

Distrust and the Banking System: Measuring effects of the GFC on the Racial Wealth Gap

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Abstract

This paper first documents a slight convergence of the wealth gap between Black and white Americans during the global financial crisis (GFC). One plausible mechanism behind the short-term downward convergence could be through bank lending. I also find that white and Black trust in banking institutions fully converged downward in the immediate aftermath of the GFC. I also establish the increase in Black household leverage relative to white households as one mechanism behind the short-run attenuation in the wealth gap. This relative increase of Black household leverage may have served to temporarily allay the negative impact of the GFC on wealth and homeownership among Black respondents, along with differential levels of homeownership exposure.

Myles Ellis: Brown University, myles_ellis@brown.edu. I would like to take this opportunity to thank a few special people to me that made this first ever paper of mine possible. I want to thank Peter Hull, Emily Oster and Spencer Yongwook Kwon for guiding me on this journey in bringing my paper to life, for all of the meetings in helping me develop this from a fledgling idea, and for having the patience to allow me to grow from my mistakes. I would also like to extend my immense gratitude to Andrei Shleifer, Brian Knight, Rafael La Porta and Kareen Rozen for your incredibly valuable feedback on this topic, and for taking to time to talk about this subject with me. I would also like to thank each participant of the third-year poster session for the helpful feedback that was shared.

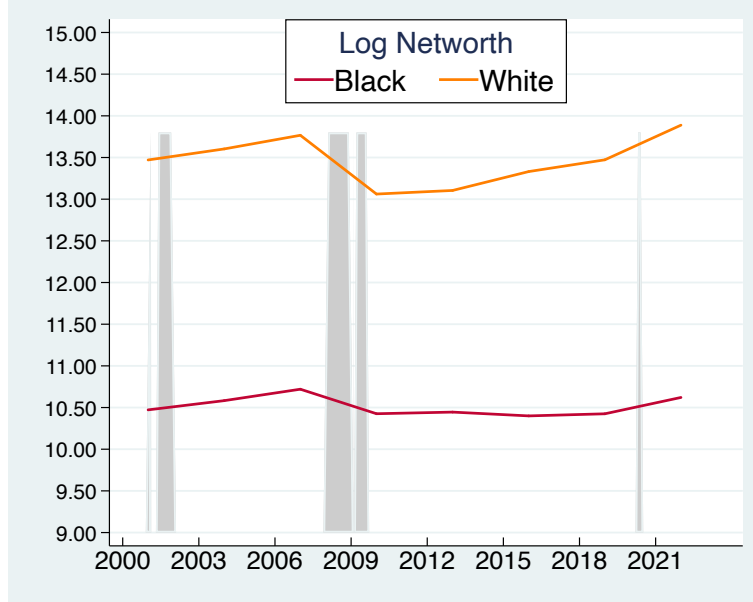


Figure 1: Trends in Log Network. This figure plots the log-transformed networth of Black and white Americans around the global financial crisis of 2008. The data used to illustrate the triennial log networth by race comes from the Survey of Consumer Finances. The data used to highlight recessionary periods comes from the National Bureau of Economic Research. The log networth of Black and white SCF households is encoded in the red and yellow lines, respectively.

1 Introduction

The global financial crisis (GFC) resulted in the mass foreclosures of over 4.5 million households from 2008 to the end of 2010, enfeebling the financial situation of many Americans.¹ The GFC also resulted in a deterioration of the trust that many Americans have in U.S. banking institutions. A slight downward convergence in homeownership also coincided with this substantial reduction in trust, with the proportion of Black homeowners decreasing less than that of white homeowners. Surprisingly, this slight convergence with respect to homeownership did not translate into an upward convergence of the racial wealth gap. Instead, this wealth gap only slightly converged downward in the two years after the GFC, with the wealth of white households being more adversely impacted. After the immediate wake of the GFC, this racial wealth gap intensified between Black and white households. The slight short term wealth convergence may reflect the differential exposure of white households in the Survey of Consumer Finances (SCF) to homeownership. Namely, a much greater proportion of white respondents are homeowners than Black respondents, with the gap hovering around 35 percentage points in the immediate wake of the GFC.

¹This foreclosure data comes from ATTOM's U.S. Foreclosure Market Reports. "Foreclosure Activity In First Half Of 2023 Ticks Upwards Toward Pre-Covid Levels" (2023).

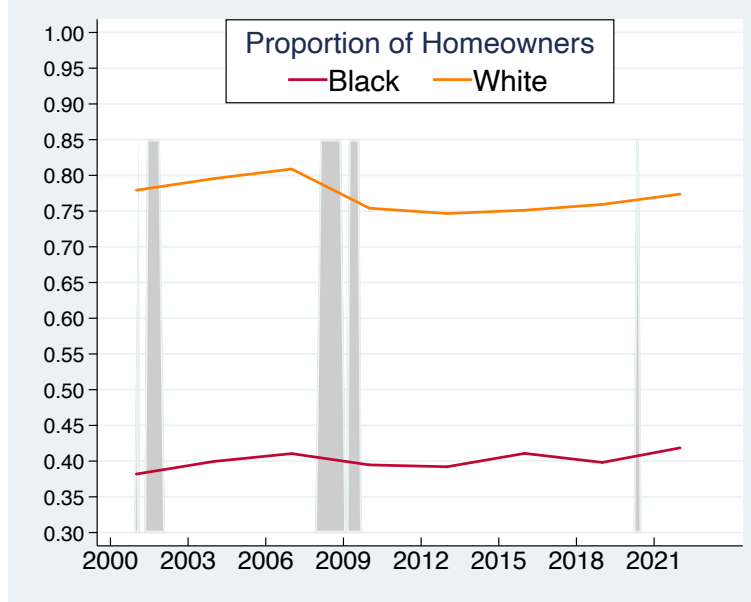


Figure 2: Dichotomized Homeownership Trends Around GFC. This figure plots the proportion of Black and white homeowners around the global financial crisis of 2008. The data used to illustrate this triennial proportion of homeowners by race comes from the Survey of Consumer Finances. The data used to highlight recessionary periods comes from the National Bureau of Economic Research. The proportion of Black and white homeowners in the SCF is encoded in the red and yellow lines, respectively.

This large homeownership gap coincides with wealth inequality, which Derenoncourt et al. (2023) describes as the largest of the economic disparities that exist between Black and white Americans. The SCF data on white and Black respondents suggests that networth fell more rapidly for white households than it did for Black households around the GFC (figure 1). This downward convergence in the racial wealth gap was subject to a reversal over the longer horizon, with the gap significantly widening after the year 2013.

Differential amounts of household leveraging is one plausible mechanism for the downward wealth convergence of American households in the immediate aftermath of the great recession. Mian and Sufi (2010) illustrates how changes in household leverage at the county level served as an early predictor of the onset and severity of the great recession. Additionally, their 2011 paper details how leverage among American households sharply increased in the years leading up to the GFC. Extending this to race using SCF data, I find that the change in white and Black leverage moved in opposite directions around the GFC. While white households decreased their leverage from 2007 to 2010, Black households substantially increased it in this same period (figure 8).

These leveraging results coincide with changes in homeownership. The proportion of white homeowners fell more than that of Black homeowners from 2007 to 2010. Figure 2

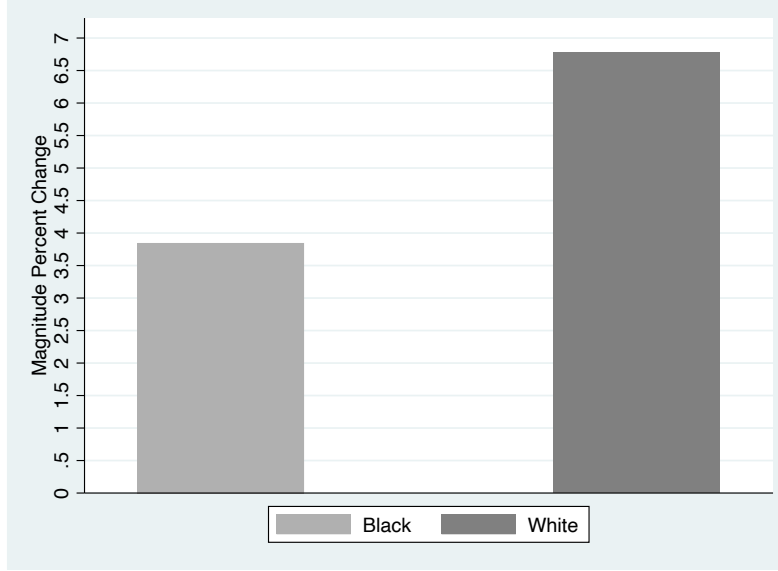


Figure 3: Percent Decrease of Homeownership from 2007 - 2010. This figure is a bar chart of the magnitude with which homeownership went down from 2007 to 2010 as a percent change. The data used to illustrate this magnitude by race comes from the Survey of Consumer Finances. The percent change of Black and white homeowners in the SCF is encoded in the light and dark gray bars, respectively.

illustrates this point, where the GFC seems to have had a more negative impact on white SCF respondents. When taken together, these homeownership and leverage results suggest that leverage may have acted as a band-aid, temporarily insulating Black SCF households from a more extreme homeownership shock in a short horizon during the GFC. This hypothesized neutralizing effect of leveraging up may extend beyond the aforementioned differential exposure to homeownership. Indeed, figure 3 illustrates the higher percentage decrease in homeownership among white SCF respondents compared to Black respondents. Precisely, the difference in the magnitudes of this fall – as measured by difference in percent decreases – is 2.929 percentage points. Again, this result is potentially due to the greater amount of leveraging among Black SCF households relative to white respondents. This higher relative leverage coincides with the fact that in 2013, the proportion of Black SCF households who ever feared being denied credit within the five years since 2008 was over 26 percentage points higher than that of white SCF respondents (table 1). This may provide further evidence of how leveraging served to temporarily insulate Black SCF households from a more extreme housing shock. A much higher proportion of Black respondents feared being denied credit in the five years since 2008, yet levered up more relative to white respondents.

2 Literature

Various papers discuss the role of bankruptcy filings in household wealth. The bankruptcy system provides American households with more support than all state unemployment insurance programs combined (Lefgren, McIntyre and Miller, 2010), with over 8.5% of U.S. households having filed for bankruptcy at some stage in their life cycle (Stavins, 2000). However, Black filers are 9 percentage points less likely to receive Chapter 13 bankruptcy protection than filers of other races (Dobbie and Song, 2015). The ability of a household to recover from severe financial shocks like the GFC in the long run is partly predicated on access to such consumer protection, with households that have declared bankruptcy experiencing more than a \$5,500 increase in annual earnings and even a decrease in 5-year mortality (ibid). Homeownership is a major distinguishing characteristic of bankruptcy filers. Homeowners seeking to avoid foreclosure was cited by 70% of dismissed filers as the primary reason they filed for Chapter 13 bankruptcy (Porter 2011). Since owning a home is one of the foundations of building wealth, access to acquiring a mortgage is also critical. Charles and Hurst (2002) documents how Black applicants are almost twice as likely as comparable white households to be denied a mortgage. These results held even after accounting for credit history proxies and the level of household wealth. We also know that home-ownership plays a critical role with respect to the decision to declare bankruptcy (Domowitz and Sartain, 1999). In another paper, Scott, Hurst and White (2002) test whether households are more likely to file for bankruptcy when their financial benefit from filing rises. The authors find that an increase of \$1,000 in household financial benefit from bankruptcy is associated with a 7% increase in the probability of bankruptcy filing.

Chetty et al. (2017) discusses housing in the context of willingness to take financial risk through stockownership. They illustrate how it is important to distinguish between the effects of home equity and mortgage debt in order to characterize the effects of housing on portfolios. They find that increases in property value effectively reduce stockholdings, while increases in home equity wealth raise stockholdings.

Other papers discuss the role of trust in shaping our society, and this literature is extensive. Stevenson and Wolfers (2011) document how trust in public institutions like banks, business and government has declined and how this partly reflects the pro-cyclical nature of trust in institutions. Their paper suggests that countries whose unemployment grew the most suffered the biggest loss of trust in the government and the financial sector. However, I find that the full and complete convergence of the racial trust gap cannot be explained through unemployment. Namely, figure 4 illustrates how the Black-white gap with respect to trust in the financial system disappeared during the GFC, with white trust plummeting

more than that of Black respondents. On the other hand, figure 7 shows us how Black respondents were disproportionately impacted by the GFC in terms of unemployment. These two coinciding empirical findings seem to run counter to the results of Stevenson and Wolfers (2011) in the context of unemployment. But while the authors find that institutional trust is pro-cyclical, I find suggestive evidence that racial gap in trust for the financial system is counter-cyclical.

Blanco and Ruiz (2013) discusses the impact of crime and insecurity on trust in democracy and institutions in Colombia. Aghion, Algan, Cahuc and Shleifer (2010) documents how government regulation is strongly negatively correlated with social capital, including trust in corporations and political institutions. There are additional papers that discuss trust in the context of race and ethnicity. Glaeser, Laibson, Scheinkman and Soutter (2000) suggests that trustworthiness declines when partners are of different races or nationalities and establishes a distinction between trustworthiness and trust. Evidence presented in this paper suggests that while attitudinal trust surveys weakly predict any individual's level of trust at best, those attitudinal questions are good at predicting the overall level of trustworthiness in society. Nunn and Wantchekon (2011) provides evidence of how variation in trust levels within Africa can be traced back to the transatlantic and Indian Ocean slave trades. The authors combined contemporary individual-level survey data with historical data on slave shipments by ethnic group to find that individuals whose ancestors were heavily raided during the slave trade are less trusting today. This is one context that provides causal evidence of how historical brutality and mistreatment can effect individuals and households in the present moment. Alesina and Zhuravskaya (2011) suggests that trust is lower in countries with higher segregation, which they define as countries where groups live more spatially separate. There are additional papers that discuss trust in the criminal justice setting. A few papers detail how experiences with aggressive policing can be linked to unfavorable attitudes towards law enforcement that, in turn, are correlated with institutional distrust (Bobo and Thompson, 2006; Kirk and Papachristos, 2011). Other papers suggest that even vicarious police contact during adolescence can shape long-run beliefs and institutional trust (Winfrey and Griffith, 1977; Leiber, Nalla and Farnworth, 1998; Hurst and Frank, 2000; Tyler, Fagan and Geller, 2014).

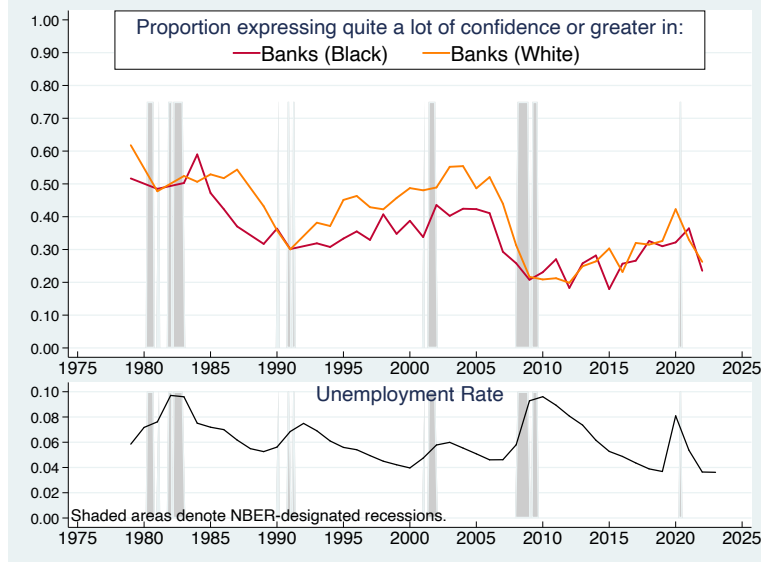


Figure 4: Changes in trust around various recessions, by race. This figure illustrates the proportion of respondents expressing a high confidence (“quite alot” or “a great deal”) in banking institutions. Time series of Black respondents in red line, white respondents in orange line. Unemployment represents the total unemployment rate in the United States. The data used to generate these figures comes from U.S. Bureau of Labor Statistics, Gallup: Trust in Institutions, and the NBER.

With this paper, I find suggestive evidence that trust in banking institutions, wealth, and homeownership coincide. The racial trust gap of banks and financial institutions converged downward, where white trust was higher prior to the GFC. This downward convergence happened simultaneously with a widening racial gap in household leverage, where Black leverage grew while white leverage shrunk in the two year period post GFC onset. In other words, Black households took on more leverage than white households in the years before the GFC, and this gap on the level only widened in 2010 (figure 8). This leverage – measured by the ratio of debt to assets – is driven by the lowest network quartile of SCF respondents among both races, as depicted in figures 7a and 7b. Higher network quartiles among both Black and white respondents have much lower leverage ratios relative to the lowest network quartile. Homeownership changes were also happening simultaneously with these facts about bank trust and leverage. Namely, the homeownership gap slightly attenuated in the immediate aftermath of the GFC, with the proportion of white homeowners falling more than that of Black homeowners (figure 2). In the more immediate post GFC period, the slight attenuation of the racial wealth gap through this small downward convergence may be linked to bank lending, prompting Black households to have more leverage relative to white households in a two year span after the onset of the GFC.

3 Data

The data used in this paper comes from two major sources. First, I use the Trust in Institutions Survey from Gallup to gauge the level of trust in banking institutions. This is a yearly cross sectional survey that gauges sentiment through confidence in various major entities (e.g. banking institutions, big business, etc.). With respect to big business and banks, this survey is yearly after 1993. Prior to 1993, these confidence questions were included in surveys at least biennially. Gallup began asking respondents for their confidence level in banking institutions starting in 1979, and big business starting in 1973. I include big business in some of this analysis as a way to illustrate the distinct fervor that the U.S. financial sector seems to elicit from American respondents around the GFC. Those surveyed in the Gallup data are households from a wide array of baseline demographics. However, I dichotomize the Gallup data by race, narrowing down to Black and white households in most of the analysis. Outside of this dichotomization, I utilize a similar analysis sample as Stevenson and Wolfers (2011), extended to the year 2022. The Gallup survey asks respondents questions such as their level of confidence in banks (starting in 1979) and big business (starting in 1973). These confidence levels have five categories for the potential confidence level response. The respondent can have "A great deal of confidence" = 5, "Quite a lot of confidence" = 4, "Some confidence" = 3, "Very little confidence" = 2, and "No Confidence" = 1.

The second major data source I use comes from the Survey of Consumer Finances (SCF). This survey is curated by the U.S. Federal Reserve. The data is a triennial cross-sectional survey that began in 1989 and whose most recent year is 2022. Because the focus of this paper is potential impacts and trends around the GFC, I truncate the data to a tighter range around the GFC (e.g. between the years 1995 and 2022) in the figures. For the tables, this SCF data is truncated to the range 1998 to 2022.

Next, the U.S. Bureau of Labor Statistics provides monthly national unemployment rates, in addition to race-specific unemployment that was used in this paper. The NBER recessions data was also utilized, which classifies recessions in the United States back to the year 1948. For this paper, the unemployment and recessions data is truncated to match the available Gallup data. For instance, these datasets are truncated from 1979 to 2022 match the trust in banking institutions survey dates, and from 1973 to 2022 to match the trust in big business survey dates.

Table 1: Summary Statistics. This table lists summary statistics for respondents in the Survey of Consumer Finances. These summary statistics are pooled into pre-GFC (2001-2007) and post onset (2010-2022) periods. The values are found by averaging across years (e.g., median network from 2001 to 2007 is the average of the median networks for the respective group across the SCFs conducted in 2001, 2004 and 2007). The first column *Black* indicates the summary statistics for Black SCF respondents. The second column *White* indicates the summary statistics for white SCF respondents. The third column *All Races (Pooled)* indicates the summary statistics for Asian, Black, White, Hispanic and “other” SCF respondents.

	Black	White	All Races (Pooled)
<i>Survey of Consumer Finances</i>			
Median network, 2001 - 2007 (\$)	20,356.60	577,551.60	361,249.40
Median network, 2010 - 2022 (\$)	17,265.89	433,912.40	234,058
Median Income, 2001 - 2007 (\$)	43,556.57	122,147.10	100,018.80
Median Income, 2010 - 2022 (\$)	43,236.47	104,941.70	83,275.60
Median debt, 2001 - 2007 (\$)	9,444.60	56,942.99	42,251.95
Median debt, 2010 - 2022 (\$)	12,930	46,436.95	32,011.75
Mean % Homeowners, 2001 - 2007	39.687%	79.444%	72.784%
Mean % Homeowners, 2010 - 2022	40.277%	75.564%	67.133%
% Fear Denial of Credit, 2007	33%	8.38%	11.73%
% Fear Denial of Credit, 2013	38.41%	12.32%	17.33%
% Denied Credit, 2007	23.31%	11.36%	13.18%
% Denied Credit, 2013	22.78%	13.11%	15.27%
Mean Age, 2001 - 2022	47.6	53.91	51.96

3.1 Summary Statistics

Table 1 reports summary statistics, averaged across the indicated period (inclusive). Recall that the SCF survey is conducted triennially, and is a cross-section of respondents that reside in the United States. Aside from *age*, *fear denial of credit* and *denied credit*, these summary statistics are pooled into pre-GFC (2001-2007) and post onset (2010-2022) periods.

The median network for both white and Black respondents went down in the post onset

period of the GFC. Likewise, median income decreased post GFC onset for both Black and white respondents. Interestingly, median debt increased for Black respondents but decreased for white respondents. Likewise, mean homeownership – averaged across the year post GFC – increased relative to the period before the GFC among Black respondents. The opposite is true for white respondents, with this pooled mean decreasing relative to that of the pre-GFC period. The proportion of Black respondents who feared being denied credit in the past relative five years increased by over 5 percentage points from 2007 to 2013. On the other hand, this proportion increased by less than 4 percentage points among white respondents. In 2007, the proportion of Black SCF households who were actually denied credit some time in the relative five years prior was over double that of white respondents. In 2013, the proportion of Black respondents that were denied credit decreased, while that of white respondents increased.

4 Racial Disparities in Post-GFC Outcomes

4.1 Methodology

To conduct analysis around the GFC, I employ a difference-in-differences (DiD) strategy to measure relative trends with respect to the racial gap of trust in financial institutions. To analyze this institutional trust around the GFC, I employ the baseline specification on Gallup data:

$$\begin{aligned} \mathbb{I}(\text{Confident})_{ist} = & \alpha + \beta \text{Black}_i + \gamma \text{post_recession}_t + \delta \text{did_recession}_{it} \\ & + \eta \text{State}_s + \theta \text{Controls}_{ist} + \epsilon_{ist} \end{aligned} \quad (1)$$

where $\text{did_recession}_{it} = \text{Black}_i \times \text{post_recession}_t$. *Black* is a binary variable representing whether the respondent is white (=0) or Black (=1). The time period is represented by the dummy *post_recession*, which equals zero for the period before the GFC (2000 to 2007) and one for the period after the onset of the GFC (2009 to 2022). The estimator β encodes the racial trust gap before a financial crisis. Estimator $\beta + \delta$ captures the racial trust gap after to onset of the respective crisis. δ is the difference-in-differences estimator representing the change in gaps. Subscripts represent respondent i , state s and year t . Controls are for age (18+), gender (1 Male; 2 Female; 3 Nonbinary), and education status (1 HS or Less; 2 Some college; 3 College grad only; 4 Post graduate) as provided by the Gallup data. I also use equation (1) in the context of homeownership and leverage, where the outcome is the leverage ratio of total debt to total assets.

To analyze trends in homeownership as an event study around the GFC, I employ the

event-study specification on SCF data:

$$\text{Homeownership}_{it} = \alpha_i + \beta D_i + \tau_t + \sum_{s \neq -1} D_i \cdot \mathbb{I}\{t = s\} \gamma_s + \epsilon_{it} \quad (2)$$

Where D is an indicator for whether respondent is Black ($=1$) or white ($=0$). Periods $t \in \{-10, -7, -4, -1, 2, 5, 8, 11, 14\}$ each represents proximity to the GFC in 2008, with the reference year set to 2007 ($t = -1$). To generate the event study figure, I plot the coefficient estimates for each γ_s for $s \neq -1$ and their confidence intervals which stem from robust standard errors. I utilize the same specification to analyze log network, with $\log \text{network}_{it}$ as the outcome.

4.2 Analysis

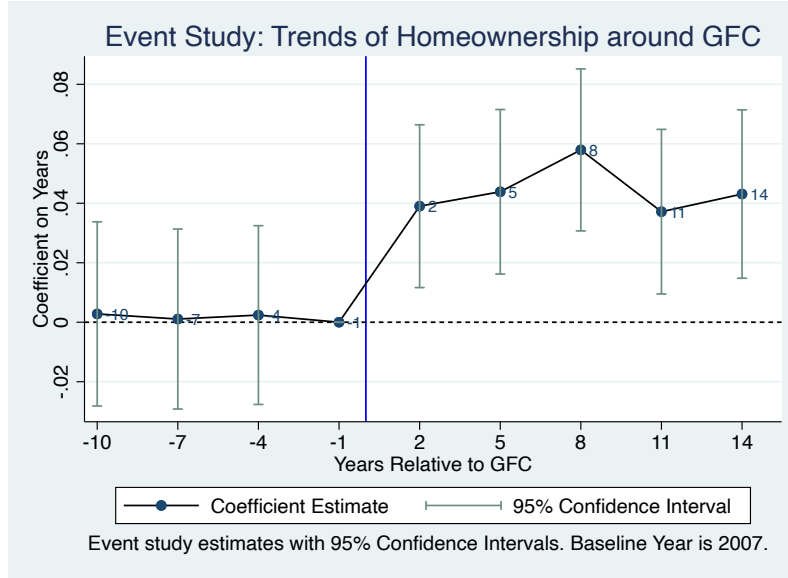


Figure 5: Event Study of Homeowners. This figure plots the coefficient estimates for each γ_s around the GFC, where $s \neq -1$ (year 2007). These estimates are generated through the specification $\text{Homeownership}_{it} = \alpha_i + \beta D_i + \tau_t + \sum_{s \neq -1} D_i \cdot \mathbb{I}\{t = s\} \gamma_s + \epsilon_{it}$ where D_i is an indicator for whether the SCF respondent is Black ($=1$) or white ($=0$). The 95% confidence intervals reflect robust standard errors.

The global financial crisis (GFC) had a significant impact on the trust Americans have in banking institutions. There was a noticeable erosion in the confidence that Americans had in these financial entities (figure 4). We also see that in table 2, the impact of the GFC on trust in banking institutions is distinct from its impact on trust in big business. There was a racial gap in trust in banking institutions before the GFC, with white households having higher levels of trust than Black households. But this racial gap closed after the onset of

the GFC. This convergence in the trust gap with respect to banks persisted into the longer horizon after the GFC shock.

For comparison, the lack of statistical significance for the coefficient estimate on β in table 2 column (4) indicates that there was no Black-white gap in trust for big businesses before the great recession. Similarly, the coefficient $\beta + \delta$ indicates there was trust gap in big businesses after the GFC either. On the other hand, column (2) tells us that Black households had lower trust than white households before the GFC, with the coefficient $\beta = -0.107$ being statistically significant at the 1% level. However, column (2) also quantifies what was illustrated in figure 4; there was no racial trust gap for banks post onset of the GFC. Namely, the estimate for $\beta + \delta$ is not statistically significant from zero.

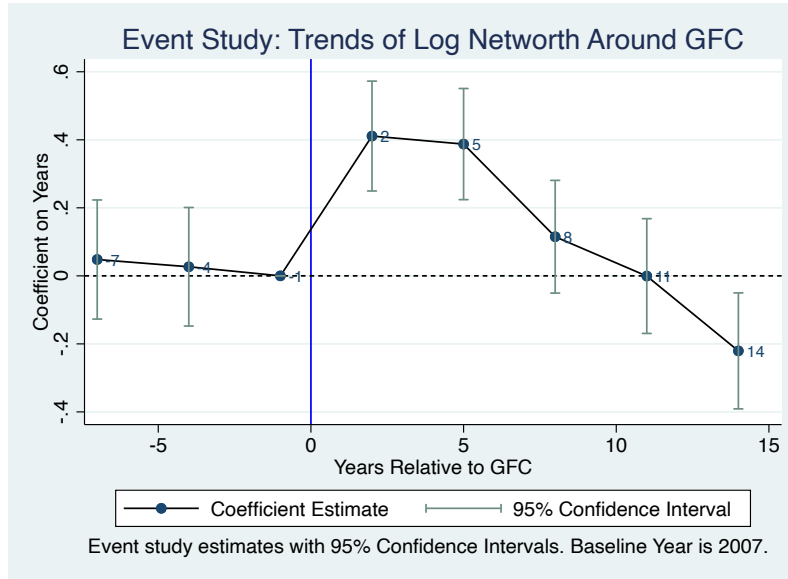


Figure 6: Event Study of Log Network. This figure plots the coefficient estimates for each γ_s around the GFC, where $s \neq -1$ (year 2007). These estimates are generated through the specification $\text{Log Network}_{it} = \alpha_i + \beta D_i + \tau_t + \sum_{s \neq -1} D_i \cdot \mathbb{I}\{t = s\} \gamma_s + \epsilon_{it}$ where D_i is an indicator for whether the SCF respondent is Black (=1) or white (=0). The 95% confidence intervals reflect robust standard errors.

Table 2: The GFC and the Sentiment Shift, by Race. Significance stars based on robust standard errors * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Each cell shows a separate regression reporting the coefficient on race, time period around the global financial crisis, and a difference-in-differences estimate. Race is represented by the variable *Black* – (0 White; 1 Black). The time period is represented by the dummy *post_gfc*, which equals zero for the period before the global financial crisis (2000 to 2007) and one for the period after the onset of the global financial crisis (2009 to 2022). The covariates associated with the difference-in-differences estimate is represented by *Diff-in-Diffs. gappost* is the linear combination of the variables *Black* + *did_gfc* and represents the racial outcomes gap after to onset of the respective crisis. The coefficients in each column are from the baseline regression: $\mathbb{I}(\text{Outcome})_i = \alpha + \beta \text{Black}_i + \gamma \text{post_gfc}_t + \delta \text{did_gfc}_{it} + \epsilon_i$. The coefficients in columns (2) and (4) are from the baseline regression: $\mathbb{I}(\text{Confident in institution})_{ist} = \alpha + \beta \text{Black}_i + \gamma \text{post_gfc}_t + \delta \text{did_gfc}_{it} + \eta \text{State}_s + \theta \text{Controls}_{ist} + \epsilon_{ist}$. Controls are for age (18+), gender (1 Male; 2 Female; 3 Nonbinary), and education status (1 HS or Less; 2 Some college; 3 College grad only; 4 Post graduate).

Dependent variable: $\mathbb{I}$ (“a great deal” or “quite a lot” of confidence) in:				
	banks	banks	big business	big business
β : Black	-0.111*** (0.0218)	-0.107*** (0.0219)	0.0181 (0.0191)	0.0218 (0.0191)
$\beta + \delta$: gap post	0.0046 (0.0117)	0.0107 (0.01181)	-0.015 (0.01015)	-0.013 (.01011)
δ : did gfc	0.116*** (0.0247)	0.117*** (0.0248)	-0.0332 (0.0217)	-0.0350 (0.0216)
<i>N</i>	19411	19402	19302	19293
<i>State FEs & Demographic Controls</i>	Yes		Yes	

The differential impact of the GFC on trust levels among white and Black Americans is also noteworthy because these race-varied magnitudes of trust erosion cannot be explained through unemployment. Namely, Black Americans were proportionally hit harder than white Americans with respect to unemployment rates post GFC onset (figure 7). This result seems to run counter to one finding of Stevenson and Wolfers (2011), which suggests that countries whose unemployment grew the most suffered the biggest loss of trust in a few sectors, including the financial sector. Extrapolating to households, a natural hypothesis would be that groups suffering the largest proportional shock to unemployment would also see the biggest loss of trust in the financial system. Taking figures 4 and 7 together, however, suggests that this is not the case for Black and white American households. Moreover, this complete downward convergence of trust in the banking system coincided with changes in the leveraging of SCF households. White respondents took on less leverage than Black

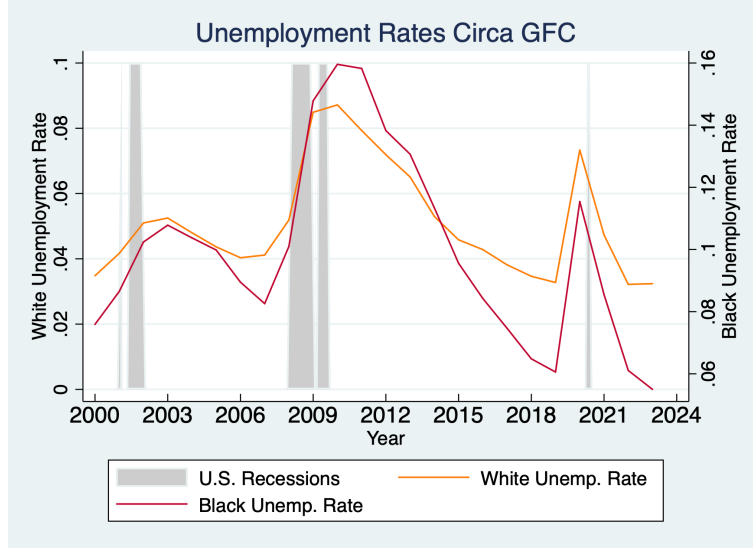


Figure 7: Unemployment Rates Circa GFC. This figure plots the unemployment rates of Black and White Americans around the global financial crisis of 2008. White respondents are encoded in the yellow line, and Black respondents are encoded in the red line. Recessionary periods are illustrated as the light gray shaded areas. The data used to generate these figures comes from U.S. Bureau of Labor Statistics, Gallup: Trust in Institutions, and the NBER.

households right before the GFC, with this gap only widening during the GFC (figure 8).

These two aspects also coincided with homeownership – a third facet that saw unexpected change among American households during the GFC. Specifically, there was a notable decrease in the proportion of white SCF homeowners in the years following the 2008 recession (figure 2). At the same time, Black SCF homeownership decreased slightly, hovering around 40%. This trend underscores a slight narrowing of the homeownership gap between Black and white Americans, with white homeownership rates falling faster than Black homeownership rates. Figure 3 further highlights this point; among SCF respondents, white households were hit harder by the GFC in terms of homeownership. Using an event study, we can see the trends relative to 2007 with respect to the Black-white gap in homeownership. Figure 5 also illustrates this slight downward convergence in homeownership. In figure 5, we can see that the plotted coefficient estimates for γ_s serve as plausible evidence that the GFC may have shaped trends in the Black-white homeownership gap. In order to get closer to parsing out a causal interpretation, I would ideally use panel data that follows respondent outcomes over the years around the GFC and include county-level fixed effects. Since I do not have these tools here, I cannot definitely assert the GFC caused this particular trend reversal with respect to the racial gap in homeownership. But figure 5 and table 3 are both suggestive evidence that the GFC played a nontrivial role in shaping the Black-white gap for homeownership. Figure 5 tells us that there was a persistent gap prior to the GFC,

	(1)	(2)	(3)	(4)	(5)	(6)
	Homeowner	Homeowner	Leverage	Leverage	Log Networth	Log Networth
β : Black	-0.397*** (0.00541)	-0.196*** (0.00500)	0.421*** (0.117)	0.0397 (0.133)	-2.957*** (0.0308)	-1.236*** (0.0260)
$\beta + \delta$: gap post	-0.3529*** (0.00379)	-0.1814*** (0.00359)	1.4674*** (0.247097)	1.1403*** (0.25877)	-2.870*** (0.02304)	-1.3558*** (0.01995)
δ : did_gfc	0.0438*** (0.00661)	0.0149* (0.00590)	1.047*** (0.273)	1.101*** (0.272)	0.0870* (0.0384)	-0.120*** (0.0322)
N	201905	201900	201905	201905	184181	184181
Year FEs & Demographic Controls		Yes		Yes		Yes

Table 3: Racial Shifts around the GFC. Significance stars based on robust standard errors * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Each cell shows a separate regression reporting the coefficient on race, time period around the global financial crisis, and a difference-in-differences estimate. Race is represented by the variable *Black* – (0 White; 1 Black). The time period is pooled, represented by a dummy variable which equals zero for the period before the global financial crisis (1989 to 2007) and one for the period after the onset of the global financial crisis (2009 to 2022). The covariates associated with the difference-in-differences estimate is represented by *did_gfc*. *gap_post* is the linear combination of the variables *Black* + *did_gfc* and represents the racial outcomes gap after to onset of the respective crisis. The outcomes here are *Homeowner* (0 respondent does not own home; 1 respondent does own home), *Leverage* (ratio of total debt to total assets). The coefficients in each columns (1) and (2) are from the baseline regression: $\mathbb{I}(\text{Homeowner})_i = \alpha + \beta \text{Black}_i + \gamma \text{post_gfc}_t + \delta \text{did_gfc}_{it} + \epsilon_i$. The coefficients in columns (3) and (4) are from the same baseline regression but with outcome *Leverage*_{*i*}. The coefficients in columns (5) and (6) are also from the same baseline regression but with outcome *LogNetworth*_{*i*}. Demographic controls in columns (2) and (6) include education, gender of household reference person, age, and marital status of the reference person. Demographic control in column (4) includes age.

but that the gap slightly converged downwards during the GFC and post 2008. This is evident through a spike in the coefficient estimates on γ_s after the onset of the great recession (for $s \in \{2, 5, 8, 11, 14\}$). The positive coefficients suggest attenuation in the gap because homeownership in the reference group (white SCF respondents) is higher than that of Black respondents, on the level. Table 3 also suggests a slight attenuation in the homeownership gap. In column (2), we see that the coefficient estimate $\hat{\beta} + \hat{\delta} = -0.1814$. Recall that this is the homeownership gap post onset of the GFC. This tells us that the homeownership gap decreased – the coefficient estimate $\hat{\beta}$ was magnitudinally greater (or more negative, in this context) than the estimate $\hat{\beta} + \hat{\delta}$. This suggests the homeownership gap shrunk after 2008. Both of those estimates for $\hat{\beta}$ and $\hat{\beta} + \hat{\delta}$ are statistically significant at the 1% level.

From figures 1 and 6, we also see a small downward convergence in log networth during the GFC. The positive coefficient estimates for γ_s , $s \in \{2, 5\}$ illustrate this point, indicating attenuation in the wealth gap. The positive coefficients estimates have this interpretation because on the level, white households have a higher log networth than Black households. The sudden spike in the estimates of figure 6 indicate that the GFC played a role in this

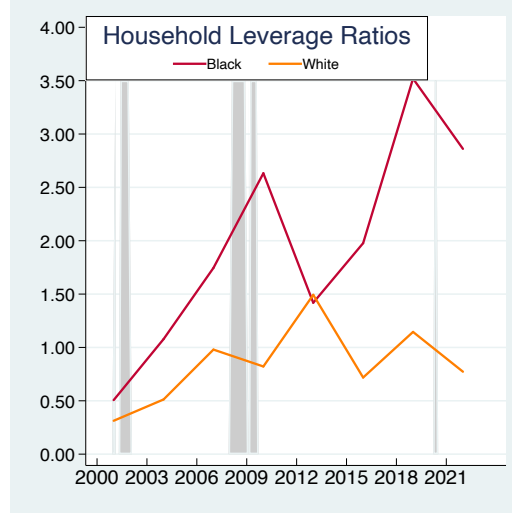


Figure 8: The above figure is a time Series of leverage ratios, by race. White respondents are encoded in the yellow line, and Black respondents are encoded in the red line. Recessionary periods are illustrated as the light gray shaded areas. The data used to generate these figures comes from the Survey of Consumer Finances and the NBER.

wealth gap change. The estimates in column (5) of table 3 also support this point, where the positive coefficient estimate $\hat{\delta} = 0.087$ indicates slight attenuation in the wealth gap. The statistical significance at the 90% level here, and the negative coefficient estimate $\hat{\delta} = -0.12$ in column (6) just reflect the fact that the wealth gap substantially widened in the years after 2013. Truncating the years to a tighter bandwidth around the GFC would plausibly give a positive $\hat{\delta}$ with higher statistical significance.

It is also necessary to take a deeper dive into analyzing household leverage, where the racial dynamics experienced a sizable shift after the GFC. The racial gap in terms of leveraged households, which had intensified after 2001, only further intensified in 2010 (figure 8). Aside from the year 2013, Black SCF respondents consistently reported higher mean leverage ratios compared to their white counterparts. Table 3 corroborates this widening racial gap in leverage ratios following the GFC. Columns (3) and (4) point to a large racial divergence in the financial leverage taken by households in the aftermath of the crisis. Figure 10 also provides evidence of this in the most immediate period after the GFC provided by the SCF data (2010), although this figure might also reflect noise in the SCF data due to the smaller sample of low networth SCF households than if we were not categorizing the leverage ratios by networth. Interestingly, the leverage ratios of Black and white households moved in opposite directions during the GFC. This divergence in financial leverage is worth noting given its implications on household net worth, and highlights the fact that poorer households typically borrow more, as illustrated in figures 8a and 8b. This leveraging result is evident regardless of race. But since the 25th percentile of networth among white and Black SCF

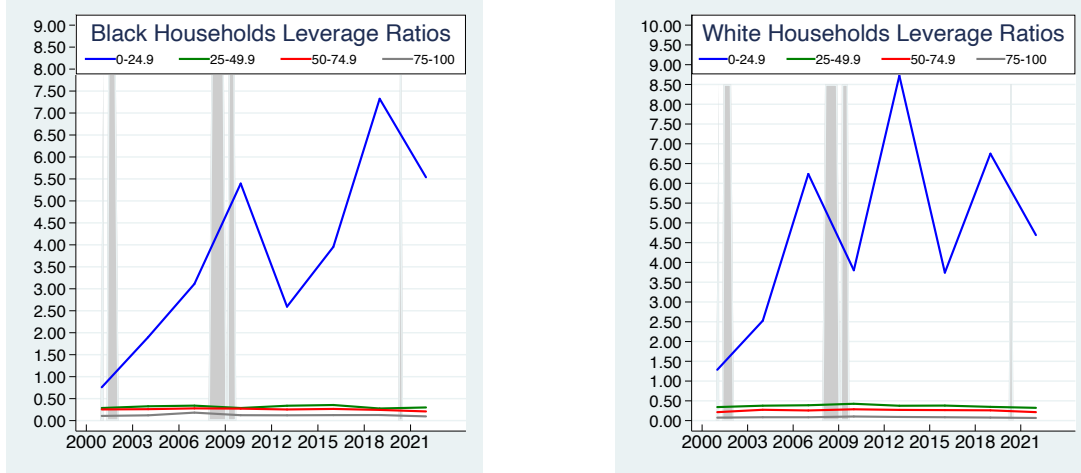


Figure 9: Leverage ratios by networth quartile. This figure plots the leverage ratios of SCF respondents by networth quartile. Figure 9a (left) represents Black household leverage and figure 9b (right) represents white household leverage. The lowest networth quartile (0-24.9), second quartile (25-49.9), third quartile (50-74.9) and highest quartile (75-100) are encoded in the blue, green, red and gray lines, respectively. Recessionary periods are illustrated as the light gray shaded areas. The data used to generate these figures comes from the Survey of Consumer Finances and the NBER.

households are different, it would be useful to do a more direct comparison of these leverage ratios. Figure 10 gives an apples-to-apples comparison of leverage around the GFC by taking the 25th percentile of Black respondent networth and using this as a benchmark for comparison. Thus, figure 10 provides us with an illustration of the time series for the leverage ratios of both Black and white SCF respondents whose networth is at or below \$27,000.

Moreover, column (4) in table 3 suggests that there was no leverage gap in the pooled period prior to the GFC. The pre-GFC period the pooled data from the triennial survey within the range of years from 1989 to 2007 (inclusive). The post-GFC period contains the SCF data within the range 2009 to 2022 (inclusive). The estimate for β in column (4) is about 0.0397 and has no statistical significance. This also suggests that the estimate $\hat{\beta} = 0.421$ in column (3) is overstated in the absence of a control for *age* of the household reference person. Including *age* as a control is highly relevant for the leverage specification in column (4).

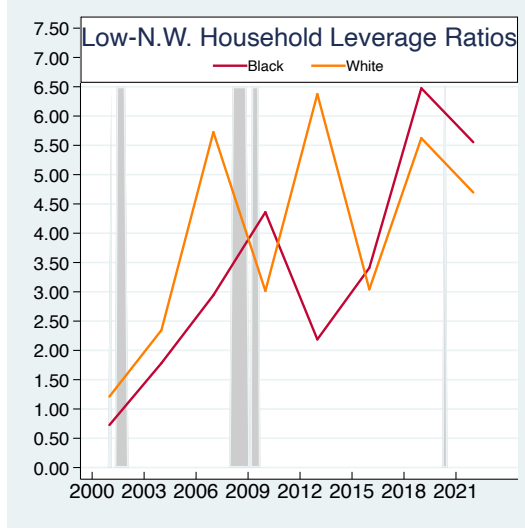


Figure 10: The above figure is a time Series of leverage ratios for respondent network worth under \$27,000, by race. This threshold comes from the value of the bottom network worth quartile of Black respondents in order to make a consistent dichotomized comparison. The data used to generate these figures comes from U.S. Bureau of Labor Statistics, the Survey of Consumer Finances, and the NBER.

In past work, we know that age is related to the amount of leverage a respondent might take on. Mian and Sufi (2011) provide evidence that the borrowing of older consumers is less responsive to house price growth than that of young consumers. Yet, this empirical finding runs in contrast to standard life-cycle based borrowing models which predict that older homeowners with shorter life horizons have the strongest propensity to take on leverage. Even still, the inclusion of *age* as a control for the specification in column (4) has its microfoundations. While there was no statistically significant racial gap in leverage, this changed after the onset of the great recession in 2008. In column (4), the coefficient estimate for $\beta + \delta$ suggests that a sizeable gap manifested in the amount of leverage Black households took on relative to white households. In particular, the estimate was approximately 1.14 and significant at the 1% level. Moreover, the estimate for the δ coefficient measures the change in the Black-white leverage gap from pre-GFC to post onset years. In column (4), the coefficient estimate $\hat{\delta} = 1.101$ is statistically significant at the 1% level. However, this sign change relative to the specification with controls suggests that this estimate for β in column (3) is plausibly overstated.

5 Conclusion

This paper provides suggestive evidence that trust in the banking system coincides with the racial gap in wealth, leveraging and homeownership. Building on Stevenson and Wolfers

(2011) which finds that trust is largely procyclical, I find that the racial gap in trust for the financial system is countercyclical. This suggests that trust in banks may have implications on the racial wealth gap and homeownership through bank leverage. In particular, I find that SCF household leverage moved in opposite directions during the GFC, and that this finding is driven by the bottom quartile of respondent networth for both Black and white households. While Black leveraging increased during the GFC, white leveraging decreased. This also may suggest that homeownership during periods with high unemployment is partially predicated on the ability of homeowners to lever up. This is suggestive because the change in leverage happened simultaneously with the slight downward convergence of the homeownership gap. In the end, leverage perhaps acts as an effective band-aid when times become difficult, insulating households in the short-run.

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