Measuring the Impact of the Labor Force Participation Rate & Medicaid Expansion on Insurance Coverage

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I. Introduction

Health insurance provides significant benefits for both individuals and economies alike, making coverage a key focus for policy intervention. The rates of uninsured individuals in the United States serve as an indicator of the effectiveness of health policy initiatives and labor market dynamics. This paper will analyze the relationship between the Labor Force Participation Rate (LFPR) & Medicaid expansion under the Affordable Care Act and their effects on the percentage of uninsured individuals. Employer-sponsored insurance, which relies heavily on labor market engagement, underscores the importance of the LFPR in facilitating access to coverage, while Medicaid expansion has provided a safety net for lower-income populations in many states. Through an analysis of these variables and their interaction, we aim to quantify their individual and combined impacts on reducing uninsured rates, providing insight as to how labor market policies and healthcare reforms can jointly influence insurance accessibility.

II. About Medicaid Expansion Under the Affordable Care Act

The primary goal of Medicaid expansion under the Affordable Care Act was to expand access to health insurance to more adults with lower incomes. While the Affordable Care Act initially aimed to expand Medicaid coverage to all adults with incomes up to 133% of the federal poverty level in every state, it was ultimately left for the states to decide. As of 2022, 39 states, including Washington DC, have expanded Medicaid under the Affordable Care Act in some capacity. Although the magnitude in which Medicaid was expanded likely affected the percentage of uninsured individuals, we did not factor the magnitude into this analysis for simplicity.

In this analysis, we employed a dummy variable, which represented a state's Medicaid Expansion status for that year. If a state's expansion was implemented on any date other than

January 1st of that year, the dummy variable was represented with a 0. This is to reduce bias in our estimates, allowing for us to estimate causal effects more accurately.

III. Methodology

To estimate the effects of the Labor Force Participation Rate and Medicaid expansion on the percentage of uninsured individuals, we utilized an Ordinary Least Squares (OLS) regression model. The model expresses the percent uninsured as a linear combination of the LFPR, Medicaid expansion, and the interaction between the two. As mentioned prior, the variable that represents a state's Medicaid expansion status is a 0/1 dummy variable. Additionally, an error term is included in the equation to account for any variability in the percent uninsured that is not explained by the previously stated variables. Since the data spanned the years 2017-2022, we also included time-fixed effects to further isolate causal effects. The regression equation can be found below.

$$\text{Percent Uninsured} = \alpha + \beta_1(\text{Labor Force Participation Rate}) + \beta_2(\text{Medicaid Expansion Status}) + \beta_3(\text{Labor Force Participation Rate x Medicaid Expansion Status}) + \gamma_t + \epsilon$$

IV. Results

Parameter Estimates

Variable	*DF*	*Parameter Estimate*	*Standard Error*	*t Value*	*Pr > |t|*
Intercept	1	33.41288	0.52936	63.12	<.0001
participation_rate	1	-0.28977	0.00699	-41.47	<.0001
Medicaid_Expanded	1	-21.40810	0.66128	-32.37	<.0001
medicaid_expandedxparticipation	1	0.23413	0.00881	26.59	<.0001
Number of Observations Used	19323				
R-Square	0.2297				

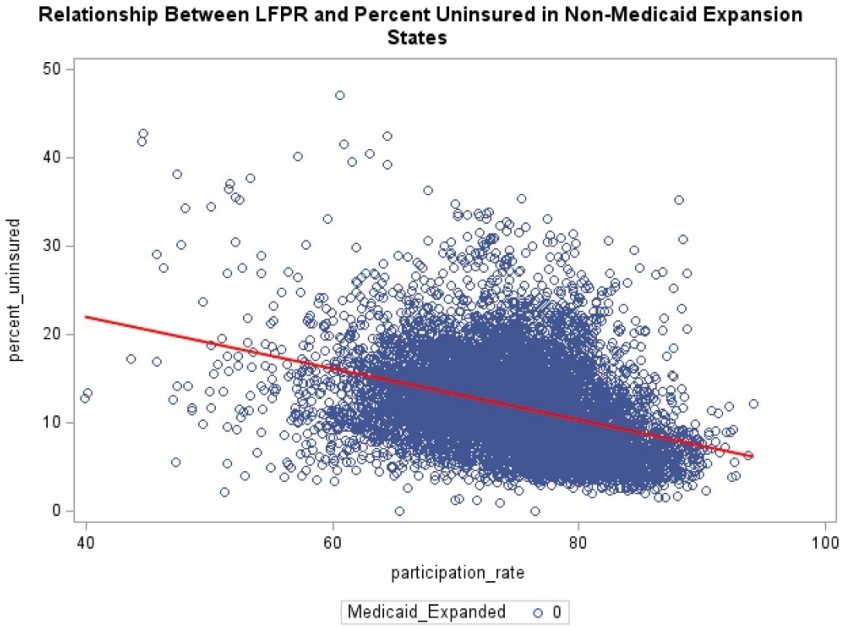
The R^2 value, 0.2297, indicates that 22.97% of the variation in the percent uninsured can be explained by the labor force participation rate, Medicaid expansion, and the interaction between them. The intercept indicates that if the labor force participation rate was zero, and the state did not expand Medicaid, then the predicted percentage of uninsured individuals would be 33.41%. While this value is presented in the table, it is largely hypothetical, as a labor force participation rate of zero is extremely unrealistic.

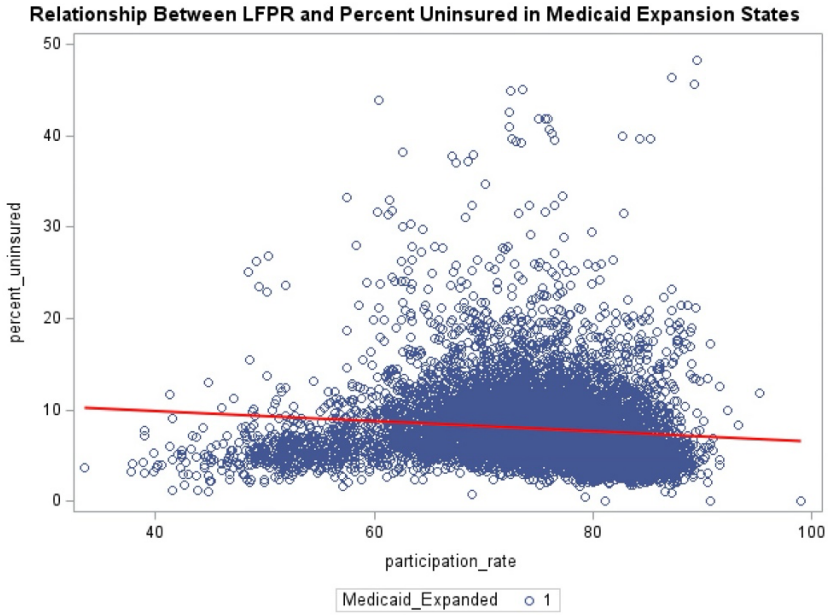
For every one percentage point increase in the labor force participation rate, there was a 0.2898 percentage point decrease in the percentage of uninsured individuals, holding all else constant. This is likely due to increased access to employer-sponsored plans. As more individuals enter the workforce, they are more likely to obtain health insurance through their employers.

The coefficient for Medicaid_Expanded indicates that, on average, states who have expanded Medicaid have a percent uninsured that is 21.41 percentage points lower than states who have not expanded Medicaid, holding all else constant. This reduction highlights the effectiveness of Medicaid expansion on increasing access to health insurance.

Finally, the interaction term, Medicaid_expandedxparticipation, represents the additional impact that increases in the LFPR has in states which have expanded Medicaid. The result indicates that in states that have expanded Medicaid, a one percentage point increase in the labor force participation rate results in a 0.0557 (0.2341 + -0.28977) percentage point decrease in the percentage of uninsured individuals, holding all else constant. This effect, while still statistically significant, is much smaller than the overall effect of the labor force participation rate on uninsured rates in non-expansion states. This is likely due to the broader coverage provided by Medicaid in expansion states. In these states, many low-income individuals who might otherwise

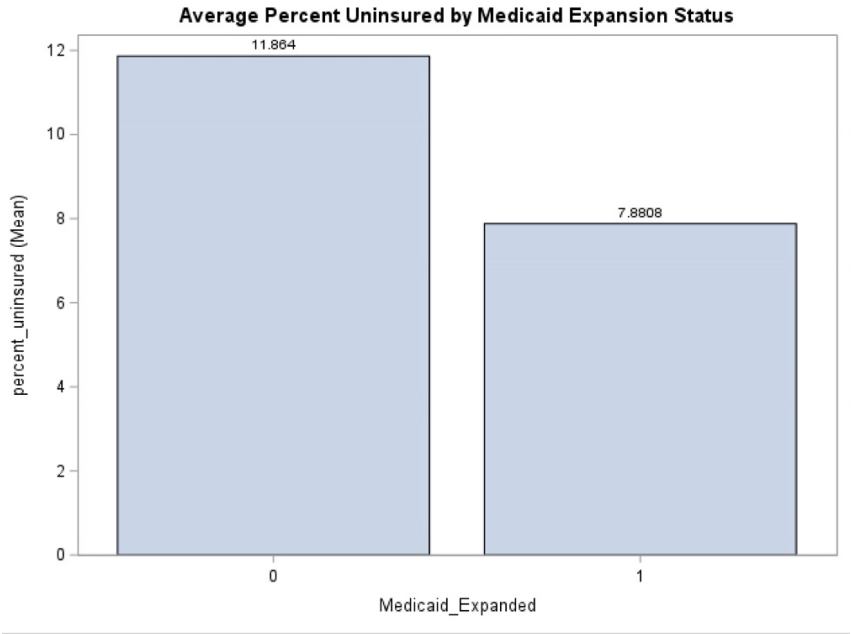
need employer-sponsored insurance are already covered through Medicaid. As a result, increases in labor force participation have a smaller marginal effect on reducing the uninsured rate because Medicaid acts as a safety net for those who would not obtain coverage through employment.





The scatter plots above visualize the relationship between the labor force participation rate and the uninsured rate in expansion versus non-expansion states. As represented by the

regression line, the red line, there is little variation in rates of uninsured individuals across different levels of labor force participation in states where Medicaid has been expanded. Comparatively, in states where Medicaid has not been expanded there is a high amount of variation. This highlights the role that Medicaid expansion has played in extending health insurance coverage to low-income individuals. Additionally, the bar chart below graphically represents the differences in the mean uninsured rates between expansion and non-expansion states.



V. Conclusion

Higher labor force participation rates are indicative of lower levels of uninsured individuals, as employment often provides access to employer-sponsored health insurance. However, the impact of labor force participation on uninsured rates appears less pronounced in states that have expanded Medicaid. This should not be interpreted as evidence that Medicaid expansion is ineffective. On the contrary, it underscores the substantial role that Medicaid expansion plays in reducing the uninsured population. By extending health coverage to low-

income individuals who might otherwise be excluded from employer-sponsored insurance or unable to afford private insurance plans, Medicaid expansion reduces reliance on engagement with the labor market for healthcare access. This complementary relationship between labor force participation and Medicaid expansion demonstrates how these policies work together to achieve broader insurance coverage. In Medicaid expansion states, the safety net provided by Medicaid ensures that even individuals outside the workforce or in precarious employment are more likely to have health insurance, highlighting its critical effectiveness in addressing coverage gaps across U.S. counties.

Although Medicaid expansion has proven to be effective in reducing the number of uninsured individuals, it could also be disincentivizing individuals from participating in the labor force. This is a prevalent issue among policy interventions – how to ensure individuals receive proper aid, while also ensuring that they remain productive members of society. I plan to further explore this issue in future analyses.

References

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