The Impact of Student Loan Debt on Homeownership Rates

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Abstract

This study investigates the relationship between student loan debt and homeownership rates in the United States using state-level data from 2023 and 2024. This study employs a multiple regression model, which evaluates the effect of average student loan debt on homeownership rates while controlling for factors such as income, unemployment, cost of living, and housing prices. The findings indicate that student loan debt does not have a statistically significant impact on homeownership rates. However, unemployment and housing prices significantly influence homeownership, emphasizing the importance of stable employment and affordable housing. The study results contribute to understanding the broader socioeconomic effects of student loan debt and inform policy discussions around loan forgiveness, housing affordability, and income stabilization.

Introduction

In the last 30 years, homeownership rates have fluctuated significantly, reaching a peak of 69.2% in Q4 of 2004 before steadily decreasing to a low of 62.9% in Q2 of 2016. (Federal Reserve Bank of St. Louis, 2024). This downward trend of subsequent decrease in homeownership rates suggests a significant shift in the housing market aided by various economic and social factors. Most Americans' wealth comes from owning their homes. However, low homeownership rates lead to considerable wealth discrepancies between homeowners and renters, with a median

wealth gap of $390,000 in 2022. (Choi & Zinn, 2024). Enabling significant issues, including wealth inequality.

The substantial increase in post-secondary education costs in recent years has aided this phenomenon since it subsequently led to the rise in student loan debt among students. The cost of post-secondary education in the last 60 years has increased college tuition by 197.4% since 1964 (Hanson, 2024). It subsequently led to an increase in the average amount of student loan debt among students, increasing by 40% from 2010 through 2020 (Welding, 2024). Ultimately, this impacts the homeownership rates per state due to increased student loans, inhibiting post-secondary education graduates' ability to purchase homes.

This creates a paradoxical dynamic since those with higher student loan debt pursued and achieved higher education, therefore significantly increasing their earning potential. However, their debt may hamper their ability to purchase homes. Individuals who do not pursue higher education may avoid student loan debt and, with steady incomes from their jobs, maybe more capable of buying houses, especially in the short run, despite potentially lower wages. This dynamic further complicates the relationship between education, student loan debt, and homeownership.

Homeownership is a crucial pathway toward wealth accumulation since it is a long-term investment that can facilitate economic security and generational wealth. However, the recent surge in student loan debt has served as a significant inhibiting barrier for college-educated

individuals with student loan debt aiming to purchase a home, which could ultimately lead to negative societal structure shifts, including wealth distribution and economic mobility.

This study analyzes the effect of student loan debt on homeownership rates to determine whether the financial burden of student loan debt associated with pursuing higher education impedes homeownership among higher-educated individuals and facilitates wider wealth inequality. This study ultimately informs policymakers if there is a need for significant government intervention through enacting policy revolving around loan forgiveness programs, tuition regulation, or real-estate market regulations. This study contributes to the previous literature by estimating the impact of student loan debt on homeownership rates.

Literature Review

Past literature analysis of the effects of student loan debt on homeownership rates has numerous conclusions. However, most past literature has concluded with the consensus argument that having any amount of student loans, on average, decreases the likelihood of an individual owning a home. This is concluded by Price (2016, pp.22 - 23). In this study, the created model found that having any amount of student loans decreases the likelihood of an individual owning a home by 7% in 2004 and 5% in 2013. This conclusion is further validated by Park and Miller (2023), who conclude that a high amount of student loan debt negatively affects homeownership rates since a high amount of student loan debt impedes home-buyers ability to acquire and sustain payments towards a mortgage.

On the other hand, other literature analyses have concluded that student loan debt does not affect homeownership rates. This is validated by Houle and Berger (2015), who conclude that there is no relationship between the declining homeownership rates in recent years and student loan debt as the responsible party, instead listing other factors as the major contributors to this trend, such as recession indicators.

However, the consequences of having a higher amount of student loans on homeownership status are plausible, as a higher amount of student loans correlates with an increased earning potential associated with completing a college degree. Therefore, having the funds to purchase a home. This conclusion is argued by Black et al. (2020) that the major earning discrepancies between the earning potential of college and high school graduates make college graduates more likely to purchase homes despite their high amounts of debt through student loans, especially later in life when the earning potential of college graduates significantly increases compared to that of high school graduates.

Empirical Model

The following regression model is used to estimate the relationship between student loan debt and homeownership rates:

$$Homeownership = \alpha + \beta 1Debt + \beta 2Income + \beta 3Unemployment + \beta 4Index + \beta 5Value + \beta 6Education + \beta 7Region + u$$

In this regression model, the dependent variable, Homeownership, measures the homeownership rates for each state.

The independent variable Debt measures each state's average student loan debt amount.

The Income variable measures the median household income for each state in dollars. The Unemployment variable measures the proportion of the unemployed state population, as defined by. The Index variable measures the cost of living index for each state. The final control variable is Value, which measures the median house price for each state in dollars.

Data

This study utilizes publicly available state-level data from 2023 and 2024. The data for the dependent variable, homeownership rates, was retrieved from the United States Census Bureau, available at Homeownership Rates by State | United States Census Bureau.

The homeownership rates data was gathered from the Current Population Survey/Housing Vacancy Survey (CPS/HVS) conducted jointly by the United States Census Bureau and the United States Bureau of Labor Statistics. The homeownership rate is defined as the percentage of occupied housing units currently owner-occupied. To ensure survey integrity and accuracy, the U.S. Census Bureau and the U.S. Bureau of Labor Statistics employ various methods, including diversifying their survey methods to mail-in surveys, telephone surveys, and in-person surveys.

The independent variable of interest, student loan debt, measures the average student loan debt by state as of 2024. This state-level data was obtained from the Education Data Initiative and is available at Education Data Initiative | Student Loan Debt by State.

The control state-level variables data, including median household income by state in 2024, was obtained from the United States Census Bureau, Median Income in the Past 12 Months | U.S. Census Bureau.

The unemployment rates by state data for August 2024 were obtained from the United States Bureau of Labor Statistics, Unemployment Rates for States | U.S. Bureau of Labor Statistics.

The cost of living index data for each state in 2024 was obtained from World Population Review, Cost of Living Index by State 2024 | World Population Review.

The median house price data by state for July 2024 was obtained from The Mortgage Reports, which was constructed utilizing Redfin and Zillow housing data available at From Coast to Coast: Median Home Prices in Every State | The Mortgage Reports.

Table 1: Descriptive Statistics

Variable	**Mean (st. dev)**	**Minimum Value**	**Maximum Value**
Homeownership Rate	67.68	39.70	79.40
Average Student Loan Debt	34982.49	28921	53782
Median Household Income	69238.47	48716	90203
Unemployment Rates	3.69	2	5.7

Median House Prices	409760.90	244100	836100
Cost of Living Index	104	85.30	179
Education Attainment	35.75	24	65.9
West	0.2549	0	1
South	0.3137	0	1
Midwest	0.2549	0	1
Northeast	0.1764	0	1

Table 1 demonstrates the mean and variance of homeownership rates as the dependent variable and student loan debt as the independent variable.

The mean Homeownership Rate is 67.68%, with a minimum value of 39.70% in the District of Columbia and a maximum value of 79.40% in West Virginia.

The mean Average Student Loan Debt is $34,982, with a minimum average loan debt value of $28,921 in North Dakota and a maximum average loan debt value of $53,782 in the District of Columbia.

Empirical Results

The regression results in Table 2 indicate that student loan debt is not a statistically significant determinant of homeownership rates (p-value > 0.10). Specifically, a $1,000 increase in the average student loan debt is associated with a 0.14% change in homeownership rates. Since this effect is not statistically significant, it suggests that the financial burden of student loans does not significantly influence the likelihood of homeownership at the state level.

Table 2. Regression Results

Source	SS	df	MS			
				Number of obs	=	51
				F(9, 41)	=	7.88
Model	1319.74063	9	146.637848	Prob > F	=	0.0000
Residual	763.272312	41	18.6163979	R-squared	=	0.6336
				Adj R-squared	=	0.5531
Total	2083.01294	50	41.6602588	Root MSE	=	4.3147

Homeownership	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
StudentLoanDebtThousands	.1409803	.3310831	0.43	0.672	-.5276556	.8096163
Income	.0002143	.0001235	1.74	0.090	-.0000351	.0004637
Unemployment	-2.663154	.802992	-3.32	0.002	-4.28483	-1.041479
MedianHousePrices	-.0000253	.0000124	-2.04	0.048	-.0000503	-2.84e-07
CostofLivingIndex	-.0897401	.0716402	-1.25	0.217	-.2344204	.0549401
Education_Attainment	-.3662233	.2600773	-1.41	0.167	-.8914601	.1590134
Region_West	6.29644	2.685627	2.34	0.024	.8727069	11.72017
Region_South	2.77022	2.200639	1.26	0.215	-1.67406	7.2145
Region_Northeast	5.926827	2.219236	2.67	0.011	1.44499	10.40866
_cons	87.01883	7.973868	10.91	0.000	70.91527	103.1224

Unemployment is a significant determinant of homeownership rates ($p < 0.01$). A 1% increase in the unemployment rate is associated with a 2.66% decrease in homeownership rates. Highlighting the importance of stable employment in facilitating homeownership.

Median house prices have a moderately significant negative impact on homeownership rates ($p < 0.05$). A $1 increase in median house prices is associated with a 0.025% decrease in homeownership rates. This indicates that higher housing costs serve as a barrier to homeownership for many individuals.

Finally, other important determinants of homeownership rates are regional variables such as Region West and Region Northeast. Living in the Western United States is associated with a 6.30% higher homeownership rate than in the Midwest ($p < 0.05$). Similarly, living in the

Northeast is associated with a 5.93% higher homeownership rate than in the Midwest ($p < 0.05$). These results suggest regional disparities in homeownership rates, which could be driven by various economic, housing market, and cultural factors.

Diagnostic Tests

Heteroscedasticity: Breusch-Pagan Test

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Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of Homeownership

         chi2(1)      =     0.04
         Prob > chi2  =   0.8400
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Since the Breusch-Pagan test's null hypothesis is that there is no heteroscedasticity, and the p-value of 0.8400 is greater than the p-value significance level of 0.05, we fail to reject the null hypothesis, suggesting that the current model does not exhibit heteroscedasticity.

Normality Test: Skewness-Kurtosis All Normality Test

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint adj chi2(2)	joint Prob>chi2
resid	51	0.8362	0.7857	0.12	0.9433

The null hypothesis for Pr (Skewness) is that the residuals are symmetric and therefore have no skewness. Since the p-value of 0.8362 is greater than the p-value significance level of 0.05, we fail to reject the null hypothesis. Suggesting that there is no evidence of skewness in the residuals for this model.

The null hypothesis for Pr (Kurtosis) is that the residuals' kurtosis is consistent with that of a normal distribution. Since the p-value of 0.7867 is greater than the p-value significance level of 0.05, we fail to reject the null hypothesis, suggesting that there is no evidence of abnormal kurtosis in the residuals for this model.

Ultimately, the Skewness-Kurtosis All Normality test on the residuals suggests that the regression model follows a normal distribution.

Multicollinearity: VIF Test

Variable	VIF	1/VIF
Education_~t	8.71	0.114749
MedianHous~s	8.42	0.118816
Income	5.24	0.190726
CostofLivi~x	4.59	0.218030
StudentLoa~s	4.40	0.227070
Region_West	3.75	0.266470
Region_South	2.86	0.350090
Region_Nor~t	1.96	0.509997
Unemployment	1.34	0.746328
Mean VIF	4.59	

The mean VIF value is 4.59, less than 10. Since no VIF value for the independent variables exceeds 10, this suggests that multicollinearity is absent in this regression model.

Ramsey Reset Test

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Ramsey RESET test using powers of the fitted values of Homeownership
       Ho:  model has no omitted variables
                  F(3, 38) =      1.77
                  Prob > F =      0.1697
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The null hypothesis for the Ramsey Rest Test is that the model has no omitted variable bias or misspecification. Since the p-value of 0.1697 is greater than the p-value significance level of 0.05, we fail to reject the null hypothesis. This suggests no strong evidence of omitted variable bias or misspecification in the regression model.

Conclusions and Policy Implications

The empirical results indicate that increased student loan debt does not necessarily indicate an increase or decrease in homeownership rates. This conclusion is consistent with Houle and Berger (2015), who determined that no real indicators suggest a relationship between student loan debt and homeownership rates.

Therefore, while reducing student loan debt remains essential for financial well-being, policymakers should focus on other factors, such as policies focusing on increasing median incomes, stabilizing employment, and addressing regional disparities in housing costs, which might prove more effective in promoting higher homeownership rates. Additionally, policies focusing on affordable housing options and reducing the cost and other burdens of purchasing a home may offer more direct results in increasing homeownership rates.

This study has many potential limitations since this model does not account for other financial obligations, regardless of student loan debt, that could impact homeownership rates. Additionally, this study does not explore the nuances associated with student loan debt, including repayment terms, which may impact financial behavior and homeownership rates.

Limitations

There are many potential limitations to this study. One major limitation includes the approach of this study since this model uses a cross-sectional approach focusing on state-level data from 2023 through 2024. Therefore, it does not correctly capture the dynamic relationships over time of the impact of student loan debt on homeownership rates. Additionally, the state-level approach may obscure individual-level variations in the relationship between student loan debt and homeownership.

Another limitation of this study is that it does not consider the variation of policy differences between states, such as tuition programs and housing subsidies, that might significantly influence student debt levels and homeownership rates.

References

Black, S., Denning, J., Dettling, L., Goodman, S., & Turner, L. (2020). Taking it to the limit: Effects of increased student loan availability on attainment, earnings, and financial well-being. *National Bureau of Economic Research*. https://doi.org/10.3386/w27658

Choi, J. H., & Zinn, A. (2024, April 18). *The wealth gap between homeowners and renters has reached a historic high*. Urban Institute. https://www.urban.org/urban-wire/wealth-gap-between-homeowners-and-renters-has-reached-historic-high

Federal Reserve Bank of St. Louis. (2024, July 30). *Homeownership rate in the United States*. FRED. https://fred.stlouisfed.org/series/RHORUSQ156N

Hanson, Melanie. "College Tuition Inflation Rate" EducationData.org, September 9, 2024, https://educationdata.org/college-tuition-inflation-rate

Hanson, M., & Checked, F. (2024, July 12). *Student loan debt by state [2024]: Average + total debt*. Education Data Initiative. https://educationdata.org/student-loan-debt-by-state

HOULE, J. N., & BERGER, L. (2015). Is Student Loan Debt Discouraging Homeownership among Young Adults? *Social Service Review*, *89*(4), 589–621. https://www.jstor.org/stable/26463019

Park, K. A., & Miller, J. J. (2023). Mortgage Risk and Disparate Impact Associated With Student Debt. *Cityscape*, *25*(2), 413–428. https://www.jstor.org/stable/48736637

Price, E. W. (2016, April 12). *Does Post-recessionary Student Loan Debt Negatively Impact the Likelihood of Homeownership More Than Pre-recessionary Student Loan Debt? Evidence from Comparative, Cross-sectional Analyses of the Survey of Consumer Finances Data from 2004 and 2013*. Digital Georgetown. https://repository.library.georgetown.edu/handle/10822/1040825

Welding, L. (2024, May 30). *Average student loan debt: 2024 statistics*. BestColleges.com. https://www.bestcolleges.com/research/average-student-loan-debt/