Race, Trust, and Return-Migration:

The Political Drivers of Post-Disaster Resettlement

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Abstract:

After several disasters in the US, the return migration rate of Blacks to post-disaster areas has been lower than that of other races. Is there is a political reason for this pattern? I investigate political trust as the mechanism through which race affects return migration. After accounting for economic, demographic, and sociological influences on return-migration, I find no race-based differences in return-migration patterns. Adding political trust to the analysis thus allows me to show that race does not have a direct effect on return migration in the US, but that race works through political trust to determine return-migration decisions. Since Blacks are more likely to have low levels of political trust, and those with lower political trust are less likely to return, Blacks are less likely to return.

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Text: 6995 Footnotes: 822 Tables: 502 Figures: 139 After Hurricane Katrina displaced 400,000 people from New Orleans in August 2005, the return migration of Whites to the city reached 40% higher than that of Blacks (Fussell, Sastry, and VanLandingham 2010). Of approximately 1.5 million citizens (16 and older) who evacuated Louisiana, Mississippi, and Alabama due to the same hurricane, 38.3% of Blacks returned to their pre-disaster counties, half the rates of other racial groups (Groen and Polivka 2010). Beyond the context of Hurricane Katrina, Blacks exhibit lower return-migration patterns than non-Blacks after evacuating due to hurricanes in other areas, and due to disasters of other types.¹

Is there a political reason Blacks have different post-disaster return-migration rates from non-Blacks? Current explanations of US racially-differentiated return migration leave political factors conspicuously absent (although Moore and Shellman 2004, 2006, 2007 study the international context). Class-based arguments suggest that Blacks are less likely to return because their homes are more likely to suffer damage (Groen and Polivka 2008; also Vigdor 2008), or that lower education disadvantages Blacks when they seek employment in and transportation back to the post-disaster area (see Fussell, Sastry, and VanLandingham 2010). Network-oriented arguments find that even controlling for housing damage and education, Black evacuees are less likely to return than non-Blacks, suggesting that Blacks care more about staying with each other than moving back (Paxson and Rouse 2008).

This article seeks a firmer grasp on the relationship between race and post-disaster return migration by examining a typically unconsidered variable: political trust. Activated by disaster

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¹ Blacks represented lower population proportions in coastal counties from South Carolina to New Jersey in the wake of Hurricane Irene in 2011. After wildfires forced thousands from their homes in California in 2003, the 5-county area become home to 96.5% of the Blacks and 106.1% of the non-Blacks it had previously housed (U.S. Census Bureau 2002-2004, 2010-2012).

experience, political trust can be fortified or damaged by interacting with public and political officials. Trust in those officials to keep promises, rebuild after the disaster, and mitigate future disasters then factors into evacuees' estimations of whether return migration will be worthwhile.

Race factors into political trust before the disaster strikes. Historically, Blacks have been found to have lower political trust than other racial groups in the US. According to Marschall and Shah, the difference between Blacks' and Whites' political trust has been "one of the most persistent and powerful characteristics of American political life" (2007, p. 649). When the political trust of Blacks is examined vis-à-vis that of non-Blacks, it is found to be composed of different determinants (Marschall and Stolle 2004; Marschall and Shah 2007; Rudolph and Popp 2010; Rahn et al 2009; Hetherington 1998; Howell and Fagan 1988), and to have different consequences on beliefs (Gay 2002; Hetherington and Globetti 2002) and behavior (Gay 2002; Bobo and Gilliam 1990; Emig, Hesse, and Fisher 1996).

In the context of a disaster, racial disparities in political trust open the door to further racial disparities in the decisions requiring trust, such as whether to return to the post-disaster area. Using unique survey data of displaced survivors from Hurricanes Katrina and Rita, I find that Black evacuees have significantly lower political trust than non-Black evacuees, and that a person's political trust influences her return-migration decision. I also find no race-based differences in return-migration patterns, after accounting for economic, demographic, and sociological influences. But since Blacks are more likely to have low levels of political trust, and those with lower political trust are less likely to return, Blacks are less likely to return.

Political trust is the mechanism through which race affects return migration. Blacks are not returning home at lower rates because they are black. Blacks are returning home at lower rates because they trust their public officials less than non-Blacks do.

This article is timely because of a recent surge in mass displacement due to disasters, and a lack of attention to the political causes and consequences of that displacement. If an area's demographic and political make-up changes post-disaster, the new electorate could change their aggregate voting behavior or civic participation rates, electoral outcomes, policy choices, or tax base. It is vital to understand the basis on which evacuees make the decision to return.

This work offers two main lessons. First, political factors should no longer be ignored in studying the return-migration decision in the US. When determining how people choose their places of residence after civil wars, natural disasters, and even economic crises, we should be mindful that decisions regarding where to live will be mitigated by individuals' trust in their government and public officials. Second, while it has long been argued that trust is fundamental to building societies, polities, and economies (Putnam 1993; Fukuyama 1995; Alesina & La Ferrara 2002; Guiso, Sapienza, & Zingales 2004; Knack 2002; Williamson 1993), we can now see how political trust is also crucial in *re*-building these systems after unplanned disruptions, such as those caused by catastrophic events. Political trust remains a salient and key societal building block, dictating who will return, rebuild, and reshape communities in recovery.

DISASTERS AND RETURN MIGRATION

Disasters are unplanned disruptions in social and political systems, triggered by critical or hazardous events.² Often, disasters cause widespread displacement of individuals from their homes. Hurricane Rita temporarily displaced 1.5 million in September 2005 (Stein et al 2011);

² Definition based on Quarantelli, Lagadec, and Boin (2006). Despite debate on definition, most agree disasters are inherently social phenomena (Perry 2006). While hazardous events may cause damage, they would not cause alarm if not for their impact on people and societies.

Hurricane Katrina created long-term displacement for up to 1.5 million one month earlier (Geaghan 2011; Groen and Polivka 2010). The United Nations predicts that by mid-century, 50-250 million people will be displaced due to climate change-induced disasters (UNGA 2009).

A crucial decision facing displaced disaster survivors is whether or not to return to their place of residence, referred to here as the *return-migration decision*. If a community was economically and socially unequal pre-disaster, we should not expect its residents to return equally across all economic and social groups. Migration scholars have noted that in the US, race is inextricably tied to social and economic considerations in the return-migration decision.

Morrow-Jones and Morrow-Jones (1991) find that, after controlling for head of household (male v. female), socio-economic status, and age, individuals who do not settle in the post-disaster area are disproportionately black. Falk, Hunt, and Hunt (2006) posit that this phenomenon is due to Blacks being disproportionately poor. The poor tend to rent rather than own their homes, giving them little control over rebuilding, and less information regarding the ability to return. Lower class neighborhoods are more likely to be located in floodplains, below dams, or near refineries and power plants.

Poorer residents are also more likely to live in poorly made homes, less able to withstand high winds or driving rains. Fussell, Sastry, and VanLandingham (2010) argue that those in lower economic classes lack the means to return home and places to live while rebuilding. They find less-educated evacuees less likely to return, and argue that these individuals have less flexibility and fewer options for employment, compared to the college educated.

But if Blacks are victim to greater housing damage, are they returning at lower rates because of that housing damage, or because their houses are in neighborhoods where other homes and public services are more likely to be damaged? If the answer is the latter, the source

of differential return-migration rates moves to sociological and governmental issues. Groen and Polivka (2008) find, even within neighborhoods of similar damage levels, that Blacks are still less likely to return than non-Blacks, suggesting Blacks care more about staying with members of their new community in displacement than about returning to post-disaster locations with unknown community characteristics (Fussell, Sastry, and VanLandingham 2010; Vigdor 2008).

The pull of social and family ties has also been noticed among displaced evacuees internationally. Moore and Shellman (2006; 2007) explain how these groups help civil conflict refugees learn about new places. Mulligan and Nadarajah (2012) find tsunami survivors drawn back to live in desolate, unsafe, or structurally unstable but culturally significant areas 4-5 years post-disaster, despite of the supply of new and safer locations nearby. One's original home area can hold a compelling *sense of place* that pulls them back, and strengthens the longer families live in an area (Landry et al 2007; Falk, Hunt, and Hunt 2006). Although some attempts to capture a sense of place have been tested, evidence linking sense of place to differential returnmigration patterns is scarce (Falk, Hunt, and Hunt 2006).

The mechanism behind racially distinct return-migration in the US has yet to be decisively explained. Employment, education, ownership, and birthplace capture notions of class and family, yet leave us with residual, unexplained race-based differences in the return-migration decision. What motivating factor in US return migration is missing from these studies?

POLITICAL TRUST

Imagine the return-migration decision is influenced by political considerations. Moore and Shellman (2007) find that conflict refugees' settlement decisions are based in part on the political orientation of the regime in power. Citizens also relate to political regimes and officials

through the mechanism of *political trust*: a general orientation toward the government or public officials, based on one's normative expectations of how it/they should operate.³

Individuals have *diffuse trust* in government institutions. Rooted in political socialization, values, and beliefs (see Easton 1965, 1975, Almond & Verba 1963, Inglehart 1990), diffuse trust is reflected in personal characteristics such as education, gender, age, political ideology, and race (Mishler and Rose 1997; Keele 2005; Rudolph and Evans 2005). Trust based on specific performance, and adjusted due to a public official's success or failure, is considered *specific trust* (Citrin 1974, Miller 1974a, 1974b, Weatherford 1987, Hetherington and Globetti 2002).

Key to the concept of political trust is the relationship between the citizen and the government or public official with respect to some action: *A* trusts *B* to do *X* (building on Hardin's 2002 definition of general trust, xx). Political trust is generally seen as being composed of at least two key elements (Levi and Stoker 2000, 476). *Competence* is the ability to perform the activities one is trusted to do (Hardin 2002, 2004; also Ullmann-Margalit 2004). Making credible *commitments* refers to the believability of the official's intentions to act in the citizen's interests. If one deems a political figure competent and believable, she thinks the official will not betray her trust "as a result of bad faith or ineptitude" (Levi and Stoker 2000, 495).

Political trust is triggered via two principal means. First, when making material (Hetherington 2004) or ideological (Lock, Shapiro, and Jacobs 1999) sacrifices, one's trust is activated as she yields control to public officials. Trust is also activated under uncertainty (Chryssochoidis, Strada, and Krystallis 2009). Individuals lacking information trust the

³ Definition based on Miller (1974a), subsequently used by Hetherington and Globetti (2002). Easton uses *regimes* and *authorities* (1965) instead of *government* and *public officials*. Citrin (1974) and Miller (1974a, 1974b) debate the issue.

government to act or make decisions on their behalf. With complete information, there is no need to trust; without it, citizens often look to government agencies and public officials for guidance.

During disasters trust is activated through both mechanisms. Critical events create uncertainty for the individuals experiencing them, who must trust public officials to provide information about evacuation, shelters, and safety precautions. Citizens sacrifice possessions in order to utilize shelters, evacuation transportation, or safety zones. When one yields to rescue efforts, leaving her home unmonitored, she is sacrificing her own personal autonomy for the sake of future security, surrendering her decision-making power to those in charge. Vulnerable, she trusts the government officials in command, typically strangers, to be well-informed and well able to handle their responsibilities (Montgomery, Jordens, and Little 2008).

Because disasters activate trust in these officials, the disaster experience can either erode or strengthen political trust. In some cases, disasters unite citizens with public officials as they work to overcome fear, rally around a common cause, and rebuild a community. A successfully managed disaster can validate and fortify citizens' trust in their officials, or even create new trust. Teets (2009) reports how local officials worked with citizens to rebuild communities after the 2008 Sichuan earthquake, creating new trusting and habits for all involved. President Barack Obama's and FEMA's swift decision-making following Hurricane Sandy earned praises from previous political opponent Governor Chris Christie (R-NJ), as well as from citizens who had criticized FEMA since its performance during Hurricane Katrina (Metzler 2012; Dwoskin 2012).

Conversely, a mismanaged hazardous event can damage trust more than a well-managed event can bolster it (Slovic 1993). "Trust is fragile. It is typically created rather slowly, but it can be destroyed in an instant" (Slovic 1999, p. 697). Misplaced political trust makes one feel foolish and betrayed, and the hazardous event only begins the nightmare of foiled recovery efforts.

Poorly-managed disasters diminish trust by exposing the inabilities of government officials to carry out the work they were entrusted to perform (see Troy 2004). After Japan's March 2011 earthquake/tsunami/nuclear accident, a poll revealed citizen trust in national institutions "had plummeted: it now hovers just above that seen in Vladmir Putin's Russia. The nuclear accident clobbered faith in government officials and power companies" (Economist 2012).

Disasters thus have a complicated relationship with political trust. Being in a disaster activates political trust, which subsequently conditions interactions throughout the disaster. Then public officials' performance during disaster and recovery can cause a political trust reassessment. By disaster's end, political trust can be higher or lower than before it began.

PUTTING IT TOGETHER: RACE, TRUST, DISASTERS, AND RETURN MIGRATION

Recall that disasters are initiated by critical events, but defined by the extent of the ensuing socio-political disruption. People will prefer to live where public officials can be trusted to manage and mitigate the effects of those events. One with high political trust believes her government and public officials are competent and capable of taking care of her and her community should a critical event happen. She might not mind living in an area susceptible to natural hazards.⁴ Individuals with lower political trust believe their government and public officials incompetent and incapable of handling consequences of critical events. These people are less likely to want to live in areas subject to hazardous events.

California, and the southern plains states expect tornado incidence to rise in April–July.

⁴ Annually the Gulf Coast is exposed to hurricanes, Santa Ana winds fuel wildfires in Southern

Do people with lower political trust fall into groups with predictable characteristics? Yes. One group with historically low political trust is Blacks in the United States.⁵ According to Abramson (1983), disadvantaged subcultural groups such as Blacks in the US confront a political reality of unbalanced power and unfair treatment compared to advantaged subcultural groups (1983, 160-64, 219-223; Howell and Fagan 1988; Marschall and Shah 2007). Facing this reality, Blacks are less likely to trust political leaders who perpetuate the status quo, and more likely to trust those who provide improvements in public services and help them feel empowered and efficacious (Bobo and Gilliam 1990; Emig, Hesse, and Fisher 1996; Marschall and Shah 2007).

Political trust then dictates how to act by making people feel their political participation will yield particular outcomes. Those with a "more trusting and efficacious orientation to politics" are more likely to decide to: become informed about their local public officials (Bobo and Gilliam 1990); vote and register to vote (Emig, Hesse, and Fisher 1996); and express disdain about public officials and policies (Avery 2006). Thus, an individual's racially-determined political reality conditions her political trust, which can then dictate how she will behave.

Disasters upheave stable situations and create temporary realities. Disadvantaged groups may suffer disasters disproportionately if they do not have evacuation vehicles, adequate food, water, or fuel to sustain themselves during service outages, or information about communication networks and means of help. Advantaged groups have greater access to information, to hotels and friends' homes in which to shelter, and to post-disaster employment. If advantages fall along racial lines, the political reality model predicts that not only levels of political trust, but also subsequent decisions and actions based on that trust, will differ according to race.

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⁵ Although see Simpson, McGrimmon, and Irwin (2007) for compelling social identity theory argument (Tajfel 1982; Turner 1985), that Blacks trust more than Whites within social groups.

A critical decision in that process is the return-migration decision. When the critical event occurs, a member of a disadvantaged group is likely to: be living in housing vulnerable to damage; have little (or no) private means to evacuate or return to the area or rebuild; and, have low levels of diffuse political trust. Actions taken (or neglected) by government and public officials after the initial event then either mitigate or exacerbate the disaster, and citizens update their assessments of specific trust. Evacuees decide whether to return to the post-disaster area, factoring in political trust, family ties, and socio-economic opportunity.

HYPOTHESES

Based on the above discussion, we should expect the following to be true, with respect to evacuees returning to a post-disaster place of residence:

Race:

1) Blacks and non-Blacks should have different levels of political trust.

Political Trust:

2) The lower the trust one has in public officials to manage and/or mitigate the social and political disruption of critical events, the lower the chances of return migration.

Economic Opportunity:

3) The greater the economic opportunity, the greater the chances of return migration.

Family Ties:

4) The greater the family ties, the greater the chances of return migration.

DATA AND METHODS

The US hurricane seasons of 2004-2005, though devastating for those living through them, are ideal opportunities to study race, political trust, and the return-migration decision. Together, these two seasons caused a combined \$240.5 billion in damage (2012 US\$) and resulted in 2170 deaths (Lott et al. 2013). Hurricanes Katrina and Rita each displaced 1.5 million people (Groen and Polivka 2010; Stein et al 2011), and together covered twenty states, one territory and numerous parishes/counties, and a cross-section of groups.

I employ a unique survey administered over the internet by Survey Sampling International (SSI) in September 2006, completed by respondents living in hurricane-threatened areas of the United States (Appendix A in Supplementary Materials gives detail).⁶ Of 7024 respondents, 2329 (33.16%) evacuated due to a hurricane in 2004-2006.⁷ This subgroup of 2329 evacuaes composes the sample examined in this article. Of these, 893 evacuated for Katrina and 994 for Rita (311 for both). Another 771⁸ evacuated for Hurricanes Charley (254), Frances (211), Ivan (309), Jeanne (154), Wilma (115), Dennis (112), or some combination thereof.⁹

⁶ *Hurricane-threatened* areas contain respondents with registered addresses in a county/parish bordering or separated from the coast by no more than one other county/parish. Respondents were included based on pre-evacuation home addresses. The region surveyed includes Gulf Coast (Texas to Florida) and Southern Atlantic states (Florida to North Carolina).

⁷ At the time of the survey, one 2006 hurricane, Ernesto, had required evacuation.

⁸ As some respondents evacuated for multiple hurricanes, these evacuees do not total 2329.

⁹ These 8 hurricanes were those most commonly evacuated for in the sample. Hurricanes Cindy, Emily, Ernesto, Florence, Gaston, Gordon, Irene and Ophelia were also listed, although no more

The ultimate dependent variable is *return migration*, the respondent's plans regarding returning to live in the area s/he evacuated, ranging from -1 to 11. Evacuees who indicated they had permanently settled in homes since their evacuation could score either -1 or 11. Respondents who had returned to the evacuated area and had no intention of moving away scored "11" (1259 respondents; 54.06%). Respondents who had settled in another location and never intended to return to the evacuated area scored "-1" (166; 7.13%) (Table B.1 in Supplementary Materials lists variables' measurement, descriptives, and tested hypotheses).

Remaining evacuees take values of 0-10 on *return migration*.¹⁰ These respondents had not returned, but were unsure as to where they would settle (902; 38.73%), and were considered "displaced evacuees." Their intentions of returning to live in the evacuated area were measured on a 0-10 scale 0-10.¹¹ Two respondents (0.09%) chose not to answer questions about living arrangements or intentions. Figure B.1 in Supplementary Materials shows the distribution of

than 21 respondents (0.90%) evacuated for any one. Six percent (186) evacuated for hurricane(s) during 2004-2006, but did not know the name(s).

¹⁰ The 0-10 scale was chosen here (and elsewhere) over a continuous probability scale because studies indicate that respondents have difficulty distinguishing among nuanced probabilities. Although more inclusive than categorical responses, the elicitation of probabilities is more prone to confusion and error (for example, Allais' paradox) than asking for discrete answers (Wallsten and Budescu 1983; Kahneman, Slovic and Tversky 1982).

¹¹ "Consider the town, city or metropolitan area you lived in before you evacuated. On a scale of 0 to 10, where 0 means you are sure you do not plan to return to live in the area you evacuated, and 10 means you are sure you do plan to return to live in the area you evacuated, which best describes your future plans about returning to live in the area you evacuated for the hurricane?"

survivors of the top eight most commonly evacuated-for hurricanes on the return-migration decision. In sum, the variable is scored as follows: -1 = settled elsewhere with no intention of return migration; 0-10 = varying likelihood regarding return migration; 11 = return migrated.¹²

Recalling the two dimensions of trust discussed above, each respondent was asked to rank a variety of public officials from 0-10 on competence in dealing with hurricanes, as well as believability.¹³ Political trust is measured at both the federal and local levels. Trust in federal officials to manage disasters could influence an evacuee's decision to live in any hazard-prone area. The measure enables the comparison of political trust across the sample with a constant public official/agency. "Federal Political Trust" is the average of each respondent's evaluation of the President's and FEMA's competence and credibility (four questions total).¹⁴

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When scaled this way, *return migration* combines people who have and have not committed to returning; it does so in order to not seriously undermine the analysis with a selection bias problem. Supplemental analysis shows that the same results come out when a logit model is employed using 1s for "returned" and 0s for "not returned," and when a regression model is employed using a limited sample of only those respondents who have not returned. These findings indicate that the patterns discussed below are robust, and give valid inferences about the mechanisms of interest, while alleviating selection concerns.

¹³ "On a scale of 0 to 10, where 0 means not at all competent in dealing with hurricanes and their effect on residents, and 10 means completely competent, please rate each of the following:" and "On a scale of 0 to 10, where 0 means not at all believable and 10 means completely believable, please rate each of the following:"

¹⁴ Competence and believability questions for: "The current President of the United States," which was George W. Bush; and "FEMA."

Trust in local officials should be associated with each respondent's propensity to return to their specific area. "Local Political Trust" is the average of each respondent's evaluation of his/her mayor's and local first responders' competence and credibility (eight questions). Tables B.2-3 in Supplementary Materials gives correlations between individual component scores and aggregate trust indicators. 16

Race is measured by a self-identified question asked of the respondent. Respondents were given five choices, plus a write-in option. In this analysis, *race* is a dichotomous variable with 1 indicating Black and 0 indicating non-Black. Table B.4 in Supplementary Materials lists descriptive statistics for the sample, split according to race.

Falk, Hunt, and Hunt (2006) suggest that longevity in a region indicates connectedness: "When families and communities exist in one area for generations, their sense of place may be very strong – keeping them there in good times and bad, and drawing them back after they have moved away" (p. 117). *Family ties* to the pre-disaster place of residence are measured by a count of the years a respondent's family lived in the area prior to the critical event. It is expected that this measure will be positively associated with the return-migration decision.

To measure one's personal economic opportunity, the model includes a binary measure of *home ownership*, powerful in distinguishing between those who return and those who do not (Paxson and Rouse 2008), and a dichotomous measure for *fulltime employment*. It is unclear where this employment exists. It could be in the pre-disaster location, in another location, or

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Competence and believability questions for: "Your current Mayor," "Your local police department," "Your local fire department," and "Your local ambulance/emergency services."
 Using an index to gauge an individual's trust in public officials is common (see Citrin and Muste 1999; also Mutz and Reeves 2005).

arranged in such a way that the respondent can perform the job regardless of where s/he settles. As such, *fulltime employment* has the potential to capture the association between fulltime employment and returning to the respondent's place of residence, but it does not guarantee that the employment is a driving factor in the decision to return. Therefore, a dichotomous *education* measure is also included (1= college degree; 0 = else) (college education has been an indicator of class for demographers Fussell, Sastry, and VanLandingham 2010, and others).

Controls include *political ideology, age, sex, coastal distance* of the pre-disaster home, *state of residence* pre-disaster, and *Katrina/Rita experience*. The final two insure that Katrina survivors are not driving results.

Estimation Strategy

To estimate the complex effects of race and trust on the return-migration decision, I use a two-stage least-squares model (2SLS). The dependent variable is the return-migration decision, and both race and federal political trust are allowed to directly affect the decision. As detailed above, however, it is likely that race also has a direct effect on political trust, thus creating an additional indirect effect of race on the return-migration decision. Therefore, political trust is estimated in the first stage, with race as a key explanatory variable, and the return-migration decision is estimated in the second stage.

The first stage, necessitates an instrument of political trust that predicts trust directly, but only predicts the return-migration decision via its effect on trust. The instrument used here is the respondent's self-assessed level of *stress*, measured on a 5-point Likert scale, answering the question, "How much of the time during the past 4 weeks have you felt calm and peaceful?" ¹⁷

¹⁷ Question based on the National Health Interview Survey, given by the National Center for Health Statistics. Appendix C in Supplementary Materials gives details.

Respondents chose from "All of the time, Most of the time, Some of the time, A little of the time," and "None of the time," coded 1-5, with 5 being the highest level of stress.

Over the past decade, political scientists have increasingly considered the integration of neurobiological concepts and techniques into political science research and analysis (see Hibbing 2013). Neurobiology affects how individuals consider information and make decisions. In exploring the relationship between stress and trust, the neuroscience literature clarifies the importance of the neuropeptide oxytocin (OT). OT is manufactured by the hypothalamus gland and distributed throughout the central nervous system (Heinrichs et al. 2003) in response to both social and physical stimuli, such as social support or social challenges, and lactation, mating, or massage (Heinrichs and Domes 2008; Churchland and Winkielman 2012). OT reduces the response to social stressors, allowing people to behave calmly, to lower defenses, and ultimately, to trust (ibid.). Donaldson and Young (2008) suggest that this is accomplished in part by suppressing amygdala activity, as the amygdala can be known to provoke anxiety and impair the ability to judge trustworthiness. In human subjects, OT has been associated with reduced stress (Heinrichs et al. 2003), lowered stress-related symptoms (Heinrichs and Domes 2008), and increased trust (Baumgartner et al. 2008; Kosfeld et al. 2005).

While not claiming to contribute to the advancement of brain science, I do hypothesize that higher levels of stress will be associated with lower levels of trust. I also expect that stress alone will not have a direct effect on the return-migration decision. I thus use *stress* as an instrument for trust, the instrumented variable in the first stage.

First Round Results

Round One estimates political trust in the first stage and return migration in the second. Four models are estimated for federal political trust, and a corresponding four for local political trust. Each model gives coefficients for race and stress in the first stage, and political trust, race, and other return-migration predictors in the second. Controls included, but not enumerated, are sex, age, political ideology, and coastal distance. Model (1) shows results for the basic model. Model (2) adds fixed effects for states, with Louisiana as the comparison. Model (3) controls for Katrina/Rita experience (1-experience; 0-else). Model (4) controls for states and Katrina/Rita experience. Table 1 gives results with federal political trust (Table 2, local political trust). Each column shows results for the first stage above results for the second stage. For brevity, only the fully realized model coefficients (Models 4 and 8) will be thoroughly discussed.

Consistent with Hypothesis 1, race is a significant predictor of trust in all first stage estimations. Blacks are likely to trust their federal political officials 1.17 points less than non-Blacks on the 0-10 scale (p<.01). This finding is robust to the inclusion of state controls and Katrina/Rita experience. Blacks trust both federal and local political officials substantially and significantly less than non-Blacks, but race is insignificant in the second stage of all models. This shows that race is not a significant predictor of return migration once accounting for political trust. Race affects return migration *through* its effect on political trust.

Stress is a strong and significant instrument for political trust, with higher levels of stress associated with lower levels of trust. One point higher on the stress scale corresponds to roughly one-half point lower on federal trust (-.37, p<.01), and one-third point lower on local trust (-.32, p<.01). Model tests indicate that the instrument is strong and that political trust is endogenous. Findings are robust to the inclusion of state and Katrina/Rita controls.¹⁸

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¹⁸ Models 3 and 4 suggest an effect of state and Katrina/Rita survivorship on political trust and return migration, as the coefficient on Katrina/Rita changes in significance when state controls are added. This finding is explored in other work.

Consistent with Hypothesis 2, federal and local political trust are robust predictors of return migration, corresponding to an increase in the potential to return migrate on the 0-10 scale (federal: .66, p<.01; local: .77, p<.01). As one might expect, local political trust has greater influence on the return-migration decision than federal political trust does. Citizens interact with local officials more often than with federal officials, and local officials are first to respond in disasters.

Hypothesis 3 predicts that those enjoying higher levels of economic opportunity will be more likely to return migrate, and findings are consistent with this hypothesis. Fulltime employment has a consistent positive effect (.57 in Model 4, p<.01; .44 in Model 8, p<.01), while home ownership increases one's likelihood of return migration 2 full points on the 0-10 scale (Model 4: 1.98, p<.01; Model 8: 2.03, p<.01). A college education does not appear to make one more likely to return migrate (more on this below).

Hypothesis 4 suggests Family Ties should have a positive relationship with return migration. Results are consistent with this hypothesis. More time in the area increases likelihood of returning by .03 (0-10 scale) for each year one's family lived in the area pre-disaster (p<.01).

Race is not a significant direct predictor of the return-migration decision, yet it demonstrates an effect on both federal and local political trust. Further exploration of the interplay among the three concepts is warranted. This exploration is the aim of Round Two.

First Stage: Predicting Trust	(1)	(2)	(3)	(4)
Race (Non-Black 0, Black 1)	-1.18***	-1.18***	-1.16***	-1.17***
	(0.20)	(0.20)	(0.20)	(0.20)
Stress	-0.44***	-0.37***	-0.43***	-0.37***
	(0.06)	(0.06)	(0.06)	(0.06)
Katrina/Rita Survivor			-0.45***	-0.25
			(0.12)	(0.20)
Return-Migration Variables	YES	YES	YES	YES
State Controls		YES		YES
Controls	YES	YES	YES	YES
Constant	7.39***	5.94***	7.63***	6.20***
	(0.31)	(0.33)	(0.31)	(0.39)
Second Stage: Return-Migration	(1)	(2)	(3)	(4)
Federal Trust	0.55***	0.66***	0.61***	0.66***
	(0.20)	(0.25)	(0.21)	(0.25)
Race (Non-Black 0, Black 1)	0.35	0.47	0.37	0.46
	(0.38)	(0.42)	(0.38)	(0.42)
Return-Migration Variables				
Education	0.43*	0.45*	0.42*	0.45*
	(0.23)	(0.26)	(0.23)	(0.26)
Fulltime Employment	0.52***	0.57***	0.55***	0.57***
	(0.17)	(0.18)	(0.17)	(0.18)
Home Ownership	1.93***	1.98***	1.96***	1.98***
	(0.20)	(0.20)	(0.20)	(0.20)
Family Ties	0.04***	0.03***	0.03***	0.03***
	(0.00)	(0.00)	(0.00)	(0.00)
Katrina/Rita Survivor			0.93***	0.22
			(0.21)	(0.31)
Controls	YES	YES	YES	YES
State Controls		YES		YES
Constant	1.78	1.83	0.92	1.63
	(1.26)	(1.22)	(1.37)	(1.31)
Observations	2,327	2,327	2,327	2,327
1 st -stage R ²	0.78	0.79	0.78	0.79
F-test of Excluded Instruments:	54.56***	39.96***	52.06***	40.24***
2 nd -stage R ²	0.83	0.82	0.83	0.82
F-test	29.93***	18.76***	27.93***	17.75***
Anderson-Rubin Tests of Joint Signi				
F-test	8.487***	8.576***	9.640***	8.551***
Chi ²	8.527***	8.642***	9.690***	8.622***
Tests of Endogeneity:	5.527	3.312	2.333	0.322
Wu-Hausman F-test	7.99***	8.42***	8.85***	8.39***
Durbin-Wu-Hausman Chi2	8.00***	8.46***	8.87***	8.43***
Identification Tests:	5.50	55	5.5.	35
Wald	98.26***	79.43***	90.03***	78.27***
Kleibergen-Paap	96.90***	78.54***	88.89***	77.41***

Notes: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1 Controls include age, sex, coastal proximity, and political ideology.

First Stage: Predicting Trust	(5)	(6)	(7)	(8)
Race (Non-Black 0, Black 1)	-0.49***	-0.48***	-0.48***	-0.47***
	(0.14)	(0.14)	(0.14)	(0.14)
Stress	-0.34***	-0.32***	-0.34***	-0.32***
	(0.04)	(0.04)	(0.04)	(0.04)
Katrina/Rita Survivor			-0.14	-0.06
			(0.09)	(0.14)
Return-Migration Variables	YES	YES	YES	YES
State Controls		YES		YES
Controls	YES	YES	YES	YES
Constant	8.28***	7.84***	8.36***	7.90***
	(0.22)	(0.24)	(0.22)	(0.28)
Second Stage: Return-Migration	(5)	(6)	(7)	(8)
Local Trust	0.72***	0.77***	0.77***	0.77***
	(0.26)	(0.28)	(0.26)	(0.28)
Race (Non-Black 0, Black 1)	0.05	0.05	0.04	0.05
	(0.32)	(0.32)	(0.32)	(0.32)
Return-Migration Variables				
Education	0.18	0.13	0.16	0.13
	(0.19)	(0.19)	(0.19)	(0.19)
Fulltime Employment	0.41**	0.44***	0.43**	0.44***
<u> </u>	(0.17)	(0.17)	(0.17)	(0.17)
Home Ownership	1.97***	2.03***	2.00***	2.03***
	(0.19)	(0.19)	(0.19)	(0.19)
Family Ties	0.04***	0.03***	0.03***	0.03***
	(0.00)	(0.00)	(0.00)	(0.00)
Katrina/Rita Survivor			0.76***	0.09
			(0.19)	(0.30)
Controls	YES	YES	YES	YES
State Controls		YES		YES
Constant	-0.08	-0.26	-0.93	-0.35
	(1.90)	(1.92)	(1.96)	(1.95)
Observations	2,327	2,327	2,327	2,327
1 st -stage R ²	0.94	0.94	0.94	0.94
F-test of Excluded Instruments:	63.28***	55.61***	61.93***	55.68***
2 nd -stage R ²	0.84	0.83	0.83	0.83
F-test	30.85***	20.05***	28.92***	18.94**
Anderson-Rubin Tests of Joint Signi				
F-test	8.487***	8.576***	9.640***	8.551***
Chi ²	8.527***	8.642***	9.690***	8.622***
	0.547	0.042	5.050	0.022
Tests of Endogeneity:	7.17***	7.44***	8.11***	7.46***
Wu-Hausman F-test Durbin-Wu-Hausman Chi2	7.18***	7.44***	8.13***	7.40***
Identification Tests:	7.10	7.40	0.13	7.42
Wald	139.85***	129.54***	138.82**	* 120 02*
Kleibergen-Paap	139.85***			

Notes: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1 Controls include age, sex, coastal proximity, and political ideology.

Second Round Results

Round One established that a racial differentiation in political trust contributes to a racial differentiation in return migration. A different, but related question is: Does the effect of political trust on return migration vary according to race? Answering this question requires entering *race* and *political trust* into the second stage as an interacted predictor. Since political trust is predicted in the first stage, the interaction must be predicted in the first stage as well. This means there will be two first-stage dependent variables: *political trust*, and *political trust*black*. With two first-stage dependent variables, there must be at least two instruments, in this case: *stress*, and *stress*black*. Since black respondents represent less than 10% of the sample (195 respondents, 8.38%), this interaction was chosen over a difference-in-difference design.

Tables 3-4 give Round Two results for federal and local political trust. As before, Models 9-12 and 13-16 represent models with no state or Katrina/Rita controls (Models 9 and 13), with state fixed effects (10, 14), with Katrina/Rita experience (11, 15), and with state and Katrina/Rita controls (12, 16). Results now list test statistics for the first stage, with coefficients for the second stage only. Across Models 9-12 (and 13-16), findings on the main variables of interest are robust on coefficient sign, significance, and magnitude. Therefore discussion and interpretation will be limited to the fully realized model for each set (Models 12 and 16), which includes state and Katrina/Rita controls. Marginal effects are generated with these two models using Stata's "margins" command (StataCorp 2013).

¹⁹ Recall that first-stage estimates are discussed with Round One results. Splitting the first stage allows interpretation of an interacted first stage, yet yields two first-stage coefficients that are substantively meaningless. Full analysis of the racially-differentiated effects of each political trust determinant, possible with a fully interacted first stage, is the focus of further research.

Table 3 Round Two: Federal Political Trust & Return Migration					
	(9)	(10)	(11)	(12)	
	Return	Return	Return	Return	
	Migration	Migration	Migration	Migration	
Federal Trust	0.46**	0.57**	0.52**	0.57**	
	(0.22)	(0.26)	(0.23)	(0.26)	
Federal Trust among Blacks	0.72	0.69	0.69	0.69	
	(0.50)	(0.51)	(0.51)	(0.51)	
Race (Non-Black 0, Black 1)	-2.27	-2.07	-2.15	-2.06	
	(1.89)	(1.93)	(1.91)	(1.94)	
Education	0.42*	0.44*	0.42*	0.44*	
	(0.23)	(0.26)	(0.23)	(0.26)	
Fulltime Employment	0.53***	0.58***	0.56***	0.58***	
	(0.17)	(0.18)	(0.17)	(0.18)	
Home Ownership	1.95***	2.00***	1.98***	2.00***	
	(0.20)	(0.20)	(0.20)	(0.20)	
Family Ties	0.04***	0.03***	0.03***	0.03***	
	(0.00)	(0.00)	(0.00)	(0.00)	
Katrina/Rita Survivor			0.88***	0.12	
			(0.22)	(0.32)	
State Controls		YES		YES	
Controls	YES	YES	YES	YES	
Constant	2.32*	2.34*	1.48	2.23	
	(1.34)	(1.30)	(1.46)	(1.41)	
Observations	2,327	2,327	2,327	2,327	
R^2	0.83	0.82	0.83	0.82	
F	27.37***	17.91***	25.8***	16.98***	
Anderson-Rubin Tests of Joint S	Significance	of Endogeno	us Regresso	rs	
F-test	5.73***	5.76***	6.25***	5.74***	
Chi2	11.52***	11.62***	12.58***	11.59***	
Test Statistics (Federal Political Trust):					
First Stage R ²	0.78	0.79	0.78	0.79	
F-test of Excluded Instruments:		20.08***	26.15***	20.24***	
Tests of Endogeneity:					
Wu-Hausman F-test	6.71***	7.12***	7.44***	7.14***	
Durbin-Wu-Hausman Chi ²	6.73***	7.16***	7.46***	7.18***	
Identification Tests:	0.75	7.10	7.10	7.10	
Wald	196.51***	177.43***	188.32***	176.35***	
Kleibergen-Paap	193.80***	175.19***	185.82***	174.13***	
Test Statistics (Black X Federal P					
First Stage R ²	0.64	0.64	0.64	0.64	
F-test of Excluded Instruments:		57.78***	58.19***	57.4***	
Tests of Endogeneity:	50.13	37.70	50.13	57.7	
Wu-Hausman F-test	5.83**	6.29**	6.02**	6.21**	
Durbin-Wu-Hausman Chi ²	5.85**	6.31**	6.04**	6.25**	
Identification Tests:	OE //1***	70 22***	00 24***	70 02***	
Wald Kleibergen-Paap	95.41*** 94.13***	79.23*** 78.35***	89.34*** 88.21***	78.03*** 77.17***	

Notes: First-stage endogenous variables are political trust and political trust interacted with race.

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1 Controls include age, sex, coastal proximity, and political ideology.

Table 4 Round Two: Local Political Trust & Return Migration					
	(13)	(14)	(15)	(16)	
	Return	Return	Return	Return	
	Migration	Migration	Migration	Migration	
Local Trust	0.62**	0.68**	0.67**	0.68**	
	(0.28)	(0.30)	(0.28)	(0.30)	
Local Trust among Blacks	1.63	1.58	1.60	1.59	
	(1.02)	(1.00)	(1.02)	(1.00)	
Race (Non-Black 0, Black 1)	-10.77	-10.49	-10.58	-10.51	
	(6.78)	(6.65)	(6.82)	(6.68)	
Education	0.18	0.13	0.15	0.13	
	(0.20)	(0.20)	(0.20)	(0.20)	
Fulltime Employment	0.38**	0.41**	0.40**	0.41**	
	(0.18)	(0.18)	(0.18)	(0.18)	
Home Ownership	1.95***	2.00***	1.97***	2.00***	
	(0.20)	(0.20)	(0.20)	(0.20)	
Family Ties	0.04***	0.03***	0.04***	0.03***	
	(0.00)	(0.00)	(0.00)	(0.00)	
Katrina/Rita Survivor			0.67***	-0.03	
			(0.21)	(0.32)	
State Controls		YES		YES	
Controls	YES	YES	YES	YES	
Constant	0.84	0.61	0.08	0.64	
	(2.07)	(2.08)	(2.15)	(2.13)	
Observations	2,327	2,327	2,327	2,327	
R^2	0.82	0.82	0.82	0.82	
F	25.62***	17.25***	24.25***	16.33***	
Anderson-Rubin Tests of Joint S	ignificance	of Endogeno	us Regresso	rs	
F-test	5.73***	5.76***	6.25***	5.74***	
Chi 2	11.52***	11.62***	12.58***	11.59***	
Test Statistics (Local Political Trust):					
First Stage R ²	0.94	0.94	0.94	0.94	
S	31.63***	27.80***		27.84***	
	9.01***	9.25***	9.90***	9.26***	
Durbin-Wu-Hausman Chi ²	9.03***	9.29***	9.91***	9.30***	
	275.05***	267.44***	274.02***	268.82***	
		0.89	n 89	n 89	
	_,,,,	_0.25	_,,,,	_0.07	
	5 19**	5 47	5 32	5 43	
	2.13	3.51	3.54	J.4/	
	120 20***	125 12***	120 60***	126 14***	
7					
State Controls Controls Constant Observations R ² F Anderson-Rubin Tests of Joint S F-test Chi2	YES 0.84 (2.07) 2,327 0.82 25.62*** ignificance 5.73*** 11.52*** st): 0.94 31.63*** 9.01*** 9.03*** 275.05*** 269.74*** tical Trust): 0.89	YES YES 0.61 (2.08) 2,327 0.82 17.25*** of Endogeno 5.76*** 11.62***	0.67*** (0.21) YES 0.08 (2.15) 2,327 0.82 24.25*** us Regresso 6.25*** 12.58*** 0.94 30.96***	-0.03 (0.32) YES YES 0.64 (2.13) 2,327 0.82 16.33*** rs 5.74*** 11.59***	

Notes: First-stage endogenous variables are political trust and political trust interacted with race.

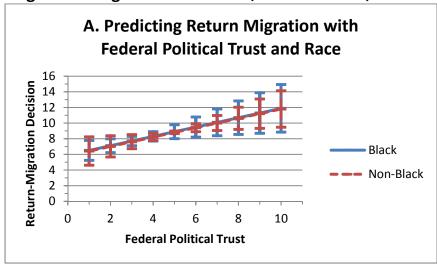
Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1 Controls include age, sex, coastal proximity, and political ideology. We know from Round One that race predicts federal and local political trust. Results indicate an insignificant coefficient on *political trust*black*, showing that political trust does not have racially-differentiated effects on return migration. The finding means that political trust is a significant predictor of the return-migration decision, but that trust's effect on return migration does not differ according to the race of the person doing the trusting. Additionally, the insignificant coefficient on race continues, remaining consistent with Round One findings that once political trust is considered, race is not a direct influence on return migration.

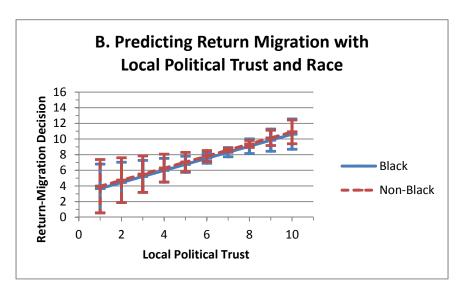
Figure 1 illuminates the relationship among race, political trust, and return migration. Panels A and B show the marginal effects of political trust on return migration, by race. The effect of Blacks' political trust on return migration is not statistically different from that of non-Blacks at either the federal (Panel A) or local (B) level. Panel C demonstrates, however, that Blacks and non-Blacks have a distinctly different return-migration pattern (95 CI for Blacks: (7.44, 8.55); non-Blacks: (8.61, 8.94)). Panels D-E show the source behind this interaction by demonstrating the marginal effects of race on political trust. Blacks' significant difference from others in federal and local political trust contributes to the racial difference in return migration.²⁰

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²⁰ Though New Orleans had a black mayor during Hurricane Katrina and the survey, the sample contains 67 (2.88%) New Orleanians. New Orleans' residents' opinions are not driving results.

Figure 1 Marginal Effects: Race, Political Trust, and Return Migration





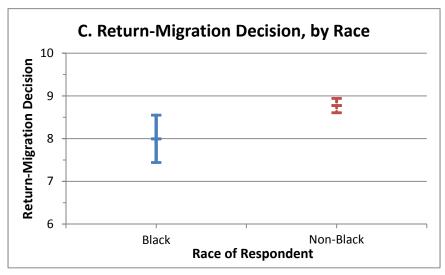
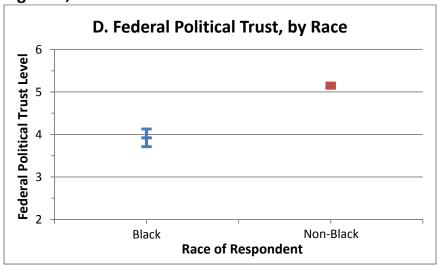
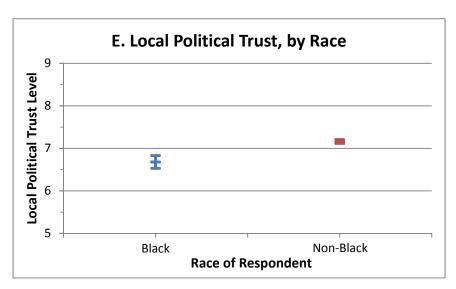


Figure 1, Continued

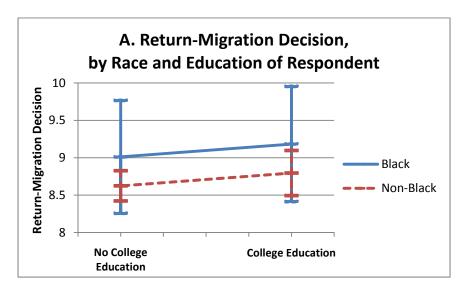




Let us also revisit the relationship among education, political trust, and return migration. Previous work has suggested that race-based differences in class, specifically grounded in higher education, are responsible for racial differences in return migration (Falk, Hunt, and Hunt 2006; Elliott and Pais 2006; Landry et al. 2007). A glance at Models 1-16 appears that education has no significant effect on return migration; education coefficients are not statistically different from zero. Viewing the marginal effects of education and race on political trust, however, the racial differentiation becomes clear.

Figure 3 shows no marginal effect of education, and no racial difference in education, in terms of the return-migration decision estimated based on either federal (Panel A) or local (B) political trust. Neither Blacks nor non-Blacks significantly differ in their return-migration intentions according to college graduate status, and racial groups do not differ from each other. Panels C and D, however, show how education and race together relate to political trust, which we know subsequently affects return migration. Marginal effects illustrate that college-educated Blacks have lower federal political trust than Blacks who do not have a college education, and that the same pattern is true for non-Blacks. Further, Blacks have lower federal and local political trust, regardless of education level, than non-Blacks.

Figure 2 Marginal Effects: Race, Education, and Return Migration



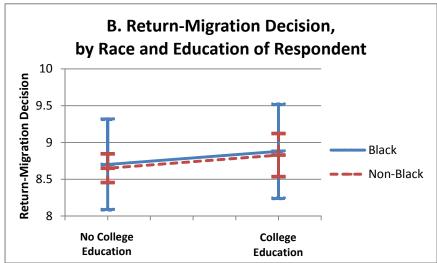
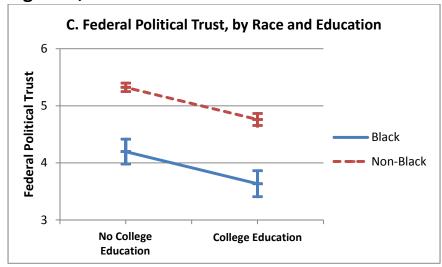
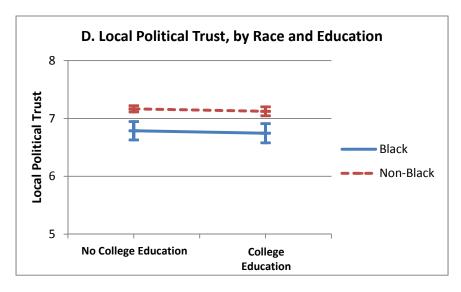


Figure 2, Continued





Discussion

The preceding analysis shows that including political variables in the return-migration calculus not only adds a missing predictor, it is crucial in explaining the link between return migration and race. Consistent with theoretical predictions in return migration, evacuees are more likely to return to their pre-disaster place of residence if they have economic opportunities and family ties to the area. For one of the first times, family ties are found to be empirically related to return migration (Landry et al 2007 could not find this), possibly because they are measured by longevity in the community, rather than place of birth.

Also new to the return-migration literature is the idea that the migration decision is based on trust in government and public officials to competently mitigate and manage the consequences of critical events. Adding political trust to the analysis allows me to show that race does not have a direct effect on return migration in the US, but that race works through political trust to determine return-migration decisions. Political trust is an intervening variable in the return-migration calculus.

As displaced evacuees determine where to settle post-disaster, they consider a variety of factors. Evacuees pay attention to their political officials' behavior prior to, during, and after the disaster, and adjust their expectations about future critical events accordingly. If police departments, fire and rescue operations, and key decision makers are deemed competent and believable in promises of rebuilding, if mayors and city councils are found trustworthy in delivering on promises to help in recovery, if the president and FEMA inspire confidence that future events can be mitigated and managed swiftly and efficiently, one is likely to return migrate. Otherwise, she is likely to settle elsewhere.

The racial differentiation in resettlement occurs because Blacks and non-Blacks do not hold these officials in the same esteem. Blacks find their mayors, police departments, fire and rescue, president, and FEMA to be less competent in dealing with disasters, less believable, and on the whole less worthy of trust than non-Blacks do. And so Blacks do return to the post-disaster location less than others, but it is not because they are black. Blacks return to the post-disaster location less than non-Blacks because they trust their government and public officials less than non-Blacks.

CONCLUSION

Political trust is a germane and crucial factor in the return-migration decision calculus. We know that failure to account for political trust in future return-migration studies equates to a failure to understand how and why different groups choose to resettle, rebuild, and invest in growth and recovery. We also know that return-migration is a politically salient topic for future inquiry. If the return-migration decision has a political element, it is reasonable to think that there could be political consequences to that decision as well.

Specifically, we can expect the post-disaster community to be not only demographically different, but also more politically trusting, than it was prior to the disaster. Since higher levels of political trust have been associated with higher levels of voter turnout and political participation (Emig, Hesse, and Fisher 1996; Avery 2006), the post-disaster community could be more politically active than it was prior to the disaster, thus actually serving to mitigate the impact of future critical events. And since race has been linked to voter choice (see Bejarano and Segura 2007), and the racial composition of post-disaster communities are likely to change, the politically active post-disaster community might elect representation that reflects these shifts. Results on employment status indicate that post-disaster areas should also expect changes in the

labor force, which can alter area revenue streams and public goods provisions. The allocation of those resources during recovery will depend on not only who chooses to return and reinvest in an area, but also on who is making key decisions. These topics are all promising avenues for study.

The application of these findings may go well beyond the disaster and return-migration context. Those believing themselves to be in upheaval might be facing similar decisions about where to live. Take, for instance, the question of racial turnover in a neighborhood. Wilson Julius Williams (2006) writes of four Chicago neighborhoods that experienced racial evolution in the 1990s, giving some residents the impetus to move away as their only foreseeable alternative to living in a changing environment. In their case, upheaval created out-migration according to group characteristics. How such groups believe their public officials respond to their concerns could help unlock patterns of group migration and self-segregation within US cities.

From a policy standpoint, consider rebuilding after civil conflict, military intervention, ethnic cleansing, or other crises have destroyed communities. The findings presented here suggest citizens will be less likely to return home from displacement, less likely to invest in rebuilding, indeed less likely to be involved in society in general, due to a lack of trust in government and public officials, *and* that this lack in trust may differ according to predictable group characteristics. Armed with this knowledge, policy-makers abroad can focus on trust as an important rebuilding effort in tandem with restructuring and reforming societies.

Any situation that puts citizens in a feeling of crisis, forcing them to evaluate decisions about where to live, could involve an element of political trust in ways as yet unexplored. The union of political trust and migration is logical and sound, with applications in and beyond disasters, migration, and political science.

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