorce rate (255 DIVORCE 04)—This is a ratio variable which indicates the number of divorces per 1000 population for the year 2004. This data is sourced from the National Center for Health Statistics. The range is from 2.20 to 6.40.

Economic Variables.

5. Unemployment rate (812 UNEMP05)—This ratio variable indicates the unemployment rate. The data is obtained from the US Bureau of Labor Statistics. The range is from 2.7 to 9.9.

6. Minimum wage (811 MIN_WAGE 06)—This is a ratio variable that indicates the minimum wage in dollars. The range is from 2.65 to 7.63.

7. Welfare spending (709 WELF_SL$)—This a ratio variable that indicates the per capita state and local spending on welfare programs for the year 2002. The range is from 517.00 to 1697.00.

Hypotheses—Social Variables

Social factors identified by researchers and theorists are framed in a set of hypotheses.

Hypothesis 1. There is a negative relationship between education spending and poverty. States that spend on their education system would arguably be more likely to produce a workforce that is skilled and knowledgeable. This will place people in a better position to attain employment, thereby providing them with a source of income that eliminates poverty.
Hypothesis 2. There is a positive relationship between the percent of female-headed households and poverty.

In comparison to households headed by men or families where both parents are present, female-headed households have a higher risk of poverty due to unequal access to sufficient economic resources necessary for their survival. This inequality of access could come in the form of unequal earnings in comparison to men and/or discrimination faced by unmarried and divorced women with respect to employment opportunities in the labor market.

Hypothesis 3. There is a positive relationship between the violent crime rate and poverty.

Crime inhibits the development of the society and economy on a micro and a macro level. It creates a vicious cycle that promotes instability and reinforces and exacerbates poverty. The presence of crime discourages economic activity and social development in those areas where crime is prominent.

Hypothesis 4. There is a positive relationship between divorce and poverty.

Generally, it is assumed that marriage is, in part, an economic union; therefore, marital dissolution leads to the loss of two incomes in most cases. Divorce could be seen as a cause for poverty primarily due to the loss of income and decrease in standard of living that results.

Hypotheses—Economic Variables

Economic factors identified by researchers and theorists are framed in a set of hypotheses.

Hypothesis 5. There is a positive relationship between unemployment and poverty.

An unemployed individual has no means to earn or generate income, which increases the risk of poverty for the individual and his or her dependents. Unemployment restricts access to market income, quality education, adequate medical facilities, and means to facilitate the creation or acquisition of income-earning assets. These conditions often lead to indebtedness and create a poverty cycle that is generational.

Hypothesis 6. There is a negative relationship between the minimum wage and poverty.

Increasing the minimum wage would arguably generate positive results in the fight against poverty and efforts to grow the middle class, thereby boosting incomes and reducing the number of people living in poverty.

Hypothesis 7. There is a positive relationship between spending on welfare and poverty.

Increased targeting of benefits can create disincentive structures that exacerbate poverty. As previously stated in the literature review section, welfare alternatives to work make people less eager to work or take responsibility for their own conditions.
Research Method

This proceeds with an empirical analysis that utilizes secondary quantitative data to address the research question. The States file in the MicroCase software is based on public records and aggregate data on the 50 states of the US; it contains 1748 variables. Among these variables, this study will utilize 8 variables for analysis. Guidelines are sourced from the Research Methods in Political Science: An Introduction Using MicroCase, 8th edition (LeRoy 2013).

This study will be using scatter plots and ANOVA to determine if there is any relationship between the independent variables and the dependent variable. In analyzing the data further, a test of statistical significance will be conducted. Statistical significance measures whether the hypothesized relationship between the variables in a sample obtained from a population exists as a product of chance in the population from which the sample was extracted. The measure of statistical significance is identified as “prob” and the acceptable cut-off point is 0.05. It is generally accepted that when the statistical significance is below this point, then the relationship is statistically significant. However, if the “prob” is greater than the numerical value 0.05, the relationship is deemed statistically insignificant, because it means there is greater than 5% probability the results occurred by chance.

Measures of association will be used to determine the strength of relationship between the two variables being analyzed. For the purposes of this study, two measures of association will be used: Pearson’s Correlation Coefficient (r) for scatterplots andEta Squared for ANOVA. The following scale will be used to determine the strength of the relationship for r:

- If r is less than 0.25, the relationship is too weak to be useful.
- If r is between 0.25 and 0.34, the relationship between the variables is weak.
- If r is between 0.35 and 0.39, there is moderate strength of relationship between the variables.
- If r is 0.40 and above, there is a strong relationship between the variables.

The strength of the relationship for Eta Squared ranges on the following scale:

- If the value of Eta Squared is less than 0.10, the relationship is too weak.
- If the value of Eta Squared is between 0.10 and 0.19, the relationship is weak.
- If the value of Eta Squared is between 0.20 and 0.29, the relationship is moderate.
- If the value of Eta Squared is above 0.30, the relationship is strong.

Essentially, this methodology will help in determining the factors that contribute to the high prevalence of poverty in some states as opposed to others. The next section, Findings and Analysis, will present and explain the research findings.
Findings and Analysis

ANOVA and scatterplot regressions, derived from the MicroCase (2013) software, test all seven hypotheses. This section presents an explanation and analysis of these statistical measures as applied to the hypotheses.

Social Variables

Hypothesis 1—Education Spending and Poverty. The first hypothesis states that there is a negative relationship between education spending and poverty. In Figure 1, the scatterplot shows the relationship between the dependent and independent variables. Poverty rate, the dependent variable, is presented along the y-axis and the independent variable, education spending, is presented along the x-axis.

The regression line indicates a negative relationship between the two variables. The “prob” value was 0.0002, which is below 0.05; this means that the relationship between education spending and poverty rates is statistically significant. The Pearson correlation coefficient is -0.399, which means that there is a negative, moderate-strength relationship between the two variables.

This value is reflective of the fact that education equips individuals with the necessary skills and knowledge for attaining better-paying jobs. States’ spending on education contributes to an increase in incomes, and this translates into reduced poverty rates. Education spending is an investment that significantly lifts people in the long run. Furthermore, “among individuals living in families in which the head has less than a high school education, 31.3 % are below the poverty line, compared with just 9.6 % of those whose head has at least a high school education” (Hoynes, Page, and Stevens 2006, 3).

Figure 1. Poverty by education spending.
Hypothesis 2—The Percent of Female-headed Households and Poverty. The second hypothesis states proposes a positive relationship between the percent of female-headed households and poverty. The scatterplot in Figure 2 shows the relationship between these two variables where the dependent variable, poverty, is along the y-axis and the independent variable, percent of female-headed households, is along the x-axis. The probability of this relationship not occurring in real life is 0.000, which makes it statistically significant. The Pearson coefficient is 0.519, meaning there is a positive, strong relationship between these variables. The hypothesis is supported.

![Figure 2. Poverty by female-headed households.](image)

Female-headed households are more vulnerable to poverty in comparison to male-headed households. Single mothers who are not working and do not have access to welfare tend to face multiple barriers to work, including low education, health problems, and/or a history of domestic violence or substance abuse. Women, especially unmarried or divorced women, face discrimination in the workforce, and female sole heads of household rely on a single income source that is often insufficient for supporting them and their dependents. They also earn considerably less than their male counterparts. Louisiana has a significantly high level of female-headed households at 16.40, and its poverty rate is equally high at 17. Minnesota has a low poverty rate (7.00) and the rate of female-headed households is also low, at 8.81.

Hypothesis 3—Violent Crime Rate and Poverty. The third hypothesis posits a positive relationship between the violent crime rate and poverty. Crime inhibits development of the society both in social and economic aspects; therefore, poverty is reinforced. Figure 3 shows the scatterplot regression between violent crime rates and poverty. This scatterplot has poverty, the dependent variable, along the y-axis, and violent crime rate, the
independent variable, along the x-axis. The probability reflected from this test is 0.005, making it statistically significant. The Pearson Correlation Coefficient is 0.364; this value suggests a moderate positive relationship between the two variables. The hypothesis is supported.

Violent crime fosters instability in society and limits individuals as well as businesses, creating an atmosphere and platform for poverty to thrive. Violent criminal acts against people and businesses debilitate the core components that help societies prosper. Businesses are less likely to establish themselves in neighborhoods that experience violent crimes, and this affects the economic opportunities for the inhabitants. People's standards of living are compromised.

Hypothesis 4—Divorce and Poverty. The last hypothesis of the social variables states that there is a positive relationship between divorce and poverty. The scatterplot in Figure 5 shows the two variables being tested. Along the y-axis is the dependent variable, poverty, and along the x-axis is the independent variable, divorce.

The probability value for this relationship is 0.004, which makes this hypothesis statistically significant. The Pearson correlation coefficient is 0.395, reflecting a positive, moderate relationship between these two variables. Mississippi and North Carolina have high divorce rates and high poverty rates, which makes the case for correlation between the variables. Further supporting this correlation, New Hampshire has low divorce rates as well as the lowest poverty level out of all 45 cases utilized in the data.

![Figure 3. Poverty by violent crimes.](image-url)
Economic Variables

Hypothesis 5—Unemployment and Poverty. The first hypothesis concerning economic variables states that there is a positive relationship between unemployment and poverty.

Figure 4. Poverty by divorce.

Figure 5. Poverty by unemployment rate.
On the scatterplot in Figure 6 along the x-axis is the independent variable, rate of unemployment, and along the y-axis is the dependent variable, poverty.

The probability value for this result is 0.001, which means that this relationship is statistically significant. The Pearson correlation coefficient is 0.426, indicating a positive, strong relationship between unemployment and poverty. This hypothesis is supported.

High unemployment limits people’s access to market income, and thus to quality education, adequate medical facilities and the means to facilitate the creation or acquisition of income-earning assets.

**Hypothesis 6—The Minimum Wage and Poverty.** The second economic hypothesis states that there is a negative relationship between the minimum wage and poverty: the expectation is that the higher the minimum wage, the lower the poverty rates. Figure 7 shows the scatterplot of these two variables, the y-axis showing the dependent variable (poverty) and the x-axis showing the independent variable (minimum wage).

The probability value reflected by the result is 0.195; therefore, this relationship is not statistically insignificant. The Pearson correlation coefficient value is 0.134, indicating that the relationship between the amount of minimum wage and poverty is too weak to be meaningful. Therefore, this hypothesis is not supported.

![Figure 6. Poverty by minimum wage.](image)

This result is interesting because increased minimum wages boost income levels, which could translate into lower poverty rates and a better standard of living. However, the data in this research suggests that there is no correlation between the amount of the minimum wage and poverty.

**Hypothesis 7—Welfare Spending and Poverty.** The third economic hypothesis in this section, and the final one of this study, proposes a positive relationship between welfare and poverty. The results give a probability value of 0.28, rendering this result statistically insignificant.
Furthermore, the Pearson correlation coefficient is 0.065, which is below 0.25; this means that the relationship between the two variables is too weak to be useful.

![Figure 7. Poverty by welfare spending.](image)

This result is interesting, especially as some scholars highlighted in the literature review state that welfare spending reinforces and worsens poverty. For example, some researchers argued that “[w]elfare programs such as Aid to Families with Dependent Children (AFDC) benefits failed to empower single mothers and their children to survive, let alone achieve financial independence [while also] providing a disincentive for people to work and encouraged idleness” (Fording and Berry 2007). Nonetheless, the data indicates this was not the case: welfare spending did not worsen poverty.

**Conclusion**

This study was aimed at providing better understanding of the underlying contributory causes of poverty at the states’ level. Two main categories were explored, namely social and economic variables. In order to analyze the issue of poverty and the factors contributing to its prevalence, this project utilized quantitative studies. An empirical study was conducted using data on the 50 states in the US from the States file in the statistical package provided by LeRoy (2013).

Poverty continues to be a burden on American society, making it a constantly relevant subject of study. The economic and social progress of the US is destabilized by poverty. Both individuals and families living below the poverty line continue to face daily struggles and challenges that affect their well-being and standard of living. This problem also extends to the younger generations, thereby reinforcing a vicious poverty cycle over the long run.
The hypotheses and findings are grouped into two categories of independent variables, economic factors and social factors, that may contribute to the persistence of poverty. Within the social category were four variables, namely education spending, divorce rate, female-headed household and violent crimes. This study found that the strongest correlation was between the incidence of female-headed households and the poverty rate of states. Unmarried and divorced mothers, like women generally, face discrimination in the labor market, exclusion, and high income inequality, rendering them less able to generate the means to live above the poverty threshold. They essentially have to rely on a single income source that is often insufficient to support them and their dependents. Furthermore, states that invested in education had a lower poverty rate. This correlation was expected because education equips individuals with the necessary skills and knowledge for attaining better-paying jobs; therefore, more generous state spending on education increases the likelihood that people live above the poverty threshold, thereby reducing poverty rates.

Furthermore, states that had a high rate of violent crime also had a high poverty rate; violent crime fosters instability in society and limits individuals as well as businesses. Violent crimes promote an environment that is not conducive for business to thrive, thereby eliminating economic opportunities for individuals in those neighborhoods to maintain a decent standard of living.

Within the economic category, the main variables analyzed were unemployment rate, welfare spending and minimum wage. The strongest correlation showed that states with high unemployment also had high poverty rates. Unemployment affects the economy on both a macro and a micro level as it limits individual’s access to market income and hinders economic growth. On the other hand, the welfare spending and minimum wage hypotheses were unsupported by the findings. Although the literature review cited some scholars who argued that welfare programs aimed at benefiting single mothers and children failed to empower them and served as a disincentive towards achieving financial independence, there was no significant relationship between a state’s welfare spending and its poverty rate.

Minimum wage as a variable under the economic factors category was also insignificant. This is interesting primarily because minimum wage as an economic factor is interpreted as capable of influencing the poverty levels. In general, it is expected that an increased minimum wage boosts income levels, which could translate into lower poverty rates and a better standard of living. The findings of this study did not support this view.

The issue of poverty should be addressed by state governments because it significantly decreases people’s standard of living. The growth of the state’s economy depends to an extent on the workforce, which is the human capital. Poverty hinders the development and progress of individuals and diminishes their productivity levels, making them unable to effectively contribute toward the growth of society and the economy. Therefore, state governments should invest more in human capital programs to increase productivity and earning capabilities of the people through education, including vocational training initiatives. In addition, violent crimes can be addressed through projects that address financial limitations that can steer individuals toward criminal conduct out of frustration and as a means of survival.
It is crucial that state governments address market conditions and policies that are discriminatory towards single, divorced or unmarried mothers. It is important that these women not be marginalized when it comes to equal income and access to employment opportunities. Given the fact that children born into poverty are less likely to break free from the cycle, it is imperative that women be empowered to maintain their families and their dependents above the poverty threshold. It is also important that the minimum wage be addressed to incorporate some form of increase. This is key especially in helping low-skilled individuals in low-wage paying jobs maintain an income stream that could help them escape poverty and in the long-run keep them above the poverty threshold.

State governments should invest more in human capital programs to increase productivity and earning capabilities of people through targeted educational and vocational training initiatives in public schools and community colleges. States must also address market conditions and policies that are discriminatory towards women. Furthermore, through implementing sustainable work supports, states could minimize gaps between what working poor families can earn in the low-wage labor market and what they need to meet their basic requirements. Work supports include any publicly-provided resource that either boosts the earnings of low-income workers or helps counterbalance the cost of a family budget component, including subsidies for health care, child care, housing, and transportation. These supports play an important role in helping to close the needs gap.

Bibliography


