

## The ACA Medicaid Expansion and Low-income Homeownership

Guangyi Wang, Ohio State University<sup>1</sup>

### Extended Abstract

The passage of the Affordable Care Act (ACA) represents the largest evolution in American health care policy since Medicare (Blumenthal et al., 2015). The reform aimed at reducing the uninsured rate by enabling low- and moderate- income Americans to obtain health insurance coverage. The ACA was passed in 2010, and major provisions became effective in January 2014. As of 2016, about 20 million uninsured nonelderly Americans gained health insurance (Kaiser Family Foundation, 2016). Medicaid expansion – which extends free public health insurance to individuals with income below 138 percent of the Federal Poverty Level (FPL), was a key provision of the ACA – accounted for 60 percent of the coverage gains (Freaun et al., 2017).

Millions of uninsured individuals in the U.S. use health care services every year (Coughlin, T.A. et al., 2014). Hospitals frequently charge uninsured patients higher rates than insured patients (Xu et al., 2017). Even though uninsured individuals can get some implicit subsidies from private grant programs or Medicaid DSH payments, which are required by federal law to help uninsured individuals with medical care, they still pay for one-fourth of their care out-of-pocket (Coughlin, T.A. et al., 2014). Facing a higher burden of health care costs, uninsured individuals are more likely than the insured to sacrifice spending on food and housing, or to encounter other financial problems as a result of medical expenditures<sup>2</sup>. Therefore, besides increasing health insurance coverage, the ACA may also have had important financial implications for individuals who gained health insurance. Recent studies found that the ACA Medicaid expansion provided direct financial protection from loss associated with medical expenses and reduced medical collection among individual who gained insurance (Caswell & Waidmann, 2017; Dobkin et al., 2018). As a result, individuals enjoyed improved credit scores and increased access to credit markets (Hu et al., 2017; Brevoort et al., 2017; Miller et al., 2018). Improved financial health can potentially change low-income individuals' financial decisions over a variety of spending categories. In this study, I investigate the effect of the ACA Medicaid expansion on financial decision-making in one important spending category: homeownership.

Owning a home is an important part of the American dream. Homeownership is a major saving mechanism and can protect families from risks of economic adversity, strengthen communities, foster civic pride and provide children with a stable living environment (Herbert et al., 2005). It also represents the largest investment in many people's lives, suggesting that homeownership is also an indicator of financial health. However, many low-income Americans face barriers to homeownership. Between 2014 and 2019, the homeownership rate was about 78 percent among households with income above the median, while it was less than 50 percent among households with income below the median (U.S. Census Bureau, 2019). Low-income individuals face both supply- and demand-side constraints that prevent them from purchasing a home. On the supply side, the supply of mortgage credit is limited. Lenders often impose credit constraints because of the fear of payment default risk, as low-income individuals are more likely to have worse credit scores and have unstable resources to commit to a stream of mortgage payments (Herbert et al., 2005). On the demand side, individuals who are more sensitive to financial risk are less likely to want to own a home. Housing is a large durable asset and the transaction costs of selling are high if moving is necessary (Herbert et al., 2005). These risks may weigh especially heavily on individuals with other financial risks, such as medical expenditure risk.

The ACA Medicaid expansion could potentially affect low-income homeownership through multiple channels. First of all, Medicaid helps reduce medical expenditure risks. With lower likelihood of

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<sup>1</sup> Guangyi Wang ([wang.7884@osu.edu](mailto:wang.7884@osu.edu)), Ph.D. Candidate, Human Sciences

<sup>2</sup> [https://www.nytimes.com/2016/01/06/upshot/lost-jobs-houses-savings-even-insured-often-face-crushing-medical-debt.html?\\_r=0](https://www.nytimes.com/2016/01/06/upshot/lost-jobs-houses-savings-even-insured-often-face-crushing-medical-debt.html?_r=0)

being financially overwhelmed when getting sick or injured, low-income individuals who gain insurance may feel more confident about becoming homeowners and committing to a stream of mortgage payments. Reduced medical expenditure risk could also change investment portfolio choices and increase other risky asset holding such as home equity. Second, Medicaid helps reduce out-of-pocket medical expenditures for uninsured individuals with medical expenses. This could increase the resources that can be allocated to non-medical consumption, such as housing. Third, Medicaid could potential increase the access to credit markets. With smaller probability of being delinquent or having medical debts or collection, low-income individuals who gain health insurance can enjoy improved financial health and better credit scores, increasing the access to credit markets. With lower barriers of obtaining mortgage credits, low-income individuals might be more likely to enter homeownership.

In this study, I empirically test the effect of the ACA Medicaid expansion on low-income homeownership. Previous studies about homeownership mainly focus on factors that are directly related to homeownership decisions, such as housing policies, financial returns to homeownership, and life-cycle stage. Few studies explore the spillover effects of other social policies on homeownership. I contribute to the homeownership literature by examining the effect of the recent health insurance expansion on homeownership. In addition, the reduced medical expenditure risks and potential increased risky asset holding in home equity shed lights on how families balance risk across a variety of domains. I also contribute to the literature on the ACA Medicaid expansion's impacts outside of health care use.

I use a difference-in-difference-in-differences (DDD) research design and exploit the state, time, and income-by-family composition variation in Medicaid eligibility after the ACA policy became effective in 2014. My analysis compares the homeownership status for individuals living in treatment states who became newly eligible for Medicaid after the expansion, to the homeownership status among three control groups: (i) similar individuals living in expansion states before 2014, (ii) all individuals living in non-expansion states, and (iii) individuals living in expansion states who were previously eligible for Medicaid before 2014. These three control groups were not affected by the ACA Medicaid expansion, and thus allow me to control for confounding factors that vary by state, time, and income. Therefore, my estimated effects capture the causal effect of the policy rather than other confounding factors, such as other state laws that became effective at a similar time to the ACA, or time-variant economic factors like the recovery in the housing market. I estimate the following basic model:

$$\begin{aligned}
 y_{inst} = & \beta_0 + \beta_1 TREAT_s * POST_t * NEWLY ELIG_n \\
 & + \beta_2 TREAT_s + \beta_3 POST_t + \beta_4 NEWLY ELIG_n \\
 & + \beta_5 TREAT_s * POST_t + \beta_6 TREAT_s * NEWLY ELIG_n + \beta_7 POST_t * NEWLY ELIG_n \\
 & + X_{inst}'\gamma + e_{inst}
 \end{aligned} \tag{1}$$

In equation (1),  $y_{inst}$  is a dummy variable that equals one if individual  $i$ , in eligibility group  $n$ , living in state  $s$ , in year  $t$ , is a homeowner or has a mortgage.  $TREAT_s$  is a dummy variable that equals one if the individual lives in a treatment state, and  $POST_t$  is a dummy that equals one if the observation comes from 2014 or later.  $NEWLY ELIG_n$  equals 1 if the individual would be newly eligible for Medicaid if her state had chosen to expand Medicaid (regardless of whether it actually did). The triple interaction term  $TREAT_s * POST_t * NEWLY ELIG_n$  is the main variable of interest. It equals one if an observation comes from 2014 or later, lives in a treatment state and is newly eligible for Medicaid based on the changed income eligibility rules. The coefficient  $\beta_1$  is the key coefficient of interest, which represents the DDD treatment effect of the ACA Medicaid expansion<sup>3</sup>. The vector  $X_{inst}$  includes the controls: age, gender, race/ethnicity, household size, income to poverty ratio, education, marital status, employment status, and housing price index (ZHVI) for the state of residence.

In a separate model, I add state specific linear time trends to the basic model to address the issue of potential pre-trend in DD and DDD research. In addition, I also estimate a more flexible model:

$$y_{inst} = \beta_0 + \beta_1 TREAT_s * POST_t * NEWLY ELIG_n$$

$$\begin{aligned}
& + \beta_2 STATE FE + \beta_3 YEAR FE + \beta_4 NEWLY ELIG_n \\
& + \beta_5 STATE FE * YEAR FE + \beta_6 STATE FE * NEWLY ELIG_n \\
& + \beta_7 YEAR FE * NEWLY ELIG_n + X_{inst}'\gamma + e_{inst}
\end{aligned} \tag{2}$$

Equation (2) is similar to (1), except that I use a vector of state dummies *STATE FE* instead of a simple dummy *EXPANSION<sub>s</sub>*, and use a vector of year dummies *YEAR FE* to substitute *POST<sub>t</sub>*. Compared to the basic model, which captures the baseline differences in homeownership by states' treatment status and the average changes in homeownership between the pre- and post-ACA periods, the flexible model captures baseline differences in homeownership between each specific state and the changes in homeownership in each year. The flexible model also includes a full set of state-year fixed effects (the interaction term of state dummies and year dummies), which control for state-year specific effects on the outcomes. All models are estimated using OLS, clustering the standard errors at the state level to adjust for serial correlation within states over time.

I particularly explore the heterogeneous effects on different age groups. Compared with younger individuals, middle-age individuals between the ages of 45 and 64 are more likely to experience illness and thus tend to have a higher medical expenditure risk and larger out-of-pocket medical expenses. According to the Medical Expenditure Panel Survey (MEPS), in 2016, the mean medical expenditure per person was \$2,985 for individuals aged between 18-44, and \$6,406 for individuals aged between 45-64 (Agency for Healthcare Research and Quality, 2019). Therefore, the ACA Medicaid expansion may have a larger impact on homeownership among older individuals. Additionally, the ability or desire for homeownership may be different by age group, where older individuals may be more likely to have the resources for a down payment or have a bequest motive.

Using data from the American Community Survey (ACS) from 2009 to 2017, I find that the ACA Medicaid expansion increased the probability of being a homeowner among the oldest middle-age individuals (58-64). As shown in Table 1, being newly eligible for Medicaid increased the probability of being a homeowner by 2 to 4 percentage points for the oldest age group. Compared to the baseline homeownership rate, the estimates suggest the policy increased homeownership by about 4 to 8 percent. I also find that the probability of having a mortgage increased by a similar magnitude (as shown in Table 2), while the probability of owing a house without an outstanding loan was unaffected (as shown in Table 3). Hence, the marginal new homeowners were those who obtained mortgages.

I conduct falsification tests by running similar analyses on two groups of untreated individuals: (1) older individuals (age 70+) and (2) individuals with family income greater than 138 percent of FPL. The ACA Medicaid expansion mainly targets non-elderly adults since individuals age 65 and over are all eligible for Medicare. Individuals with family income greater than 138 percent of FPL are not eligible for Medicaid. My identification strategy should not indicate causal effects of the ACA Medicaid expansion on homeownership among these ineligible groups. As expected, the results (not shown) are not statistically significant.

The results of this paper suggest that health insurance policy may have important spillovers to other household financial decisions, such as homeownership. Not only housing policies, financial returns, and life-cycle stage affect the homeownership decision, but also other social policies such as health insurance policy can have a significant impact. Health insurance policy may also influence many aspects of family wellbeing, other than changing health care utilization and overall health.

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**Table 1. Estimated DDD effect on homeownership**

	Full	age 27-34	age 35-42	age 43-50	age 51-57	age 58-64
Basic model	-0.001 (0.009)	-0.003 (0.009)	0.001 (0.012)	0.002 (0.012)	0.000 (0.010)	0.033** (0.014)
Add state specific time trend	0.010 (0.008)	0.002 (0.010)	0.012 (0.009)	0.015 (0.009)	0.012 (0.010)	0.043*** (0.015)
Flexible model	-0.003 (0.005)	-0.013* (0.007)	-0.003 (0.010)	0.012 (0.009)	0.008 (0.012)	0.025 (0.018)
Mean	0.41	0.23	0.34	0.42	0.49	0.56
N	1222280	241780	237454	246107	245929	251010

Notes: Standard errors in parentheses are clustered at the state level. Data from the ACS 2009-2017 are used to obtain these estimates. Dependent variable is the homeownership status. Models control for age, gender, race/ethnicity, household size, income to poverty ratio, education, marital status, and employment status. \*, \*\*, and \*\*\* indicate  $p < .1$ ,  $p < .05$ , and  $p < .01$  respectively.

**Table 2. Estimated DDD effect on having mortgage**

	Full	age 27-34	age 35-42	age 43-50	age 51-57	age 58-64
Basic model	0.011 (0.010)	-0.002 (0.008)	0.011 (0.014)	0.017 (0.010)	0.022 (0.013)	0.043*** (0.012)
Add state specific time trend	0.015* (0.009)	0.002 (0.008)	0.018 (0.011)	0.022** (0.010)	0.025** (0.012)	0.042*** (0.012)
Flexible model	0.005 (0.007)	-0.008 (0.006)	0.007 (0.010)	0.018* (0.010)	0.011 (0.011)	0.023 (0.014)
Mean	0.22	0.15	0.22	0.25	0.24	0.24
N	1222280	241780	237454	246107	245929	251010

Notes: Standard errors in parentheses are clustered at the state level. Data from the ACS 2009-2017 are used to obtain these estimates. Dependent variable is mortgage status. Models control for age, gender, race/ethnicity, household size, income to poverty ratio, education, marital status, and employment status. \*, \*\*, and \*\*\* indicate  $p < .1$ ,  $p < .05$ , and  $p < .01$  respectively.

**Table 3. Estimated DDD effect on outright homeownership**

	Full	age 27-34	age 35-42	age 43-50	age 51-57	age 58-64
Basic model	-0.012** (0.005)	-0.002 (0.004)	-0.010 (0.007)	-0.014 (0.009)	-0.022* (0.012)	-0.012 (0.011)
Add state specific time trend	-0.007 (0.004)	-0.000 (0.005)	-0.007 (0.007)	-0.006 (0.007)	-0.013 (0.012)	-0.001 (0.010)
Flexible model	-0.007 (0.005)	-0.004 (0.004)	-0.011 (0.007)	-0.004 (0.008)	-0.002 (0.014)	0.000 (0.011)
Mean	0.19	0.08	0.12	0.17	0.24	0.32
N	1222280	241780	237454	246107	245929	251010

Notes: Standard errors in parentheses are clustered at the state level. Data from the ACS 2009-2017 are used to obtain these estimates. Dependent variable is outright homeownership. Models control for age, gender, race/ethnicity, household size, income to poverty ratio, education, marital status, and employment status. \*, \*\*, and \*\*\* indicate  $p < .1$ ,  $p < .05$ , and  $p < .01$  respectively.