San Jose State University

Provisions and its Impact on Homelessness and Poverty in the U.S

Isaiah Raymundo Gonzalez

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Dr. Patralekha Ukil

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**Introduction**

In the United States homelessness and poverty persist and are closely linked challenges and are disproportionately impacting communities. Despite the nation's dedicated efforts toward social welfare and poverty reduction, these issues continue to be of significant concern. This paper aims to examine the true impact of the provision of homelessness assistance programs and if the amount used is proportionate to the reduction of poverty rates at the state level?

The United States has a diverse regional characteristic and a strong commitment to social welfare programs. These qualities present a compelling case study for assessing the effectiveness of homelessness assistance initiatives. The United States is a country that grapples with the complexities of both urban and rural homelessness, comprehending the impact of these programs becomes imperative. It is through this understanding that we can better inform policy decisions and craft socially impactful interventions.

**Literature review**

Homelessness and poverty are not isolated challenges as they are intertwined and persistent problems that have negative impacts on communities, disrupt lives and strain societal resources. These challenges are strong and constant reminders of the social disparities that persist in the United States, and they demand it beg for attention and action. Meyer, Wyse, and Corinth's 2023 comprehensive study explores fundamental questions regarding the size and characteristics of the U.S. homeless population, delving into the accuracy and completeness of existing data sources and examining the coverage of new microdata sources. Their research shows that the issue is of a vast scale, revealing that close to 400,000 people experience homelessness in shelters on any given night, with an estimated 200,000 additional people sleeping on the streets. Moreover, the study discovers a difficult challenge in categorizing those who live in shelters due to the ambiguity surrounding the definition of a homeless shelter. In essence, Meyer and his college’s study reinforces motivation to address homelessness, displaying and highlighting its immense scale and emphasizing that it is not just a small population problem, but a problem of vast proportions that touches the lives of hundreds of thousands of people.

In the paper titled 'Understanding the Impact of Homelessness Definitions on Policy and Resource Allocation,' is from a study conducted by Sullivan and their colleges. This study goes and examines the important issue of defining what exactly homelessness is and its implications for possible policies and resource allocation. This research uncovers criteria employed by United States government agencies in defining homelessness. Sullivan then explores the effects that these definitions have on different communities, and the perceived problem severity, and the allocation of aid to said communities. The study starts by analyzing four specific, distinct definitions of child and youth homelessness used by federal agencies in the United States. The study uses panel data from these school districts that report homelessness by a subgroup, the research rigorously investigates how the choice of homelessness definition alters the prevalence of homelessness and results in divergent impacts on affected communities. The discovery of the research finds that the inclusion of students living in doubled-up housing arrangements within the definition of homelessness leads to a “notably higher growth rate in homelessness prevalence.” What's more , they also display how the choice of definition has drastically influenced what school districts have high rates of homelessness and the characteristics of these districts. These findings suggest that the allocation of resources aimed at assisting students facing homelessness diverges, being directed to varying types of communities based on the adopted definition. A critical takeaway from this study is the imperative role played by how a problem, in this case, homelessness, is defined. These definitions not only can show the impact of the measurement of the issue of homelessness across different studies, but they also can shape where resources and assistance are moved and directed to. This study strongly highlights how the choice of definitions in policies and resource allocation can have profound implications for addressing homelessness effectively. Keeping this in mind, it also exemplifies just how complex the issue of homelessness and poverty is if simply the definition can differ and drastically change the impact.

Even if policies have good intentions, they can still be shown to impact the wrong targeted communities or simply not have the desired impact. Another study examines the factors that contribute to homelessness among individuals in the general population. The researchers used data from a longitudinal survey of New York City adults to identify factors associated with homelessness. They find that individuals who are doubled-up or in rent-controlled units, as well as those with mental health issues or drug use, are more likely to experience homelessness. The study's findings suggest that homelessness is not simply a result of individual characteristics, but also a consequence of housing and economic factors ( Haupert 2023). Further evidence of the vast complexity of homeless causation/prevention can be examined from another paper which found that found useful interventions “ have included employment and skills training programs, substance abuse treatment, and mental health services” (Paulie 2012). With mental healthcare having a substantial impact on reduction and prevention of homelessness it simply demonstrates just how many factors could be affecting homelessness besides factors of money .

The paper titled "The impact of minimum income on homelessness: Evidence from France” investigates the Revenu de Solidarité Active (RSA) program in France. The RSA is a vital social assistance program in France that is aimed at alleviating the rate of poverty and improving the financial stability and eligibility of  individuals and families. The RSA program has an effective approach to income and housing assistance has been shown to be a significant promise in reducing homelessness, especially among young adults in France. Even though the RSA program is specific to France, the impact it has had could hold a valuable lesson for the study of homelessness assistance programs in the United States. The RSA program's success in reducing homelessness among young adults aged 22 to 27 demonstrates the potential of targeted financial assistance and housing support in addressing the financial challenges that often lead to higher homelessness rates . The study additionally  highlights the critical role of housing stability and affordability in mitigating homelessness risks. By examining the study’s results of the RSA program's positive outcomes, we can gain insights into how similar strategies may be applied in the United States to combat homelessness effectively. The RSA study in France serves as a guide and provides a light blueprint for addressing homelessness and poverty by enhancing housing stability and affordability. While specific programs may differ vastly between countries due to the complexity of each country , the core principles of financial aid and housing support are universal. By learning and examining successful programs like the RSA program, we can adapt and tailor strategies to the unique challenges faced by individuals and families in the United States, advancing our fight against homelessness and poverty.

**Data**:

This study derives a majority of its data from various data sources. These sources include official government websites, trusted data platforms , such as Statista, and peer-reviewed research papers. The data is exclusively for the year 2022 and includes information from all fifty states of the United States. Several key variables have been chosen for consideration in this study and they will soon be listed along with an explanation for that variable and why it was chosen for this research study.

The first variable we will be using is one labeled “Diversity Index.” The diversity index insight into the cultural and ethnic composition of each state's population. It considers factors such as race and ethnicity, providing a nuanced understanding of the state's demographic landscape. Inequality of ethnicity and race could play a factor in the rate of homelessness, so it was decided to add this as one of the variables of interest. The next variable we examine is the “Rental Vacancy” which is the rate is the proportion of unoccupied rental housing units and plays a critical role in assessing the availability and affordability of rental properties in each state. It could give us insight on if the prices or availability of rental is an underlying issue of poverty. The total population of each state in the year 2022 is included in the dataset. Population size could be a fundamental factor in understanding the dynamics of poverty and homelessness in a state, as astronomically more people and growth rate could exceed that of the growth rate of the housing/rental market. The poverty rate variable is measured as the percentage of the population living below the poverty line and it underscores the socioeconomic challenges faced by resident’s dependent on each state. We examine the “number of HUD Projects” too in order to hopefully  provide insights into the extent of homelessness assistance initiatives in place in each state. Additionally, we also examine the “HUD Funding amount.” The amount that the HUD s funding was the most interesting independent variable as a positive correlation could help us gain insight on more money being proportionally helpful to reducing the poverty rate. The original draft of paper stopped with these variables however doing so provided a sub-par regression model so since then here are the other variables that will be added into the new regression models.

With these variables we use the statistical modeling of regression analysis to examine correlations and potential causal links between these variables. The results of this analysis will provide valuable insights into the effectiveness of homelessness assistance programs in reducing poverty rates at the state level.

**Methodology :**

This study employs a quantitative approach to investigate the relationship between homelessness assistance programs and poverty rates at the state level in the United States. The research employs the comprehensive dataset for the year 2022 which encompasses all States of the United States of America incorporating key variables listed previously being : Diversity Index, Rental Vacancy rate, Population, Poverty Rate, the Number of HUD Projects, and HUD Funding Amount. The dataset was originally prepared and compiled using Microsoft Excel, which was exported as a structured CSV file. To give us insights into the relationship between homelessness assistance programs and poverty rates, the study utilizes a regression analysis framework. Regression analysis is a powerful statistical and modeling technique that allows us to investigate  how changes in a set of independent variables influence a single dependent variable. In this case, the dependent variable is the “poverty rate,” and the independent variables are the “Diversity Index, Rental Vacancy rate, Population, Number of HUD Projects, and HUD Funding Amount” for the first regression. For our second regression we added the following variables that have stronger evidence to have strong tie in with reduction in homelessness being: “Median income, Unemployment rate and Gini Coefficient.” Median Income measure the median income level for each specific state from 2022, higher income level typically means higher standard of living an might aid in the regression models prediction of poverty. Unemployment rate measure the number of unemployed divided by the labor force, expressed as a percentage, the higher the unemployment rate the more people who probably cant afford housing reside in that state and we expect to see more homeless with higher unemployment rates. The Gini coefficient is a measurement of inequality of incomes through different states. We can read the gini coeffecinet as follows: a score of 0 on would represent complete equality amongst the population , meaning that everyone would have the exact same income. Whilst a score of 1 would show the case in which one person would hold all the wealth . This means that a lower Gini score is roughly associated with a more equal distribution of income.

The statistical analysis was done thanks to the use of  R Studio. R Studio is a powerful and versatile statistical software package. The structured dataset in the form of a CSV file was then imported  into R Studio. Thanks to packages within  R Studio, we were able to access essential tools and libraries for conducting our robust regression analysis. To address the research question, the study will consider multiple linear regression models. We then employed this mode to help identify  the best combination of independent variables that best explain variations in the poverty rate using common statistical metrics such as R-squared, p-values, and coefficient estimates that will inform the choice of the most suitable model. Hypothesis testing will be an integral part of the regression analysis. Hypothesis will be formulated to test the significance of each independent variable in explaining the variations in the poverty rate. Specifically, the study will test whether the Number of HUD Projects and HUD Funding Amount has a significant impact on reducing the poverty rate, while controlling for other variables. The results of the regression analysis will be interpreted to provide insights into the impact of homelessness assistance programs on poverty rates at the state level. The study aims to identify which variables among the Diversity Index, Rental Vacancy rate, Population, Number of HUD Projects, and HUD Funding Amount, have a significant association with changes in the poverty rate. The direction and magnitude of the relationships will be explored, shedding light on the effectiveness of homelessness assistance programs in reducing poverty rates. The methodology outlined here provides a robust framework for investigating the relationship between homelessness assistance programs and poverty rates at the state level in the United States. By employing a rigorous regression analysis approach, the study aims to uncover valuable insights that can contribute to evidence-based policymaking and social interventions.

**Results:**

The first regression analysis revealed that the rental vacancy rate was the only statistically significant predictor of the poverty rate at the state level. We could interpret the results as a “one-unit increase in the rental vacancy rate was associated with a 0.1489-unit increase in the poverty rate.” This fact suggests that a higher rental vacancy rate is associated with higher poverty rates, which initially makes sense as the less people are renting the more people are probably on the streets. The other independent variables considered in the model being the , the number of HUD projects, HUD funding amount, population, and diversity index, were not statistically significant predictors of the poverty rate. This response  implies that these variables do not have a significant impact on poverty rates at the state level. The overall model significance was small, with an  R-squared value of 0.197 which is not great in terms of judging our model but our  adjusted R-squared was even more limited, scoring a miniscule value of 0.107. This response suggests that the model explains only 19.7% of variation and taking into account for the independent variables that were added actually only 10.7% of the model explains the variation in poverty rates across states. This could be since there are other factors, such as state-level ,education levels, economic conditions, and social welfare policies, that also influence poverty rates.

The findings of this study suggest that the rental vacancy rate is an important factor to consider when developing policies to reduce poverty. A higher rental vacancy rate may indicate a lack of affordable housing options, which can make it difficult for low-income individuals and families to find and maintain stable housing. This can lead to a cycle of poverty, where people who are unable to afford housing are more likely to experience homelessness, unemployment, and other challenges. The study also found that other homelessness assistance programs, such as HUD projects and funding, did not have a significant impact on poverty rates at the state level. This may be due to a number of factors, such as the limited scope of these programs or the fact that they are not always targeted to the most vulnerable populations. Overall, the findings of this study suggest that the relationship between homelessness assistance programs and poverty rates is complex and multifaceted.

The second regression had the Gini coefficient and median income as significant independent variables at the .05 and .10 alpha level respectively. We also see the results we predicted to see with these variables. As the Gini coefficient increases so does the poverty rate. Whilst as the median income increases for a state the poverty level decreases. Unfortunately, both variables are hard to alter and adjusting them to decrease poverty rates would be incredibly difficult. While not statically significant we see that increases in number of projects appears to reduce poverty rate on average but the amount given to the projects does not reduce poverty rate.

While losing the statistical significance of rental percentage from the first regression seems like we might be taking the regression model in the wrong direction it’s best to keep in mind that having more factors means for a more likely case of some collinearity. Multicollinearity occurs when two or more variables are related to each other. This event can muddy the impact that each variable has on the dependent variables. However, we arrive with double the amount of statically significant variables and our R-Square is three times the amount of our first regression. The second regression model has an R-Squared value of 0.5485 that means it explains approximately 54.85% of variance. I believe this increase in amount of statistical significance variables and large jump in R-Squared means that the model is headlining in a good direction.

**Conclusion/Summary:**

The overall implications of the model were incredibly weak. The first regression was a good indication that we would need a new approach to the model. The adjustment was doing a little more research on the literature review portion and adding variables that are proven to have large impacts to homelessness rates. I also believe that our second modeled R-squared value is not great, the improvement shows that the regression model is heading towards a promising path. Furthermore, some adjustment of a few variables and inclusion of a few more statically significant variables I believe we could create a regression model that could be a good predictor. However, as is, the current model is not a good predictor, and the test has failed to find any significance between homelessness and the amount of money spent in homelessness provisions. Based on this information we can only assume that money is not the biggest influence the homelessness rate and that there are many factors that do affect it such as income level , Gini coefficient and the efficiency of the programs in each state

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**Tables:**

Table 1:

Residuals:

Min 1Q Median 3Q Max

-3.8282 -1.6054 -0.4148 1.0368 6.4609

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 9.359e+00 1.682e+00 5.564 1.47e-06 \*\*\*

Projects -9.968e-04 6.829e-03 -0.146 0.88462

Award 9.031e-09 1.317e-08 0.686 0.49651

Population -1.503e-08 1.087e-07 -0.138 0.89071

Diversity.Index -1.372e+00 2.724e+00 -0.504 0.61691

Rental 1.489e-01 4.759e-02 3.128 0.00312 \*\*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 2.458 on 44 degrees of freedom

(51 observations deleted due to missingness)

Multiple R-squared: 0.1981, Adjusted R-squared: 0.107

F-statistic: 2.175 on 5 and 44 DF, p-value: 0.07418

Table 2:

Call:

lm(formula = Poverty ~ Projects + Award + Population + Diversity.Index +

Rental + Median.Income + Unemployment + Gini, data = larissa)

Residuals:

Min 1Q Median 3Q Max

-4.7211 -0.9618 -0.2687 1.0731 4.2180

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) -9.120e-01 1.079e+01 -0.085 0.9331

Projects -2.938e-03 5.550e-03 -0.529 0.5994

Award 8.496e-09 1.084e-08 0.784 0.4375

Population -3.404e-08 8.949e-08 -0.380 0.7057

Diversity.Index -1.864e-01 2.354e+00 -0.079 0.9373

Rental 3.879e-02 4.670e-02 0.831 0.4110

Median.Income -8.546e-05 4.412e-05 -1.937 0.0597 .

Unemployment -7.665e+00 1.019e+01 -0.752 0.4562

Gini 4.647e+01 2.262e+01 2.054 0.0464 \*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.911 on 41 degrees of freedom

(51 observations deleted due to missingness)

Multiple R-squared: 0.5485, Adjusted R-squared: 0.4604

F-statistic: 6.225 on 8 and 41 DF, p-value: 2.929e-05

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