

The Influence of the Sub-Prime Crisis
on Homeownership Rates by Race
(California)

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Introduction

The subprime crisis in 2007 had a profound influence on global economics. It is the direct reason for the financial crises that followed in 2008. The reason of the subprime crisis is because banks lent money to people who could not afford their houses. The people who could not pay the mortgage eventually defaulted on their loans and the banks foreclosed their houses. In other words, the direct result of the subprime crisis is that hundreds of people lost their houses.

Does the homeownership rate vary by race? We want to know which race has the highest house losing rate, in other words which races suffered most in the subprime crises. California is known for its varied climate and geography as well as its diverse population. It is also the most economically developed state and the third largest state of the United States. Under these circumstances, we pick California as our study area to estimate the homeownership rate of different races. In the Pre-subprime period 2006, 52.44% of the sub-prime home loans were titled by blacks, 40.66% of the sub-prime home loans were titled by Latinos and only 22.2% of the sub-prime home loans were titled by whites.

Literature Review

After research in the area, we found two papers related to our research area. The first paper is a NBER working paper written by William and Robert, Race and Homeownership 1900-1990. This paper uses home owner rate data of black and white from 1900 to 1990. The author established linear probability model to estimate the variables' influence on the homeownership rate. The variables included race, gender, age geographic area and land ownership. The paper runs decompositions to explain the black

and white homeownership rate gap. The second paper is a HUD USER paper published in February 2006. This paper uses metropolitan area samples of the American housing Survey for 1998, 2002 and 2004 data and focus to examine the extent to which differences in the interest rates obtained by homeowners of different race and income levels can be explained by difference in characteristics of the borrowers, the property, and the loan itself.

Data

We obtained our data from the Kauffman index dataset 2007 and 2008. The Kauffman Index measures the monthly rate of business creation at the individual owner level, reporting the percent of non-business owning adults who start businesses with more than fifteen hours worked per week. The matched basic monthly files from the Current Population Survey (CPS) provide a uniquely large, nationally representative panel dataset for measuring this entrepreneurial activity. The total sample size for the period from 1996 to 2006 for the adult population is over eight million. Detailed demographic information available in the CPS and large sample sizes also allow for estimates of separate indices by gender, race, education, age, and immigrant status. From the Office of Federal Housing Enterprise monthly house price index, we know that the housing price reached its highest point in the May 2007 and started dropping in September 2007. From the Kauffman Index data we got the result that the California house owning rate's lowest point was at February 2008, which means that in Feb 2008 most of people lost their homes. But, since this was a lagged effect we decided to use May 2007 as the midpoint of our timeline. The data before May 2007 is the pre subprime period data and the data after

June 2007 is the post sub-crime period data.

Because house owner rate data is a dummy variable in the Kauffman Index data set, we chose to use the logit model to estimate it. Meanwhile, white ethnicity is the majority of the observations in the data set. So, whites were chosen as the control group, while different minorities groups were used as the treatment group. House owner rate is not only affected by races, it was also related with plenty of other factors, for example, age, education of the individual, earnings of the family and the marital status of the individual. In the data set if a person owned a house the homeown variable equals 1, otherwise equals to 0. In the original data set, education is varied from 0 to 46, which stand for less than first grade to Doctorate degree. In order to simplify the data, we modified our data set dummy variables for people with education less than 12th grade and without diploma, high school graduates, college education but without college degree, and higher level degree owners. The observations are all males whose age ranged from 16 to 64; the mean of the age is 41. If the marital status equals to 1, means that the individual is married, otherwise marital status equals to 0. In the variable race, we also created dummy variables for race equals to white, black and Asian. If the variable spneth equals to 1-5 the individual is Latino. Some whites are also Latino, but those numbers are small.

Logit Model

We used a logit model to find the contributions of different races and other group differences in measurable characteristics to homeownership rate.

$$H_t = \beta_0 + \beta_1 X_t + \beta_2 I_t + \beta_3 G_t + \varepsilon_t$$

The dependent variable H is a dummy variable indicating homeownership rate. X is a vector of ethnicity dummy variables. The variable I is a vector of individual characteristics. G includes Geographical dummies indicating metropolitan status. Betas are vectors of coefficient variables. In this equation, the parameter β_1 reports a vector of ethnic coefficients reflecting the race effect. The last term ε is an error term. The subscript of t indicates two time periods: pre- and post-May, 2007.

Table 4 is the results of a full scale regression. The reference group for ethnicity category is white. Black is worse than white both before and after the crisis. And since the coefficient is more negative than before, black's relative situation must be worse compared with white during the crisis. Asian have higher homeownership rate than white both before and after the crisis. For the Latino, the numbers are not significant, but we still can figure it out that Latino's situation got much worse.

When you get older, you are more likely to have your own house. This theorem seems not affected by the crisis. So does the marital status effect. Singles have lower homeownership rate than married individuals.

The reference group for family income is income less than 30000. We are caring about the homeownership, so we just focus on the low and middle income households and leave out those with income higher than 100,000. Comparing the two periods, it

seems that lower income group became less confident to get a house, and those with income higher than 60000 became more confident to be a homeowner.

The left out group of education was people who had less than 12th grade education and without high school diploma. The interesting thing here is that the college dropouts are most likely to be a homeowner. This looks weird, however, it does make some sense since we are looking at the homeownership rate rather than the number of houses people own. Considering the life-cycle effect, college dropouts are more likely to be a homeowner sooner than other groups. For example, our mean value of age is 40 but some PhDs graduate at 30 plus and most of them cannot afford a house before graduation. Since education is an important variable for our analysis, we investigated it in detail based on each racial group. We find that only for white and Asian, college dropouts have higher homeownership rate (See table 6) and because white has a much bigger sample size than the other groups, the pooled result is led by whites.

We compare private employees and self-employers with government employees. Government jobs are more stable, so their employees are more likely to have a house than private employees. Self-employers' homeownership rate dropped a lot relative to government employees during the crisis. Maybe their economic situation was worse during the crisis or just because they were more uncertain about their future economic situation.

Comparing house location, non-metropolitan area's homeownership rate is much higher than suburbs. And the central cities get the lowest homeownership rate.

Next, we want to find the correlation of ethnicity variable group with the other groups of control variables. Table 5 reports the coefficients and standard errors. Column

(1) and (2) includes all the control variables, which show the same results as that in table 1. Column (3) and (4) leave income variables out. Then all these minority groups become worse compared with white group. As expected, income is the largest factor explaining this large racial disparity in homeownership. Column (5) and (6) show that education attainment doesn't affect the relation between white/black and white/Asian much. Taking it out only makes Latino worse. However, Latino's estimates in the first two columns are not significant. Column (7), (8) and (9), (10) tell us marital status and age are important for the racial gaps. There is no control for metropolitan status in last two columns. This factor has more contribution to the racial gap in the post period especially for white/Asian gap. We also checked gender, employment status and class of worker. The coefficients do not change much. So they seem not or just slightly correlated with racial gaps.

Based on this analysis, we believe there are five sets of control variables mainly contribute to the racial disparity in homeownership rate's change during the crisis: income, education, marital status, age and metropolitan status.

By now, we already knew that in both pre-and post periods, Asian had the highest homeownership rate, white was the second one and black has the lowest rate. In table 7, we calculate the mean value of homeownership rate by each group in both periods. The results show that the rate of all the four ethnic groups declined during the crisis. It seems that white was the most stable group in the subprime crisis which can be explained by its lowest home-loan ratio. Although Asian is still better than white, the gap between them was reduced during the crisis.

Decomposition Model

We use the Fairlie decomposition technique in order to identify and quantify the differences between Blacks, Asians and Latinos to the control group of Whites for the measurable characteristics of age, male, single, hours, family income, education, class, monthly labor force(mlr) and central city status(msa). Since, the regression for homeownership has a binary outcome; we cannot use the Blinder and Oaxaca linear decomposition technique. Therefore, to explain the differences between the ethnicity groups in our homeownership logit model we have chosen to use the logit decomposition technique which is outlined in the Fairlie 2006 paper, *An Extension of the Blinder-Oaxaca Decomposition Technique to Logit and Probit Models*.

We ran a set of six decompositions in order to discern the difference between the Blacks, Asians and Latinos groups to the White group for both the pre and post period of our sub-prime crisis timeline. The model which we use for the Fairlie decomposition is as follows:

$$\bar{Y}_{\text{t}}^B - \bar{Y}_{\text{t}}^W = \left[\sum_{i=1}^{N^B} \frac{F(X_i^B \hat{\beta}_{\text{t}}^W)}{N^B} - \sum_{i=1}^{N^W} \frac{F(X_i^W \hat{\beta}_{\text{t}}^W)}{N^W} \right] + \left[\sum_{i=1}^{N^B} \frac{F(X_i^B \hat{\beta}_{\text{t}}^B)}{N^B} - \sum_{i=1}^{N^B} \frac{F(X_i^B \hat{\beta}_{\text{t}}^W)}{N^B} \right]$$

The B variable indicates the race that is being analyzed. Depending on the decomposition the B variable can represent Blacks, Asians and Latinos. The W variable represents the White control group. The Y variables for this model represent the binary homeownership variable. The N variable represents the number of observations. The β variable represents a vector for the coefficients of the regression. The t variable represents the time period of either pre or post sub-prime crisis. Lastly, the X variable represents a vector of measurable characteristic variables that include age, male, single,

hours, family income, education, class, monthly labor force (mlr) and central city status (msa).

The results of this decomposition depend on the comparison of sub-samples of data from the 2006 to 2008 CPS data for California. Separating by race, the number of observations for the Black, Asian and Latino demographics are much smaller than the White group as evidenced in tables D1 to D3. As a result we decided to use the White as the control to compare the decompositions.

Results of Fairlie Decomposition:

In order to better interpret the results of the decompositions we calculated the percentage change for the probability of homeownership from pre to post period for all the racial groups. We also calculated the percentage change of the difference gaps to see the severity of the change in homeownership among races. Furthermore, we computed the percent of the difference explained by the coefficients by dividing the coefficient estimate by the difference to illustrate the magnitude of the gap which is explained by each variable. These measures will assist us in more accurately interpreting the results of the decomposition. This will also help us to identify the most influential variables affecting the gap between each race for the pre and post periods.

For the Black to White decomposition, there is an 11% decrease in homeownership rates for Blacks as compared to a 1.5% drop for Whites, resulting in an increase of the gap between Black and White homeownership of nearly 41%. Looking at the decomposition of the variable it seems that only 30-40% of the difference is explained by the variables for both the pre and post periods. Among these variables it seems that single

status, family income, education and monthly labor force recode explain the majority of the measurable characteristics affecting the homeownership gap for Blacks and Whites in both periods. An interesting observation may be the unusual change for the education variable between periods, having a drastic decrease in its affect on the homeownership gap between Blacks and Whites.

For the Asian to White decomposition, Asians seem to be the only group in this sample that has a higher rate of homeownership on average compared to the White group. Although Asians have a higher rate of homeownership from pre to post they have a small decrease in the homeownership gap with the White group of 9.4%. This shows a closing of the gap between Whites and Asians, due to the higher homeownership decrease of 2.1% for Asians as opposed to the 1.5% decrease for Whites. In examining the impact of the variables on the difference it seems that there is a drop in the amount explained by the variables of 63% in the pre period to 47% in the post. Although there is a drop in the gap explained by the variables, the same variables seem to affect the difference, being age, single, family income and education. Furthermore, with the exception of metropolitan status, which seems to explain more of the difference between Whites and Asians in the post period of sub-prime crisis, these four variables contribute the most to the gap between homeownership rates of Asians and Whites.

From the results of the Latino to White decomposition, it seems that the Latino group has been the most severely impacted groups affected by the sub-prime crisis. Although the results may be skewed since the Latino group has the smallest number of observations (about 1000), it can still be seen that the Latino group has a drop in homeownership rate of 13.1% compared to the White 1.5% decrease. This results in an increase of the gap

between Whites and Latinos of nearly 104%. When comparing the results of the variables that explain this difference, it seems that age, family income and education are the greatest contributing factors explaining the gap in the pre and the post period. One significant difference is that the percentages drop slightly for all these variables in the post period, especially in the case of the family income variable. A possible explanation for this decrease is that in the pre period 148% of the difference is explained by these observable variables, whereas in the post period these observable variables only explain 60% of the difference. This drastic change of 88% may mean that there are a number of unobserved characteristics that have affected the homeownership rates such as the number of sub-prime loans this sample group has defaulted on, which has not been included in our sample.

From these decompositions it can be seen that all four ethnic groups have been negatively affected by the sub-prime crisis in terms of homeownership rates. The gaps between Blacks, Asians and Latinos to Whites can mostly be attributed to variables such as family income, age, education and marital status. Also, variables such as central city status and monthly labor force seem to also affect these groups, more specifically in the case of the Black to White and Asian to White differences. Furthermore, although these decompositions are a great way to explain the contribution of each variables influence on the differences between homeownership rates of Blacks, Asians and Latinos to Whites, it is still limited by the immeasurable characteristics that are not included in the decomposition and regressions.

Conclusion

The results of our regressions and decompositions both indicate that all four of our sample groups of Blacks, Asians, Latinos and Whites were negatively affected by the sub-prime crisis. Blacks and Latinos took the biggest hit in terms of homeownership rates from pre to post sub-prime crisis. This makes sense since Blacks and Latinos had the highest percentage of sub-prime home loans in 2006 with rates at 52.44% and 40.66% respectively.

The variables that influence the difference between Blacks, Asians and Latinos to Whites the most, include age, family income, education, marital status, monthly labor force and central city status. These results can be seen in both our decomposition through controlling for variables as well as the Fairlie decomposition.

Overall, the logit regression for the binary homeownership variable was able to produce significant results that show a decrease in homeownership rates from the pre to the post sub-prime periods for all races. Also, the Fairlie decomposition provides an excellent tool to measure and quantify the difference between groups in a logit model, allowing for significant results that helped to distinguish the affects of specific measurable variables on the gaps.

Reference Paper

Willam J.Collins and Robert A. Margo: *Race and home ownership, 1900-1990* (NBER WORKING PAPER)

HUD-PD&R (Feb 2006): *Mortgage Pricing Differentials across Hispanic, Black, and White Households: Evidence from the American Housing Survey*

Robert W. Fairlie (2003): *An Extension of The Blinder-Oaxaca Decomposition Technique To Logit and Probit Models.*

Appendix

Table 1

| Proportion of Subprime Home Loans by Race (2006) | | |
|--|----------------------------|-------------------------------------|
| African American families (Black) | Hispanic families (Latino) | White non-Hispanic families (White) |
| 52.44% | 40.66% | 22.20% |

Source: [Center for Responsible Lending](#) analysis of 2006 Home Mortgage Disclosure Act (HMDA) data reported by the [Federal Financial Institutions Examination Council](#)

Figure 1

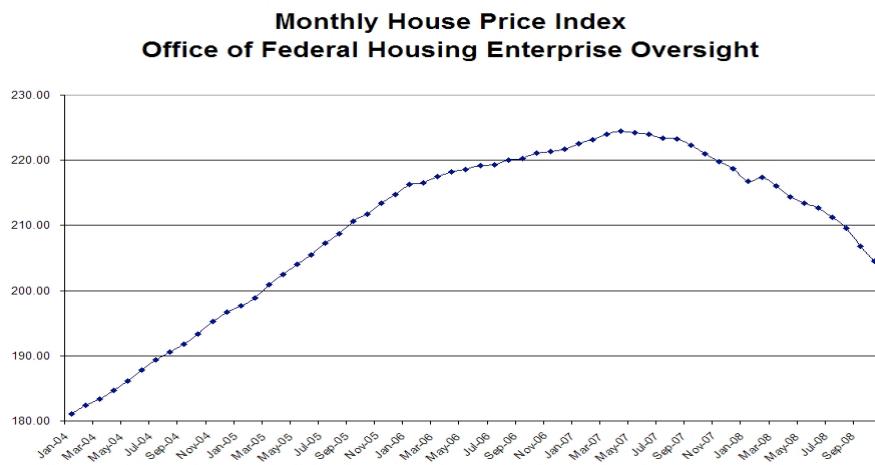
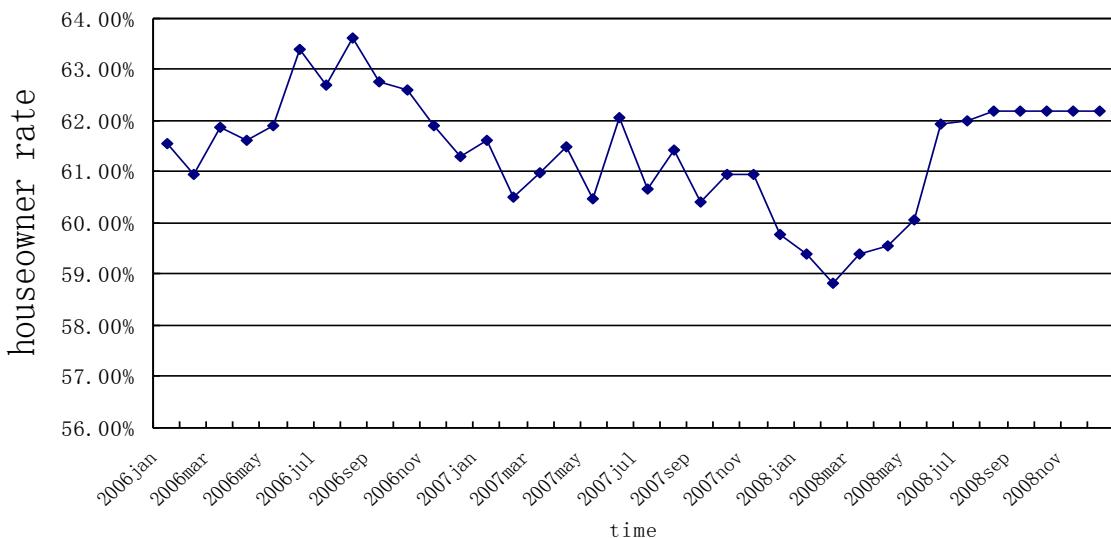


Figure 2

the houseownership rate change from 2006 to 2008 in California



| | | | | | | | |
|---------------------|-------|---------|------------|--------------------|-------|---------|-------|
| male | 64950 | 0.48217 | 0.499 | Income100000higher | 64950 | 0 | 0 |
| Married | 64950 | 0.58823 | 0.492 | Employed | 64950 | 0.7365 | 0.439 |
| | 64950 | 0.78965 | | | | | |
| White | | 0.408 | Unemployed | | 64950 | 0.0341 | 0.180 |
| | 64950 | 0.05421 | 0.226 | | | | |
| Black | | | NILF | | 64950 | 0.2292 | 0.419 |
| | | 0.12110 | | | | | |
| Asian | 64950 | | 0.326 | GovWorker | 64950 | 0.10799 | 0.311 |
| Latino | 64950 | 0.33639 | 0.472 | Private | 64950 | 0.5553 | 0.496 |
| NoDiploma | 64950 | 0.17248 | 0.378 | SelfEmploy | 64950 | 0.1051 | 0.306 |
| HSGrad | 64950 | 0.22809 | 0.419 | centralcity | 64950 | 0.16694 | 0.344 |
| SomeCollAA | 64950 | 0.30494 | 0.460 | BalanceMSA | 64950 | 0.15496 | 0.333 |
| BA | 64950 | 0.20146 | 0.401 | Nonmetropolitan | 64950 | 0.00666 | 0.073 |
| Grad | 64950 | 0.09301 | 0.246 | notidentified | 64950 | 0.48217 | 0.157 |
| Incomelessthan30000 | 64950 | 0.19199 | 0.393 | | | | |

Table 3 Mean of variables in the post-subprime period (May 2007 to Jul2008)

| Variable | N | Mean | S.D. | Variable | N | Mean | S.D. |
|---------------------|-------|---------|---------|---------------------|-------|---------|---------|
| homeown | 60782 | 0.60402 | 0.48906 | homeown | 60782 | 0.60402 | 0.48906 |
| age | 60782 | 41.0916 | 12.2810 | age | 60782 | 41.0916 | 12.2810 |
| male | 60782 | 0.48494 | 0.49977 | male | 60782 | 0.48494 | 0.49977 |
| Married | 60782 | 0.58296 | 0.49307 | Married | 60782 | 0.58296 | 0.49307 |
| White | 60782 | 0.78380 | 0.41165 | white | 60782 | 0.78380 | 0.41165 |
| Black | 60782 | 0.05888 | 0.23540 | Black | 60782 | 0.05888 | 0.23540 |
| Asian | 60782 | 0.12388 | 0.32945 | Asian | 60782 | 0.12388 | 0.32945 |
| Latino | 60782 | 0.34251 | 0.47455 | Latino | 60782 | 0.34251 | 0.47455 |
| NoDiploma | 60782 | 0.16830 | 0.37414 | NoDiploma | 60782 | 0.16830 | 0.37414 |
| HSGrad | 60782 | 0.22911 | 0.42026 | HSGrad | 60782 | 0.22911 | 0.42026 |
| SomeCollAA | 60782 | 0.29362 | 0.45542 | SomeCollAA | 60782 | 0.29362 | 0.45542 |
| BA | 60782 | 0.21037 | 0.40757 | BA | 60782 | 0.21037 | 0.40757 |
| Grad | 60782 | 0.09858 | 0.25606 | Grad | 60782 | 0.09858 | 0.25606 |
| Incomelessthan30000 | 60782 | 0.17457 | 0.3796 | Incomelessthan30000 | 60782 | 0.17457 | 0.3796 |

Table 4

Full Scale Regression
Dependent Variable : Homeownership Rate Dummy

| Variables | Pre-May2007 | P-value | Post-May 2007 | P-value |
|-----------------------------------|-------------|---------|---------------|---------|
| Intercept | -1.4675 | <.0001 | -1.9517 | <.0001 |
| Ethnicity | | | | |
| Black | -0.4037 | <.0001 | -0.5390 | <.0001 |
| Asian | 0.1152 | 0.0003 | 0.1679 | <.0001 |
| Latino | 0.0184 | 0.5347 | -0.0553 | 0.0052 |
| Individual Characteristics | | | | |
| age | 0.0370 | <.0001 | 0.0402 | <.0001 |
| Single | -0.6245 | <.0001 | -0.5884 | <.0001 |
| male | -0.0348 | 0.0565 | -0.0217 | 0.2833 |
| working hours | -0.00156 | 0.0356 | -0.000246 | 0.0014 |
| Income | | | | |
| Incomelessthan60000 | 0.3648 | <.0001 | 0.3425 | <.0001 |
| Incomelessthan100000 | 1.4589 | <.0001 | 1.4956 | <.0001 |
| Education | | | | |
| HSGrad | 0.4945 | <.0001 | 0.4324 | <.0001 |
| SomeCollAA | 0.6968 | <.0001 | 0.6777 | <.0001 |
| BA | 0.5484 | <.0001 | 0.5188 | <.0001 |
| Grad | 0.5637 | <.0001 | 0.4242 | <.0001 |
| Employment Status | | | | |
| Unemployed | -0.0649 | 0.2785 | -0.0950 | 0.3237 |
| NILF | -0.3521 | <.0001 | -0.3171 | <.0001 |
| Class of Worker | | | | |
| Private | -0.4764 | <.0001 | -0.4063 | <.0001 |
| SelfEmploy | 0.0598 | 0.1386 | -0.0317 | 0.0092 |
| Geographic Location | | | | |
| BalanceMSA | 0.3500 | <.0001 | 0.6699 | <.0001 |
| Nonmetropolitan | 0.7547 | <.0001 | 0.8678 | <.0001 |
| Notidentified | 0.3810 | <.0001 | 0.4856 | <.0001 |
| Observations | 64950 | | 60782 | |

Table 5

Homeownership Regression With Different Control Variables

White is the reference group

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (12) | Pre | Post | Pre |
| Coefficients: | | | | | | | | | | | |
| Post | | | | | | | | | | | |
| Black | -0.4037 | -0.5390 | -0.5405 | -0.6904 | -0.3965 | -0.5269 | -0.4793 | -0.6095 | -0.3728 | -0.4937 | -0.4211 |
| | (0.0393) | (0.0407) | (0.0385) | (0.0389) | (0.0397) | (0.0404) | (0.0394) | (0.0401) | (0.0393) | (0.0399) | (0.0392) |
| Asian | 0.1152 | 0.1679 | -0.0181 | -0.02 | 0.1014 | 0.1612 | 0.1710 | 0.2405 | 0.0358 | 0.0715 | 0.0954 |
| | (0.0291) | (0.0307) | (0.0286) | (0.0294) | (0.0295) | (0.0306) | (0.0293) | (0.0304) | (0.0291) | (0.03) | (0.0290) |
| Latino | 0.0184 | -0.0553 | -0.1571 | -0.2198 | -0.1862 | -0.2414 | 0.0961 | 0.0123 | -0.1898 | -0.2574 | 0.0106 |
| | (0.0223) | (0.0241) | (0.0221) | (0.0230) | (0.0208) | (0.0216) | (0.0228) | (0.0238) | (0.0223) | (0.0232) | (0.022) |
| | | | | | | | | | | | |

Control Variables:

| | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|
| Income | Yes | No | Yes | Yes | Yes | Yes | Yes |
| Education | Yes | Yes | No | Yes | Yes | Yes | Yes |
| Marital Status | Yes | Yes | Yes | No | Yes | Yes | Yes |
| Age | Yes | Yes | Yes | Yes | Yes | No | Yes |
| Geographic Location | Yes | Yes | Yes | Yes | Yes | Yes | No |
| Others | Yes |

Standard errors are in parantheses.

Table 6

| | | Pre | | |
|-------------|--------|--------|--------|--------|
| | white | black | Asian | Latino |
| Hsgrad | 0.4912 | 0.9782 | 0.6242 | 0.4298 |
| somecollege | 0.7339 | 1.0416 | 0.9129 | 0.6225 |
| BA | 0.5168 | 1.2567 | 0.7795 | 0.6078 |
| Grad | 0.6230 | 1.3741 | 0.6364 | 0.766 |

| | | Post | | |
|-------------|--------|--------|--------|--------|
| | white | black | Asian | Latino |
| Hsgrad | 0.5142 | 0.5023 | 0.6447 | 0.3268 |
| somecollege | 0.7939 | 0.5559 | 1.041 | 0.6226 |
| BA | 0.5280 | 0.7545 | 0.8114 | 0.2972 |
| Grad | 0.5273 | 1.0345 | 0.4119 | 0.64 |

Table 7

| race | Homeownership rate | | |
|--------|--------------------|------------|-------------------|
| | Mean(pre) | Mean(post) | Percentage change |
| White | 0.6188 | 0.6093 | -1.53% |
| Black | 0.5058 | 0.45 | -11% |
| Asian | 0.6657 | 0.6518 | -2% |
| Latino | 0.5186 | 0.501 | -3% |

Table D1

| Black | vs. | | | | | | |
|----------------|--------------|-------------|------------------------|------------|-------|-------|----------------------|
| White | | Pre | Post | | | | |
| Number of Obs | | 54809 | 51220 | | | | |
| N of obs G=0 | | 3521 | 3579 | | | | |
| N of obs G=1 | | 51288 | 47641 | % Δ | | | |
| Pr(Y!=0 G=0) | | 0.50582221 | 0.45012573 | 0.110 | | | |
| Pr(Y!=0 G=1) | | 0.61876072 | 0.60930711 | 0.015 | | | |
| Difference | | -0.11293851 | -0.15918138 | -0.409 | | | |
| Total | | | | | | | |
| Explained | | -0.03658716 | -0.0598288 | -0.635 | | | |
| homeown | | | | | | | |
| (pre) | | | | | | | |
| age | Coefficients | 0.0057008 | % of Diff Explained | Std. Err. | z | P> z | [95% Conf.] |
| male | | 0.0001327 | -0.0011750 | 0.0008714 | 0.15 | 0.879 | -0.0015752 0.001841 |
| single | | -0.0404168 | 0.3578655 | 0.0034413 | -11.7 | 0 | -0.0471616 -0.033672 |
| hours | | 0.0095268 | -0.0843539 | 0.0026913 | 3.54 | 0 | 0.0042519 0.014802 |
| faminc | | -0.0331215 | 0.2932702 | 0.0021863 | -15.2 | 0 | -0.0374065 -0.028837 |
| educ | | 0.0230958 | -0.2044989 | 0.0042390 | 5.45 | 0 | 0.0147876 0.031404 |
| class | | 0.0053401 | -0.0472833 | 0.0024251 | 2.2 | 0.028 | 0.000587 0.010093 |
| mlr | | -0.0120331 | 0.1065456 | 0.0026453 | -4.55 | 0 | -0.0172178 -0.006848 |
| msa | | 0.0058944 | -0.0521912 | 0.0024152 | 2.44 | 0.015 | 0.0011606 0.010628 |
| Total | | | | | | | |
| Explained | | -0.0365872 | 0.3239565 | | | | |
| homeown | | | | | | | |
| (post) | | | | | | | |
| age | Coefficients | 0.0014526 | % of Diff Explained | Std. Err. | z | P> z | [95% Conf.] |
| male | | 0.0006347 | -0.003987275 | 0.000829 | 0.77 | 0.444 | -0.0009891 0.002259 |
| single | | -0.0336737 | 0.211542958 | 0.003843 | -8.76 | 0 | -0.0412053 -0.026142 |
| hours | | 0.001681 | -0.01056028 | 0.001452 | 1.16 | 0.247 | -0.0011641 0.004526 |
| faminc | | -0.0375086 | 0.235634344 | 0.002588 | -14.5 | 0 | -0.0425814 -0.032436 |
| educ | | 0.006731 | -0.042285096 | 0.003448 | 1.95 | 0.051 | -0.0000268 0.013489 |
| class | | 0.0038626 | -0.024265401 | 0.002493 | 1.55 | 0.121 | -0.0010239 0.008749 |
| mlr | | -0.0042508 | 0.026704128 | 0.001705 | -2.49 | 0.013 | -0.0075929 -0.000909 |
| msa | | 0.0013848 | -0.00869951 | 0.003606 | 0.38 | 0.701 | -0.0056835 0.008453 |
| Total | | | | | | | |
| Explained | | -0.0598288 | 0.375853005 | | | | |

Table D2

| Asian | vs. | | | | | | |
|-----------------|------------|---------------------|------------------|------------------|----------|-----------------|--------------|
| White | | Pre | Post | | | | |
| Number of Obs | | 59154 | 55171 | | | | |
| N of obs G=0 | | 7866 | 7530 | | | | |
| N of obs G=1 | | 51288 | 47641 | %Δ | | | |
| Pr(Y!=0 G=0) | | 0.66564963 | 0.65179283 | 0.021 | | | |
| Pr(Y!=0 G=1) | | 0.61876072 | 0.60930711 | 0.015 | | | |
| Difference | | 0.04688891 | 0.04248572 | 0.094 | | | |
| Total Explained | | 0.02955566 | 0.02011762 | 0.319 | | | |
| homeown | | | % of Diff | | | [95% | |
| (pre) | | Coefficients | Explained | Std. Err. | z | P> z | Conf. |
| age | | 0.0047857 | 0.102064646 | 0.0005785 | 8.27 | 0 | 0.0036517 |
| male | | 0.001081 | 0.023054492 | 0.0004064 | 2.66 | 0.008 | 0.0002845 |
| single | | 0.0039666 | 0.084595697 | 0.0006324 | 6.27 | 0 | 0.0027271 |
| hours | | -0.0001506 | -0.003211847 | 0.0003592 | -0.42 | 0.675 | -0.0008546 |
| faminc | | 0.0061895 | 0.132003495 | 0.0008541 | 7.25 | 0 | 0.0045155 |
| educ | | 0.0174585 | 0.37233751 | 0.0031422 | 5.56 | 0 | 0.0112998 |
| class | | 0.0009376 | 0.0199962 | 0.000518 | 1.81 | 0.07 | -0.0000776 |
| mlr | | -0.0018098 | -0.038597613 | 0.0007053 | -2.57 | 0.01 | -0.0031921 |
| msa | | -0.003018 | -0.0643649 | 0.0007683 | -3.93 | 0 | -0.0045238 |
| Total Explained | | 0.02955566 | 0.630333697 | | | | -0.0015122 |
| homeown | | | % of Diff | | | [95% | |
| (post) | | Coefficients | Explained | Std. Err. | z | P> z | Conf. |
| age | | 0.0069024 | 0.162464 | 0.0005948 | 11.61 | 0 | 0.0057367 |
| male | | 0.0003995 | 0.009403159 | 0.0003226 | 1.24 | 0.216 | -0.0002328 |
| single | | 0.0045396 | 0.106850019 | 0.0008513 | 5.33 | 0 | 0.0028712 |
| hours | | -0.0000773 | -0.001819435 | 0.0002739 | -0.28 | 0.778 | -0.0006142 |
| faminc | | 0.0063254 | 0.148882966 | 0.0006526 | 9.69 | 0 | 0.0050462 |
| educ | | 0.0172514 | 0.406051727 | 0.0033417 | 5.16 | 0 | 0.0107017 |
| class | | 0.000293 | 0.006896435 | 0.0003837 | 0.76 | 0.445 | -0.000459 |
| mlr | | -0.0018126 | -0.042663747 | 0.0005317 | -3.41 | 0.001 | -0.0028548 |
| msa | | -0.0136632 | -0.321595115 | 0.0040362 | -3.39 | 0.001 | -0.021574 |
| Total Explained | | 0.02011762 | 0.473514866 | | | | -0.0057524 |

Table D3

| Latino | vs. | | | | | | |
|----------------|---------------------|------------------|------------------|----------|-----------------|--------------------|------------------|
| White | | Pre | Post | | | | |
| Number of | | | | | | | |
| Obs | | 52276 | 48664 | | | | |
| N of obs G=0 | | 988 | 1023 | | | | |
| N of obs G=1 | | 51288 | 47641 | %Δ | | | |
| Pr(Y!=0 G=0) | | 0.55769231 | 0.48484848 | 0.131 | | | |
| Pr(Y!=0 G=1) | | 0.61876072 | 0.60930711 | 0.015 | | | |
| Difference | | -0.06106842 | -0.12445862 | -1.038 | | | |
| Total | | | | | | | |
| Explained | | -0.09080038 | -0.07528803 | 0.171 | | | |
| homeown | | | | | | | |
| (pre) | Coefficients | % of Diff | | | | | |
| age | -0.0282417 | 0.462459975 | 0.003426 | -8.24 | 0 | -0.0349573 | -0.0215262 |
| male | 0.0022985 | -0.037638111 | 0.000942 | 2.44 | 0.015 | 0.0004532 | 0.0041438 |
| single | -0.0014593 | 0.023896148 | 0.000768 | -1.9 | 0.058 | -0.0029652 | 0.0000466 |
| hours | 0.0027617 | -0.045223047 | 0.00226 | 1.22 | 0.222 | -0.0016671 | 0.0071905 |
| faminc | -0.0486192 | 0.79614308 | 0.00447 | -10.9 | 0 | -0.0573807 | -0.0398577 |
| educ | -0.0177518 | 0.290687069 | 0.004963 | -3.58 | 0 | -0.0274794 | -0.0080243 |
| class | 0.0015119 | -0.024757477 | 0.002349 | 0.64 | 0.52 | -0.0030923 | 0.0061162 |
| mlr | -0.0017504 | 0.028662932 | 0.001883 | -0.93 | 0.353 | -0.0054412 | 0.0019405 |
| msa | 0.0000784 | -0.001283806 | 0.002334 | 0.03 | 0.973 | -0.0044963 | 0.0046532 |
| Total | | | | | | | |
| Explained | -0.09080038 | 1.486863096 | | | | | |
| homeown | | % of Diff | | | | | |
| (post) | Coefficients | Explained | Std. Err. | z | P> z | [95% Conf.] | Interval] |
| age | -0.0374586 | 0.300972323 | 0.005471 | -6.85 | 0 | -0.0481816 | -0.0267356 |
| male | 0.0003059 | -0.002457845 | 0.000573 | 0.53 | 0.593 | -0.0008163 | 0.0014281 |
| single | -0.0082584 | 0.066354584 | 0.00212 | -3.89 | 0 | -0.0124141 | -0.0041027 |
| hours | 0.0019355 | -0.015551354 | 0.001592 | 1.22 | 0.224 | -0.0011847 | 0.0050556 |
| faminc | -0.03184 | 0.255828001 | 0.004611 | -6.9 | 0 | -0.0408777 | -0.0228023 |
| educ | -0.0069908 | 0.056169673 | 0.006017 | -1.16 | 0.245 | -0.0187836 | 0.0048021 |
| class | 0.0010578 | -0.00849921 | 0.002359 | 0.45 | 0.654 | -0.0035647 | 0.0056803 |
| mlr | 3.28E-06 | -2.63541E-05 | 0.002884 | 0 | 0.999 | -0.0056495 | 0.005656 |
| msa | 0.0070818 | -0.05690084 | 0.002944 | 2.41 | 0.016 | 0.0013112 | 0.0128525 |
| Total | | | | | | | |
| Explained | -0.07528803 | 0.604924191 | | | | | |