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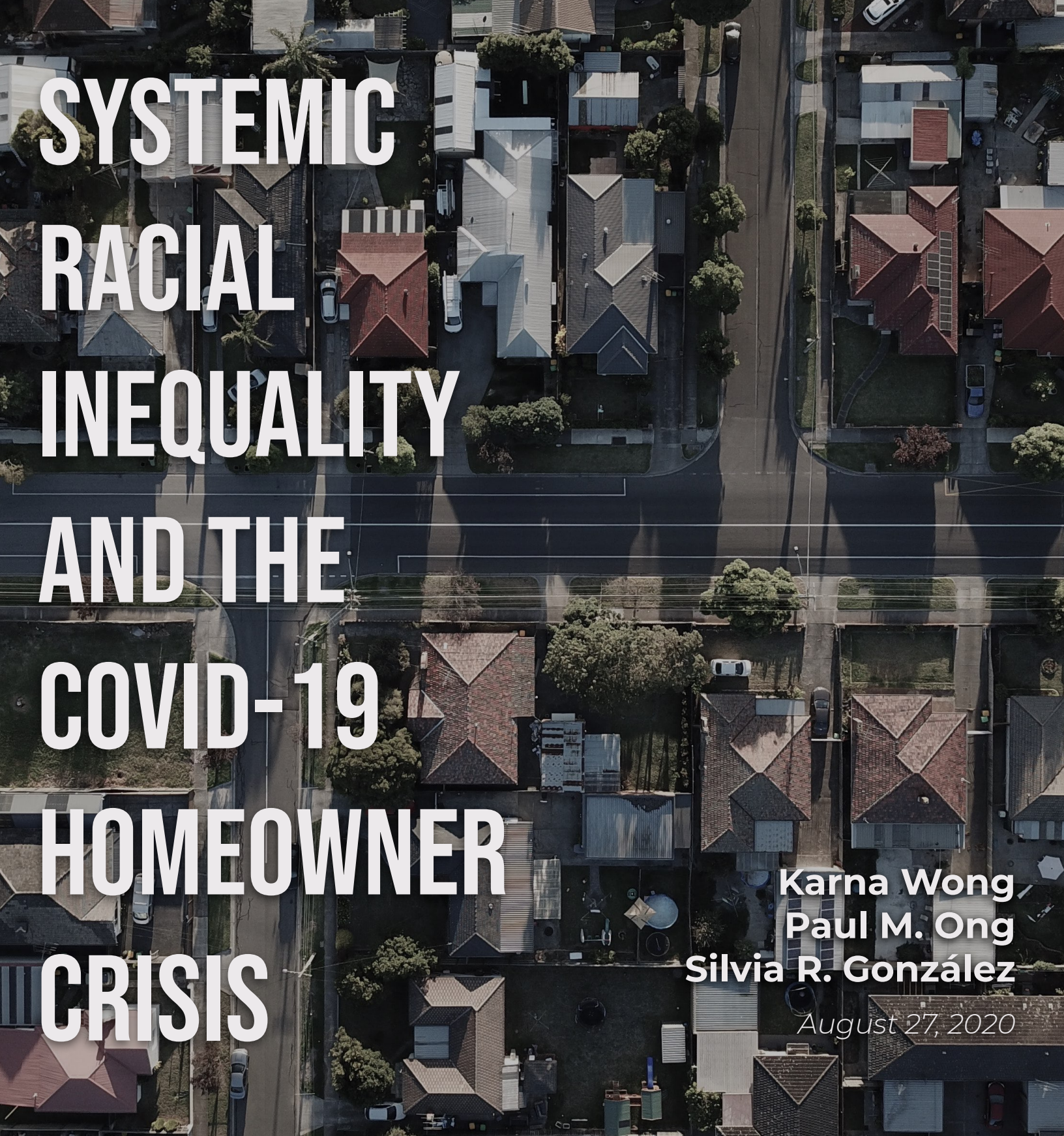
Ong, Paul

Wong, Karna

Gonzalez, Silvia R.

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SYSTEMIC RACIAL INEQUALITY AND THE COVID-19 HOMEOWNER CRISIS

Karna Wong
Paul M. Ong
Silvia R. González
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Center for Neighborhood Knowledge



Ziman Center for Real Estate



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EXECUTIVE SUMMARY

The nation is facing an unprecedented housing crisis as indicated by homeowners' inability to pay their mortgages. Not only has the global coronavirus (COVID-19) pandemic affected renters, U.S. homeowners are also showing signs of financial stress. This research is part of a series of COVID-19 Research Initiative policy briefs documenting the systemic racial inequalities of the pandemic.ⁱ This brief analyzes data from the U.S. Census Bureau's weekly Household Pulse Survey, collected between April and July 2020, to examine the magnitude, pattern, and causes of this housing crisis. We find that about 5 million or 8% of American homeowners were unable to pay their mortgage on time. In comparison, during the Great Recession, there were approximately 3.8 million foreclosuresⁱⁱ and early stage delinquent mortgages (for 30 to 59 days) peaked at 3%.ⁱⁱⁱ The current rising number of homeowners struggling to pay their mortgage is an ominous indication that this may lead to more foreclosures, housing instability, and homelessness.

There are huge racial disparities among those behind on their mortgage payments. Compared with non-Hispanic Whites, Blacks and Hispanics (or Latinx) had two to three times higher odds of experiencing housing hardships. This systematic inequality is produced by pre-existing income and educational inequalities and reinforced by the disparate impacts of COVID-19 on the labor market. Furthermore, how disadvantages are produced is unique to each ethnoracial minority group.^{iv} The diversity of outcomes is due to disparate ways that race is transmitted through a complex web of institutionalized and systemic inequalities. Government officials and regulators should lobby for mortgage relief programs, in addition to extending and expanding unemployment insurance (UI) benefits.

INTRODUCTION

There is a looming crisis in the housing market embedded in a once in a century disruption to the nation's people and economy. The spread of COVID-19 has created upheavals not seen since the 1918 Spanish flu pandemic. As of August 15, 2020, the nation reported over 5.3 million confirmed cases and over 168 thousand deaths.^v In addition to the direct health costs of illness and deaths, the indirect impacts on the economy are tremendous. To “flatten the curve” and prevent the number of new cases from overwhelming the healthcare system, public officials have taken dramatic actions to limit person-to-person interactions by restricting group gatherings, encouraging “social distancing,” and ordering people to “shelter-in-place” and wear masks. These direct and indirect disruptions are creating enormous financial hardships for workers, families, businesses and communities.

The magnitude of multiple economic impacts is evident in the recent dramatic job losses and increase in unemployment. In February 2020, there were approximately 130 million private employees nationwide^{vi} whereas, March and April 2020 had a combined total of about 22 million private sector job losses. The official unemployment rate was 3.5% in February 2020 and peaked to 14.7% in April 2020.^{vii} As of July 2020, the unemployment rate was 10.2%, and an estimated 16.3 million persons were unemployed.^{viii} However, these rates under report the labor-market impact because they do not include discouraged workers (665,000 as of July 2020),^{ix} who stopped looking for work. Furthermore, the projected numbers may grow, along with extended spells of joblessness. In comparison to the Great Recession (which began around 2007 and officially ended in 2009), the unemployment rate peaked at 10% in 2010.^x From 2007 to 2009, the U.S. economy lost over 8.7 million jobs.^{xi}

Recent federal policies to assist workers and small businesses temporarily provided financial assistance. The supplemental UI benefits expired on July 31, 2020, which were allocated from the \$2 trillion Coronavirus Aid, Relief, and Economic Security, or CARES Act of March 17, 2020. The CARES Act also included the Paycheck Protection Program (PPP), which offered loans to small businesses to retain employees; however, this program was terminated on August 8, 2020.^{xii} In July and August 2020, federal legislators debated over different proposals to extend the supplemental UI benefits. On August 8, 2020, Trump's executive order reduced the amount of UI from \$600 to \$400 but also offered a form of payroll tax relief.^{xiii}

The pandemic crisis is far from over. The health impacts will stretch out for at least several more months and the economic impacts for several years. The University of Washington and John Hopkins University predict a second wave of infections before fall.^{xiv} The UCLA Anderson Forecast predicts that it will take up to three years for the

economy to fully recover, with hospitality and other low-wage service sectors being among the slowest to come back.^{xv} Most forecasts predict a very slow and protracted economic recovery, lasting a year or two.^{xvi}

One of the downstream impacts is a hindering of homeowners' ability to keep up with monthly mortgage payments. Loss of employment income means that many are struggling to pay for housing and basic necessities. Nationwide, there was a drop in foreclosures towards the end of March 2020^{xvii}, and this may be due to some recent policy and legal interventions. Under the CARES Act, single-family homeowners with federally-backed mortgages,^{xviii} could receive mortgage assistance by avoiding foreclosure or opting for forbearance. If a homeowner was unable to make payments according to the mortgage contract, this property could foreclose and the lender could seize (take ownership of) the property. For Federal Housing Administration (FHA) properties, an eviction and foreclosure moratorium went into effect on March 18, 2020 and was extended until August 31, 2020.^{xix} Forbearance is when a mortgage servicer or lender allows borrowers to pause (suspend) or reduce their mortgage payments, for a limited period of time. Borrowers are still required to repay any missed or reduced payments in the future, but some lenders permit repayment over time.

Although privately held loans are not eligible for forbearance relief under the CARES Act, other mortgage servicers also have assistance programs. According to the National Consumer Law Center, 31 states and the District of Columbia (D.C.) passed legislation or court orders to either defer or place a moratorium on evictions and/or foreclosures as of July 8, 2020.^{xx} This includes 18 states that have judicial foreclosures (when foreclosure proceedings are through the courts) and 13 states and D.C. that have non-judicial foreclosures.^{xxi} These executive declarations and court orders provide important financial relief to homeowners; however, some of these emergency proclamations are narrow in scope.^{xxii}

During the Great Recession and subsequent years, there was a lag in the spike of foreclosure rates. Between 2007 and 2010, there were approximately 3.8 million foreclosures.^{xxiii} In 2011, the number of foreclosures peaked at about 1.6 million and the unemployment rate, at the time, was 9%.^{xxiv} Mortgage delinquency rates also indicate financial strain for homeowners. December 2013 was the peak of mortgage delinquency rates.^{xxv} Nearly 3% of mortgages were 30 to 59 days past due and over 5% were 90 days past due and in foreclosure.^{xxvi} This research determined that about 5 million or about 8% of homeowners were unable to pay their mortgage payment between March and July 2020; this alarmingly high number foreshadows another housing crisis.

SYSTEMIC RACIAL INEQUALITY

Although the pandemic and the accompanying economic disruption have affected all segments of society, previous studies have documented that the burdens and costs have been very unequally distributed. For instance, a series of reports from existing analyses, including those from UCLA's Center for Neighborhood Knowledge, found that low-income and communities of color are more likely to be among those most hurt by the pandemic.^{xxvii} They suffer disproportionately from job losses and encounter multiple barriers to financial assistance to weather the downturn. Moreover, they are most likely to be among the last to be rehired during the slow and protracted economic recovery. In turn, the disproportionate burden translates into a higher chance of homeowners not having the means to pay their mortgage. These systematic racial or ethn racial disparities are the product of systemic inequality, a product of a complex web of factors and processes.^{xxviii}

Photo by Maximillian Conacher, 2017


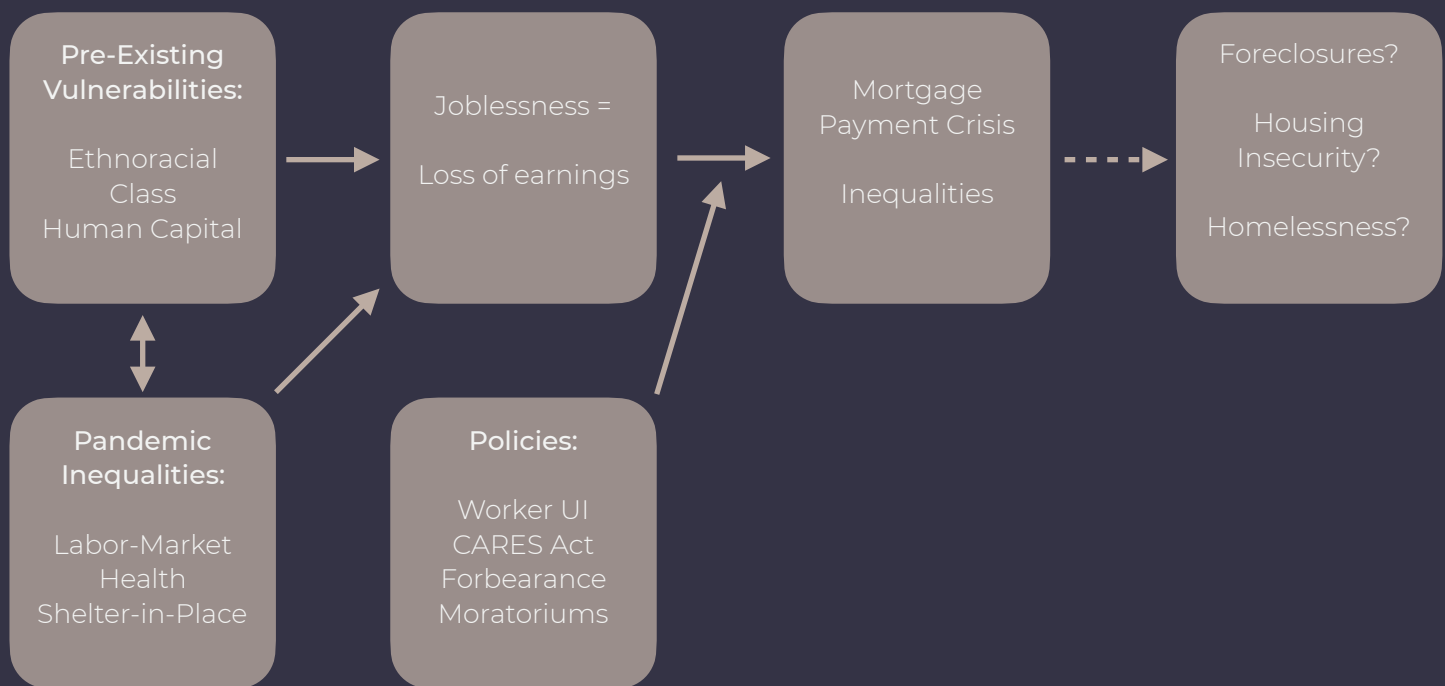
An aerial photograph of a suburban residential neighborhood. The houses are mostly two-story structures with red-tiled roofs. There are many trees and green spaces between the houses. Some houses have swimming pools. The streets are paved and have some parked cars. The overall scene is a typical suburban residential area.

Figure 1 below illustrates the major elements of the conceptual causal paths (the system is more complex, but the diagram is sufficient for this brief). There are two main clusters of factors. The first is comprised of pre-existing vulnerabilities defined by race, class, and human capital. People of color, low-income individuals, and those with less educational attainment and skills are most at risk from exogenous shocks.^{xxix} The second cluster is comprised of inherent pandemic inequalities. For example, some industries have been more disrupted by shelter-in-place mandates because the services are non-essential and work cannot be done remotely. These two clusters of factors interact to produce systematic differences in who is hurt by job and earnings losses. Further downstream, the employment impacts make it difficult or impossible for affected homeowners to pay the mortgage. Policies can play important and potentially independent roles in mediating these dynamics, such as providing workers unemployment insurance (UI) or eviction or foreclosure moratoriums or forbearance. These policies, however, also have inherent biases dividing the population into those eligible and ineligible for benefits.^{xxx} It is the interaction of these endemic and embedded processes that cause and exacerbate systemic inequality during the COVID-19 crisis.

Figure 1: Causal Paths of Systemic Inequality in Homeownership



It is important to note that pre-existing racial disparities in class (both income and wealth) and educational attainment are the products of generations of racial discrimination in the public and private sectors.^{xxxii} Equally important, the way inequality is produced and reproduced can vary across ethnoracial minority groups. The rest of this research brief provides empirical insights into how racial inequality is generated in the housing crisis.

DATA & METHODOLOGY

The analysis relies on the U.S. Census Bureau's weekly Household Pulse Survey (HPS), a multi-agency collaboration to collect information on the social and economic effects of COVID-19 on Americans.^{xxxii} As a rapid response demonstration project, HPS is part of the Experimental Data Product series. It has a short-life span (from late April to late July 2020) with a short questionnaire, but it contains valuable information pertinent to the pandemic crisis. The survey covers disruptions to employment, spending patterns, food security, housing, health, and education, and interviews approximately 42,000 to 105,000 households on a weekly basis. The Bureau published statistics for the nation, all states and the 50 largest metropolitan areas. Unfortunately, cross tabulations by race and income are only available at the national level, and there are no tabulations across subject areas (e.g., no information on how employment problems affect ability to pay housing costs).

To fill this information gap, we analyze the Household Pulse Survey Public Use File (PUF), a microdata file containing individual responses. We pooled 12 weeks of data for the nation (April 23 to July 21, 2020), which produces a sample of 719,387 homeowners. This number of observations enables us to produce customized tabulations and conduct multivariate analyses to estimate how class (income), educational attainment, and income loss affect homeowner's mortgage payment status by race. The questionnaire is available in both English and Spanish, but not in any Asian language. The latter limitation probably means that limited-English-language Asian immigrants are underrepresented in the sample. Since these individuals tend to be low-income and less educated, the statistics on Asians may be upwardly biased towards the more advantaged segment.

For the purpose of this analysis, we use the following mutually exclusive racial categories for the 719,387 homeowners: non-Hispanic Whites (NH Whites, n=584,534), Blacks regardless of Hispanic origins (n=37,436), Asians regardless of Hispanic origins (n=31,335), and Hispanics of any race (n=44,918). In the Household Pulse Survey PUF, Blacks and Hispanics are underrepresented (4% and 6% of all homeowner respondents, respectively), compared to the distribution of the total population and households.^{xxxiii} However, the person weights provided by Census Bureau seems to adequately adjust for this bias (10.5% of weighted respondents). We converted those weights into a household weight by dividing the person weights by the number of adults in the household. Then, we ran multivariate logistic regression models with dichotomous outcomes (unable or able to pay their mortgage) to estimate the independent effects of race, after controlling for pre-pandemic vulnerabilities and COVID-19 employment effects.^{xxxiv}

OVERALL PATTERNS OF HOMEOWNER HARDSHIP

Figure 2 reports the weekly percent of homeowners unable to pay their mortgage (this included those that did not pay or deferred payment)^{xxxv}, and the fluctuations appear to vary with regional economic conditions. From April 23, 2020 to the beginning of June (Weeks 1-6), between 7% to 7.7% of homeowners were unable to pay their mortgage. There's a slight decrease in mid-June, Weeks 7 and 8, when there was a partial reopening of the economy. Then, toward the end of June into July (Weeks 9-12), the percentage of homeowners unable to pay exceeded 8%.

Figure 2: Homeowners unable to pay mortgage during COVID-19



During the pandemic, the percentage of homeowners who were unable to pay their mortgage is about 8% (see **Figure 3**)^{xxxvi}. The percentage of homeowners who had a loss of earnings and were unable to pay their mortgage was more than four times higher (14%) than those without a loss of earnings (3%). The gap may be an underestimate because some of the dislocated workers may have been receiving UI benefits, which often completely replace lost income for low-wage workers who are not excluded from the program.^{xxxvii}

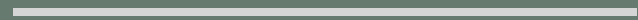


Figure 3: Homeowners unable to pay mortgage by earnings loss

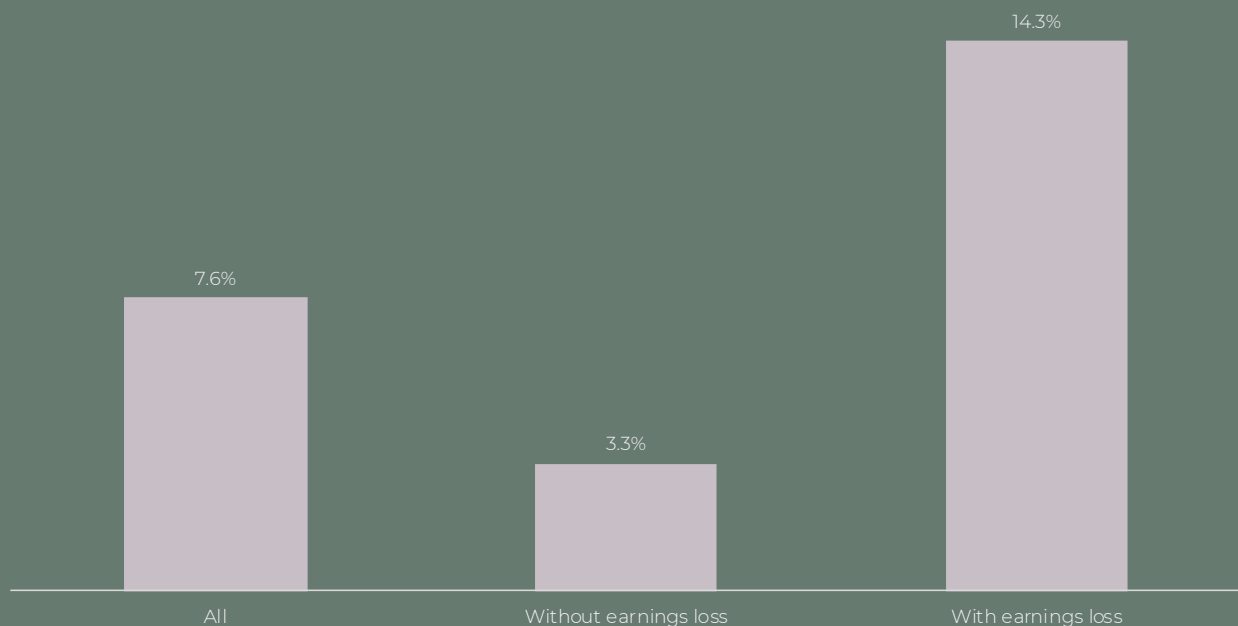
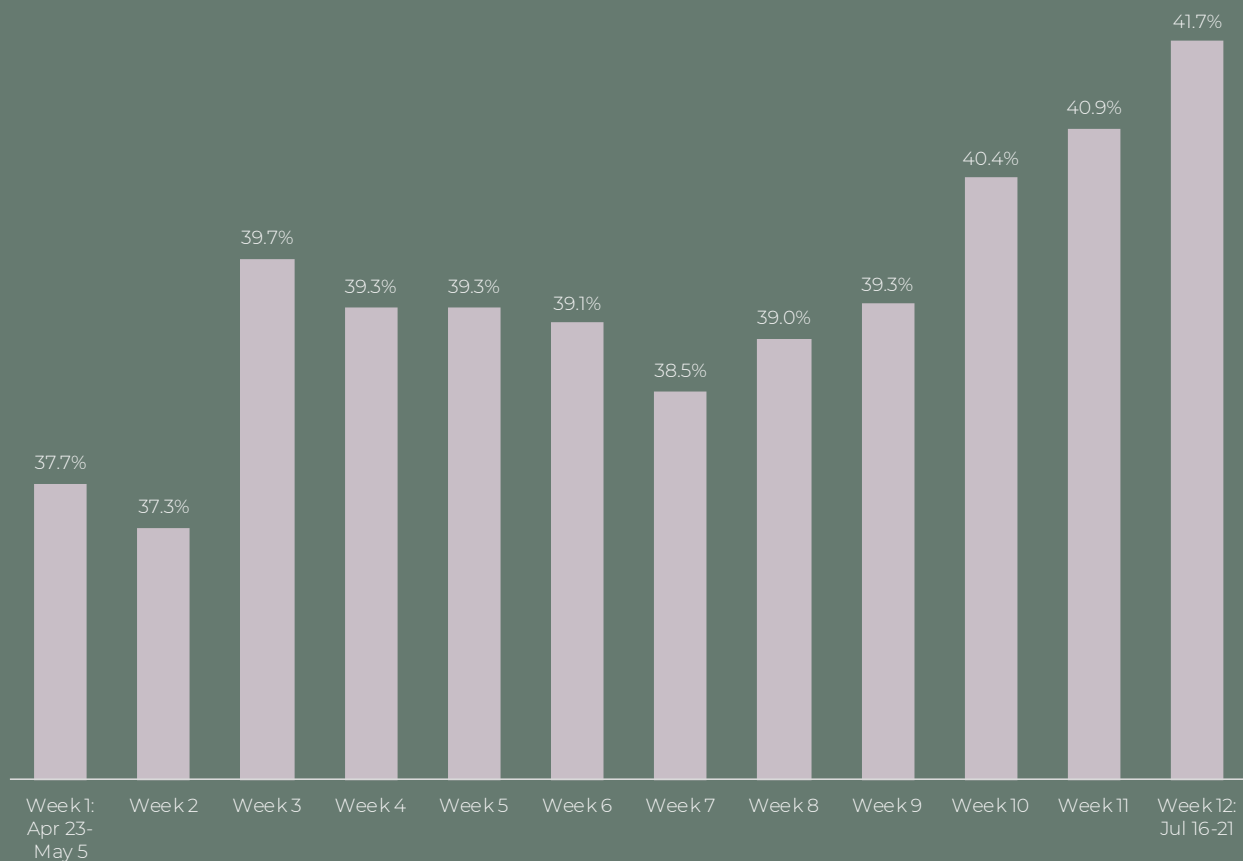


Figure 4 reports the weekly percent of homeowners with earnings loss who were unable to pay their mortgage. From April 23, 2020 to the beginning of June (Weeks 1-6), between 38% to 40% of homeowners with earnings loss were unable to pay their mortgage. There's a slight decrease in mid-June, Week 7. By July (Week 12), the percentage of homeowners with earnings loss that were unable to pay rose to nearly 42%.

Figure 4: Homeowners with earnings loss unable to pay their mortgage by week



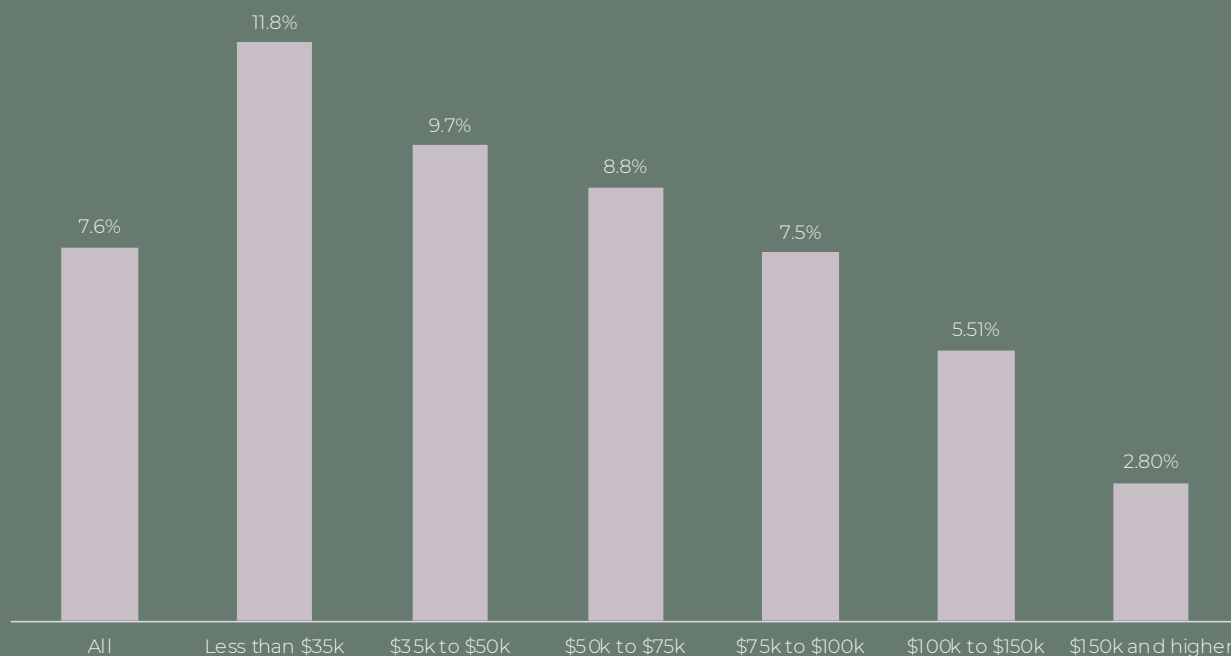
There are systematic racial differences in homeowners' ability to pay their mortgage (see **Figure 5**). We, again, use the following mutually exclusive racial categories for the 44,992 homeowners who were unable to pay their mortgage: non-Hispanic Whites (NH Whites, n=29,807), Blacks regardless of Hispanic origins (n=5,805), Asians regardless of Hispanic origins (n=2,223), and Hispanics of any race (n=5,074). About 6% of non-Hispanic White (NH Whites) homeowners were unable pay their mortgage. Compared to NH Whites, the rate was more than twice for Blacks (16%) and Hispanic (12%) homeowners, who could not pay their mortgage. Similar to NH Whites, an estimated 8% of Asians were unable to pay their mortgage. As mentioned previously, the statistics for Asians may be biased because of linguistic barriers to completing the survey.

Figure 5: Homeowners unable to pay mortgage by ethnoracial group



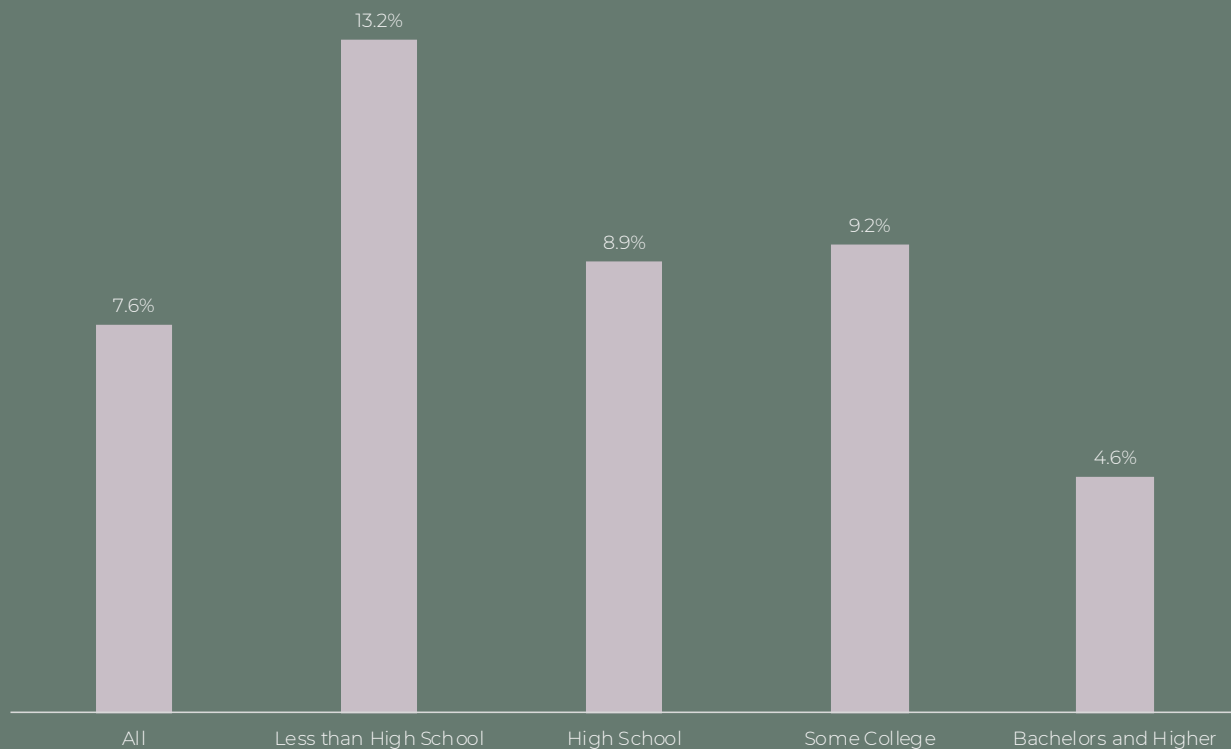
There are also systematic disparities by income, as shown in **Figure 6**. Low-income households, who were unable to pay their mortgage, had rates four times higher compared to the high-income households. About 12% of low-income households, earning less than \$35,000 in annual income, were unable to pay their mortgage. However, only about 3% of affluent households, earning \$150,000 or more annually, were unable to pay their mortgage. This is due to both differences in job security as well as financial resources (e.g., savings, other assets, and access to credit).

Figure 6: Homeowners unable to pay mortgage by income group



Similarly, the data reveal a systematic difference by educational attainment. For instance, **Figure 7** shows a gap of about nine percentage points between those with the least and most schooling. While education and income are correlated, they capture different things. More schooling translates to higher earnings (on average), but also enables the individual to better access assistance and resources from mainstream institutions and public agencies during a crisis.

Figure 7: Homeowners unable to pay mortgage by educational attainment



THE ROLE OF RACE

The bivariate analysis clearly shows significant racial differences, and this section unpacks the paths and factors that contribute to the inequality. Race is not only correlated with the inability to pay for housing but is also associated with the other pre-pandemic and COVID-19 factors. NH Whites are at one end of the two scales and Hispanics at the other end. Blacks are closer to Hispanics, while Asian are closer to NH Whites. Again, one should be cautious in using the statistics for Asian because of the potential biases in the sample.

Photo by Blake Wheeler, 2017

An aerial photograph of a suburban neighborhood. The image shows a grid of streets with several houses, each with a grey roof and a dark blue or black front porch. The houses are surrounded by green lawns and some trees. A yellow car is parked on the street in the upper middle section. The overall scene is a typical suburban residential area.

Table 1 provides additional information on the racial variations in pre-pandemic socioeconomic status and in COVID-19 income impacts.

1. Before the pandemic, the percentage of NH Whites that was very low income (earning less than \$35,000) was 11%. Only 9% of Asians were very low income. In comparison, the percentages of very low income Blacks and Hispanics were 20% and 18%, respectively. The percentage of NH Whites that was low income (earning between \$35,000 to less than \$50,000) was 9%. Only 7% of Asians were very low income. Whereas, the percentages of low income Blacks and Hispanics were 13% and 12%, respectively.
2. About 11% of NH Whites had no college education prior to the pandemic. Asians had a lower percentage at 7%. In comparison, nearly 13% of Blacks and 20% of Hispanics had no college education.
3. From March to July 2020, 35% of NH Whites lost earnings. More Asians, Blacks, and Hispanics lost earnings, and the percentages ranged from 39% to 47%.

There were ethnoracial disparities before the pandemic. Blacks and Latinx had less income and educational attainment, compared to NH Whites and Asians. In other words, they entered the pandemic with fewer financial and human capital resources. Blacks and Latinx were also more likely to suffer an earnings loss (nearly 44% and 47%, respectively). Although Asians had higher incomes and educational attainment rates, they were more likely to suffer from earnings loss (39%), compared to NH Whites (35%). Note: while the proportions for NH Whites and Blacks are similar, the survey does not report the absolute nor relative size of the losses.

Table 1: Percent with pre-pandemic disadvantages and pandemic earnings loss by ethnorace

Household Income in 2019	NH White	Asian	Black	Hispanic
Less Than \$35k	11.2%	9.4%	20.3%	18.4%
\$35k to Less Than \$50k	8.8%	7.2%	12.5%	11.8%
No College Education	10.5%	6.7%	12.5%	19.6%
With Earnings Loss	34.5%	38.7%	44.0%	46.9%

Table 2 reports the percent of homeowners who were unable to pay their mortgage by race, class (income), educational attainment, and earnings loss during COVID-19.

1. The non-payment rate was an estimated 20% for higher income NH Whites (with an annual income of \$50,000 or higher) and an estimated 17% for lower income NH Whites (with an annual income of less than \$50,000). Higher income and lower income Asians, Blacks, and Hispanics all had higher rates of non-payment than NH White, ranging from 28% to 52%.
2. About 11% of college-educated NH Whites did not pay their mortgages; and 17% of NH Whites without a college education did not make their payments. All three ethnoracial groups, Asians, Blacks, and Hispanics with high and low educational attainment had higher rates of non-payment than NH Whites, ranging from 15% to 35%.
3. Only 3% of NH Whites who did not lose earnings, from March to July 2020, did not pay their mortgage. Asians, Blacks, and Hispanics who did not lose earnings, had higher rates of missing their mortgage payment. These ranged from about 3% to 9%. Nearly 12% of NH Whites who lost earnings also missed their mortgage payment. Asians, Blacks, and Hispanics who lost earnings, had higher rates of missing mortgage payments, which ranged from about 15% to 23%.

Regardless of income or educational attainment, Asians, Blacks, and Latinx were more likely to have a mortgage non-payment problem than NH Whites. The pattern indicates that racial inequality is not due simply to class differences. Ethnoracial minorities were also more likely to suffer a loss of earnings since March 2020. Thus, we see the compounding effects of financial inequality for these ethnoracial populations, before and during the pandemic.

Table 2: Percent unable to pay mortgage by ethnorace during COVID-19

	NH White	Asian	Black	Hispanic
Household Income in 2019				
\$50,000 and higher	19.7%	29.5%	52.3%	39.5%
Less than \$50,000	16.6%	27.7%	37.4%	29.2%
Educational Attainment				
At least some college	11.0%	14.5%	29.5%	20.7%
No college	16.8%	34.5%	34.9%	28.4%
Earnings Loss Since March 2020				
No	2.5%	3.3%	9.4%	5.2%
Yes	11.8%	15.4%	23.4%	18.8%

We also determined the odds ratio, which represents how much more likely that a minority group is to have an issue with paying their mortgage during COVID-19. A value of 1 means the ethnoracial minority group and NH Whites are the same, a value greater than 1 means the minority group has a higher likelihood, and a value less than 1 means a lower likelihood.^{xxviii} With no adjustments, Hispanics were twice as likely to miss their mortgage payment, and Blacks were nearly three times as likely to be unable to pay, compared to NH Whites. The pre-pandemic factors and pandemic labor-market impacts lower the odds-ratio. But race impacts the results even when accounting for these other factors. In other words, all ethnoracial minority groups still had a higher rates of mortgage nonpayment issues, compared to NH Whites.

Photo by Calvin Ma, 2019



CONCLUSION & RECOMMENDATIONS

The empirical analyses reveal significant ethnoracial differences in relative numbers of households experiencing difficulties in paying their monthly mortgage, with Blacks and Hispanics being the most adversely affected. The findings show that pre-pandemic inequalities and pandemic labor-market hardships feed and amplify systematic racial disparities. Moreover, the results highlight the complexity and diversity of the reproduction of socioeconomic stratification among groups. For example, the Household Pulse Survey data also proved differences among age groups. A higher percentage of younger (and presumably newer) homeowners were unable to pay their mortgage during the pandemic (about 10-11%). Whereas, persons over age 56 had lower rates of mortgage non-payment, ranging between 3% to 7%.

A major fear is that the large number of households behind on their mortgages will lead to mass foreclosures. Some government officials, courts, and mortgage lenders have made accommodations for struggling homeowners through moratoriums, forbearance, modification, or refinancing policies and programs. Renters have temporary protections but they may expire in August 2020, unless extended.^{xxxix} These policies, however, only delay what others are calling a “tsunami” housing displacement. When these policies sunset, workers will have amassed a huge debt of deferred rents or mortgages. Many will struggle to find meaningful employment in a protracted and uneven economic recovery. It is very likely that race will shape who will be most hurt.

It is critical for elected officials to act now to address the looming housing crisis. On the short run, they must extend temporary protections until we reach full economic recovery. They should also renew enhanced UI benefits at a level that enables jobless persons to weather financial hardships. This includes expanding UI benefits eligibility so it covers those currently outside the system. On the long run, the elected officials should develop programs that provide mortgage relief or assistance.

Finally, government must directly address the systemic racial inequality in the housing crisis. The documented dynamics provide insights into the connection between past injustices, contemporaneous employment disruptions and today’s COVID-19 housing crisis. It is evidence of institutionalized and systemic racism during the pandemic. The unfortunate reality is public resources are limited and programs are imperfectly implemented. These realities translate into disparities of who receives help. Without conscious and explicit equity mechanisms, the least disadvantaged will disproportionately benefit, while the most disadvantaged will be left behind. This public reproduction of racial inequality is unacceptable.

ENDNOTES

Photo credit (cover page): Photo by Tom Rumble, 2018

ⁱ See <https://knowledge.luskin.ucla.edu/news/>

ⁱⁱ Data from the Federal Reserve Bank of New York Consumer Credit Panel/Equifax (CCP) and statistics from RealtyTrac (as cited in <http://blog.credit.com/2015/04/boomerang-buyers-is-there-homeownership-after-foreclosure-114803/>). Data included from 2007 to 2010 because of the high incidence of foreclosures in 2010. The Great Recession officially ended in 2009 according to the National Bureau of Economic Research. Source: Dharmasankar, Sharada and Bhash Mazumder. "Have Borrowers Recovered from Foreclosures during the Great Recession?" Chicago Fed Letter, No. 370, 2016. Retrieved from: <https://www.chicagofed.org/publications/chicago-fed-letter/2016/370#ftn1>

ⁱⁱⁱ Data from 2013 because delinquent mortgages (for 30 to 59 days) peaked during this year. CoreLogic. March 2017. United States Residential Foreclosure Crisis: Ten Years Later. Retrieved from:

<https://www.corelogic.com/research/foreclosure-report/national-foreclosure-report-10-year.pdf>

^{iv} We use these terms, racial, ethnic, and ethnoracial, interchangeably. Asians and Hispanics are considered racialized groups, but they are also ethnic groups. We also use the terms, Hispanics and Latinx, interchangeably.

^v *The New York Times*. August 15, 2020. Coronavirus in the U.S.: Latest Map and Case Count. Retrieved from: <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>

^{vi} This includes all private employees, seasonally adjusted data. Sources: Bureau of Labor Statistics. Current Employment Statistics (CES). Retrieved from: <https://www.bls.gov/ces/tables/peak-trough.htm> and <https://www.bls.gov/web/empsit/ceseesummary.htm>

^{vii} Bureau of Labor Statistics. August 7, 2020. National Conference of State Legislatures. National Employment Monthly Update. Retrieved from:

<https://www.ncsl.org/research/labor-and-employment/national-employment-monthly-update.aspx>

^{viii} Bureau of Labor Statistics. U.S. Department of Labor. News Release. August 7, 2020. The Employment Situation - July 2020. Retrieved from: <https://www.bls.gov/news.release/pdf/empsit.pdf>

^{ix} Discouraged workers are persons not in the labor force, who looked for a job (sometime in the prior 12 months but had not looked for work in the 4 weeks preceding the survey) and believe that no jobs are available for them. Bureau of Labor Statistics. U.S. Department of Labor. News Release. August 7, 2020. The Employment Situation - July 2020. Retrieved from: <https://www.bls.gov/news.release/pdf/empsit.pdf>

^x CoreLogic. March 2018. Retrieved from:

<https://www.corelogic.com/downloadable-docs/corelogic-peak-totrough-final-030118.pdf>

^{xi} CoreLogic. March 2018. Retrieved from:

<https://www.corelogic.com/downloadable-docs/corelogic-peak-totrough-final-030118.pdf>

^{xii} On March 27, 2020, the U.S. federal government signed the CARES Act, coronavirus relief bill. This bill included the Paycheck Protection Program (PPP), which offered a loan to assist small businesses to keep their workers on the payroll. The loans could be forgiven loans if the funds are used for eligible expenses and all employee retention criteria are met. According to the U.S. Small Business Administration (SBA), the PPP closed as of August 8, 2020, and SBA is no longer accepting applications. Retrieved from:

<https://www.sba.gov/funding-programs/loans/coronavirus-relief-options/paycheck-protection-program>

^{xiii} The CARES Act provided \$600 in enhanced weekly unemployment benefits from April 5, 2020 to July 31, 2020. As of August 8, 2020, Trump signed executive actions to provide \$400 in weekly unemployment aid for millions of Americans (and 25 percent of this money would be paid by states). Trump also plans to defer or terminate payroll tax payments from September through December 2020 for people who earn less than \$100,000. This order did not reinstate the federal eviction moratorium. Source: Stein, Jeff, Erica Werner and Renae Merle. August 8, 2020. "Trump attempts to wrest tax and spending powers from Congress with new executive actions." The Washington Post. Retrieved from:

<https://www.washingtonpost.com/business/2020/08/08/trump-executive-order-coronavirus/>

^{xiv} University of Washington. The Institute for Health Metrics and Evaluation (IHME). Updated August 6, 2020. Retrieved from: <https://covid19.healthdata.org/> and Lockerd Maragakis, Lisa. Updated Aug. 14, 2020. John Hopkins University. Retrieved from:

<https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/first-and-second-waves-of-coronavirus>

^{xv} Shulman, David. June 2020. "The Post-COVID Economy," UCLA Anderson Forecast. https://www.anderson.ucla.edu/documents/areas/ctr/forecast/reports/uclaforecast_June2020_Shulman.pdf

^{xvi} Shulman, David. June 2020. "The Post-COVID Economy," UCLA Anderson Forecast. https://www.anderson.ucla.edu/documents/areas/ctr/forecast/reports/uclaforecast_June2020_Shulman.pdf

^{xvii} As of July 2020, there was 278,646 properties nationwide in some stage of foreclosure (default, auction, or bank owned). Since January 2020, the foreclosure activity exceeded 40,000 per month. Then, after March 20, 2020 to July 20, 2020, the foreclosures dropped to less than 20,000 per month. RealtyTrac. July 2020. U.S. Real Estate Statistics & Foreclosure Trends Summary. Retrieved from: <https://www.realtytrac.com/statsandtrends/> and <https://www.realtytrac.com/statsandtrends/foreclosuretrends/>

^{xviii} Federally-backed mortgages or Government Sponsored Enterprise (GSE) backed mortgages include mortgages from Federal Housing Administration (FHA), U.S. Department of Veterans Affairs (VA), U.S. Department of Agriculture (USDA), Fannie Mae, and Freddie Mac. Retrieved from: <https://www.usa.gov/foreclosure>

^{xix} USA GOV. Office website of the United States government. Updated July 9, 2020. Retrieved from: <https://www.usa.gov/foreclosure>

^{xx} The federal regulation under the Real Estate Settlement Procedures Act prohibits most mortgage servicers from taking the first step to initiate a judicial or non-judicial foreclosure under any state law until at least 120 days have passed since the borrower became delinquent. 12 C.F.R. § 1024.41(f)(1). National Consumer Law Center. July 8, 2020. Covid-19 State Foreclosure Moratoriums and Stays. State Covid-19 related housing actions. Retrieved from: <https://www.nclc.org/issues/foreclosures-and-mortgages/covid-19-state-foreclosure-moratoriums-and-stays.html>

^{xxi} National Consumer Law Center. July 8, 2020. Covid-19 State Foreclosure Moratoriums and Stays. State Covid-19 related housing actions. Retrieved from: <https://www.nclc.org/issues/foreclosures-and-mortgages/covid-19-state-foreclosure-moratoriums-and-stays.html>

^{xxii} National Consumer Law Center. July 8, 2020. Covid-19 State Foreclosure Moratoriums and Stays. State Covid-19 related housing actions. Retrieved from: <https://www.nclc.org/issues/foreclosures-and-mortgages/covid-19-state-foreclosure-moratoriums-and-stays.html>

^{xxiii} Data from the Federal Reserve Bank of New York Consumer Credit Panel/Equifax (CCP) and statistics from RealtyTrac (as cited in <http://blog.credit.com/2015/04/boomerang-buyers->

is-there-homeownership-after-foreclosure-114803/). Data included from 2010 because of the high incidence of foreclosures. The “Great Recession” officially ended in 2009 according to the National Bureau of Economic Research. Source: Dharmasankar, Sharada and Bhash Mazumder. “Have Borrowers Recovered from Foreclosures during the Great Recession?” Chicago Fed Letter, No. 370, 2016. Retrieved from: <https://www.chicagofed.org/publications/chicago-fed-letter/2016/370#ftn1>

^{xxiv} CoreLogic. March 2017. United States Residential Foreclosure Crisis: Ten Years Later. Retrieved from: <https://www.corelogic.com/research/foreclosure-report/national-foreclosure-report-10-year.pdf>

^{xxv} CoreLogic. March 2017. United States Residential Foreclosure Crisis: Ten Years Later. Retrieved from: <https://www.corelogic.com/research/foreclosure-report/national-foreclosure-report-10-year.pdf>

^{xxvi} CoreLogic. March 2017. United States Residential Foreclosure Crisis: Ten Years Later. Retrieved from: <https://www.corelogic.com/research/foreclosure-report/national-foreclosure-report-10-year.pdf>

^{xxvii} See for example, Ong, Paul M.; Pech, Chhandara; Gonzalez, Silvia R.; Diaz, Sonja; Ong, Jonathan; Ong, Elena; Aguilar, Julie. June 11, 2020. “Jobless During A Global Pandemic: The Disparate Impact of COVID-19 on Workers of Color in the World’s Fifth Largest Economy,” Technical Report, UCLA Latino Policy & Politics Initiative and Center for Neighborhood Knowledge.

^{xxviii} Ong, P. M., & Gonzalez, S. R. (2019). *Uneven Urbanscape: Spatial Structures and Ethnoracial Inequality*. Cambridge University Press.

^{xxix} There are other factors, but they are beyond the scope of this brief.

^{xxx} See for example, Ong, Paul M; Pech, Chhandara; Gonzalez, Silvia R; Diaz, Sonja; Ong, Jonathan; Ong, Elena. April 14, 2020. “Left Behind During a Global Pandemic: An Analysis of Los Angeles County Neighborhoods at Risk of Not Receiving Individual Stimulus Rebates Under the CARES Act,” Technical Report, UCLA Latino Policy & Politics Initiative and Center for Neighborhood Knowledge.

^{xxxi} See for example, De La Cruz-Viesca, Melany, Paul M. Ong, Andre Comandon, William A. Darity, and Darrick Hamilton (2018). “Fifty Years After the Kerner Commission Report: Place, Housing, and Racial Wealth Inequality in Los Angeles.” RSF: The Russell Sage Foundation. *Journal of the Social Sciences* 4, no. 6 (2018): 160-184.

^{xxxii} U.S. Census Bureau, “Measuring Household Experiences during the Coronavirus (COVID-19) Pandemic,” <https://www.census.gov/householdpulsedata>

^{xxxiii} The total population (in 2019) and householders of owner occupied units (in 2018) had similar proportions of the racial and ethnic groups of White (not Hispanic or Latino), Asian (one race), Black or African American (one race), and Hispanic or Latino origin (any race). Sources: U.S. Census Quick Facts, <https://www.census.gov/quickfacts/fact/table/US/PST045219> and U.S. Census 2018 ACS 1-Year Estimates Subject Tables, <https://data.census.gov/cedsci/table?q=Housing&tid=ACST1Y2018.S2502&hidePreview=false>

^{xxxiv} The multivariate logistic regression model estimated the probability of a household experiencing difficulties paying their mortgage (MORT, with 1 equal not paying), RACE is a vector of respondent race, PRE is a vector comprised of household annual income in 2019 and respondent’s educational attainment, COVID is a vector of the economic impacts of the household losing any earnings income since March 2020. The formula is : $MORT(i) = g(RACE(i) , PRE(i), COVID(i) \text{ for } i = 1...n \text{ household.}$

xxxv This is based on the survey question “Did you pay your last month’s rent or mortgage on time?” (Answer responses included “yes,” “no,” and “payment was deferred”). The responses are highly correlated with the subsequent question that asked about the homeowner’s confidence in ability to pay the rent or mortgage in the next month. This implies that non-payment is largely due to an inability to pay. Source: https://www2.census.gov/programs-surveys/demo/technical-documentation/hhp/2020_COVID-19_Household_Pulse_Survey-Week-6_English.pdf

xxxvi This is a conservative estimate because some respondents did not answer the survey question.

xxxvii Ganong, P., Noel, P. J., & Vavra, J. S. (2020). *US Unemployment Insurance Replacement Rates During the Pandemic* (No. w27216). National Bureau of Economic Research.

xxxviii All of the reported ratios are statistically significant at $p < .0001$.

xxxix Ong, Paul M.; Pech, Chhandara; Ong, Elena; Gonzalez, Silvia R.; Ong, Jonathan. April 30, 2020. “Economic Impacts of the COVID-19 Crisis in Los Angeles: Identifying Renter-Vulnerable Neighborhoods,” Technical Report, UCLA Center for Neighborhood Knowledge and UCLA Ziman Center for Real Estate.

UCLA

**Center for Neighborhood
Knowledge**

<https://knowledge.luskin.ucla.edu/>

 KnowledgeLuskin

 UCLACenterforNeighborhoodKnowledge

knowledge@luskin.ucla.edu

UCLA

**Ziman Center
for Real Estate**

<http://www.zimancenter.ucla.edu/>

 UCLAZimanCenter

 UCLAZimanCenterforRealEstate

ziman.center@anderson.ucla.edu