

**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 a political reason for this pattern? I investigate political trust as the mechanism through which race affects people's decision of where to live after forced evacuation. After accounting for economic, demographic, and sociological influences on return-migration, I find that political trust has a significant effect, acting as a mediator between race and return migration. I am thus able to show that race does not have a direct effect on return migration in the US, but that race works through the causal mechanism of 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.

After Hurricane Katrina displaced 400,000 people from New Orleans in August 2005, Black citizens returned to the city at markedly lower rates than citizens of other races (Fussell, Sastry, and VanLandingham 2010). Of approximately 1.5 million citizens who evacuated the Gulf Coast due to the same hurricane, Blacks returned at half the rate 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 other races? Current explanations of US racially-differentiated return migration leave political factors conspicuously absent. Class-based arguments suggest that Blacks are less likely to return because their homes are more likely to suffer damage, or that lower education disadvantages Blacks during post-disaster recovery (Groen and Polivka 2010; Fussell, Sastry, and VanLandingham 2010). Yet class-based studies find that Black evacuees are less likely to return even controlling for housing damage and education (Paxson and Rouse 2008). Overall, consideration of homeownership, housing damage, and education leaves a portion of racially-based return migration unexplained: Blacks still return home at lower rates than evacuees of other races.

This article seeks a firmer grasp on the relationship between race and post-disaster return migration by examining a previously unconsidered variable: political trust. Political trust can be fortified or damaged by the disaster experience. Afterward those who trust their public officials less fear their government will be unable to protect them from future crises (Robinson et al 2013), which I argue conditions their post-disaster decisions about where to live. Trust in public officials to keep promises, rebuild after the disaster, and mitigate future disasters then factors into evacuees' estimations of whether return migration will be worthwhile.

¹ Blacks represented lower population proportions in coastal counties in the wake of Hurricane Irene in 2011 and after the 2003 California wildfires (U.S. Census Bureau 2013).

An individual's race factors into political trust both before the disaster strikes and during the disaster experience. Based on political socialization and disaster experiences, trust that is already low prior to the disaster is poised to decrease when social and economic disparities are highlighted by the disaster. Existing and reinforced racial disparities in political trust open the door to further racial disparities in the decisions requiring trust, such as whether to return home.

Performing mediation analysis on survey data of displaced survivors from the 2004-05 hurricane seasons, I find that Black evacuees have significantly lower political trust than others, and that political trust influences the return-migration decision. I also find that race has no direct effect on return migration, but that its effect is mediated by trust. Blacks are less likely to return because Blacks have lower levels of political trust, and those with lower political trust are less likely to return.

Political trust is thus 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 others do.

The United Nations predicts that by mid-century, between 50 and 250 million people will be displaced within or across countries due to climate change-induced disasters (UNGA 2009). Those displaced due to civil conflict cause the estimate to further surge. This article is timely due to a recent surge in mass displacement, and a lack of attention to the political causes and consequences of that displacement. If the decision to return is based on trust, economic recovery may not be enough to convince a diverse and vibrant population to return. If an area's demographic and political make-up changes as a result of these group-specific return-migration decisions, the new electorate could change its voting behavior or civic participation rates and thus its electoral outcomes, policy choices, and tax base.

This work thereby speaks to three additional literatures. First, there is a broad literature on the political impacts of natural disasters, including the effects of disasters on elections. One

theoretical argument in that literature is that even though elected officials lose in vote share after droughts, floods, and tornados, these electoral responses are largely due to “blind retrospection” (Achen and Bartels 2004) because voters are holding leaders accountable for events beyond their control (Healy and Malhotra 2010). My work instead takes the position commonly held in the disaster literature that disasters are disruptions spurred by critical events such as natural hazards, the extent of which can be mitigated or stemmed by the public officials managing them (Perry 2006). This view casts voters who penalize their public officials as rational because disasters are not exogenous, but rather endogenous in the sense that their extent and impact depends on the people who have been chosen to manage and mitigate them. With trust as a new predictor of return migration, my work reinforces findings of Gasper and Reeves (2011) and Healy and Malhotra (2009) that voters are factoring the actions of their public officials into their own future decisions, penalizing or rewarding them not just by voting, but by voting with their feet.

Second, I provide valuable evidence on the question of how to re-build communities after a crisis, primarily through a focus on trust and community-building as well as pre-existing economic plans. This paper reinforces recent work by Fair et al (2013) showing that in research, the political consequences of disasters should not be separated from economic effects. We already know that major natural disasters can cause economic shocks. My work shows that some of these economic consequences are tied to the trust citizens have in their public officials, and that without political trust, an economic rebuilding plan is unlikely to succeed. When determining where people choose to live after civil conflict, natural disasters, and even economic crises, we should be mindful that this decision will be influenced by individuals’ trust in government. Political factors should no longer be ignored in studying the return-migration decision.

While it has long been argued that trust is fundamental to building societies, polities, and economies (Putnam 1993; Fukuyama 1995; Alesina & La Ferrara 2002; 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.

The Return Migration Decision

Disasters are unplanned disruptions in social and political systems, sparked by critical events.² Disasters displace individuals, *forcing* migration in that people have little choice but to move.³ After the disaster, evacuees are faced with a migration choice, that of whether or not to return to their original place of residence. This *return-migration decision* is based on a cost-benefit analysis about the potential move. Those with the most to gain from returning are most likely to return. Those who are less likely to return are either less likely to benefit from returning, or are less able to marshal the resources and incur the costs of doing so (Fussell, Sastry, and VanLandingham 2010).

Though surprisingly little is known about how we make the decision to evacuate or return, risk scholars have begun to conclude that these decisions hinge on risk perceptions (Trumbo et al 2011; Lin et al 2014). Prior to a disaster, people tend to believe they are *un*-likely to experience a hazardous event (Helweg-Larsen 1999; Suls et al 2013). After the experience, citizens look to the future with updated perceptions of the risk of another disaster occurring (Sherman-Morris 2013). These new perceptions directly influence return migration plans by conditioning how they perceive future risks (Siebeneck and Cova 2012; Pennings and Grossman 2008).

² Based on Quarantelli, Lagadec, and Boin (2006). Despite debate, most agree disasters are social phenomena that would not cause alarm if not for their impact on society (Perry 2006).

³ Migration scholars acknowledge that few (if any) disaster evacuees have no other option; they can stay and risk death or life in a disaster area. I follow convention, using *forced* to convey that options are open to few and undesirable to most (Fussell, Sastry, and VanLandingham 2010).

Recall that disasters begin with critical events, but are defined by the extent of the ensuing socio-political disruption. That is, disasters can be mitigated and limited by the actions of public officials managing them. Individual assessments of these officials' performance condition beliefs about how they will perform in the future. A citizen will therefore assign risk based on whether s/he trusts in her public officials' abilities and commitment to mitigate future disasters. Trust levels that differ according to race will beget return-migration patterns that differ according to race, as well.

I examine how an individual's political trust affects her decision to return migrate or not. One will return when the expected benefit of returning outweighs the expected cost, which occurs either when the benefits of returning are high, or the risk of suffering another disaster is low. Differences in risk perceptions that are grounded in race translate into racially-differentiated return migration, and account for previously unexplained racial differentiation in benefits and costs. Below, I develop specific hypotheses that follow from this central theory. I first address factors influencing risk perceptions, and then examine benefits and costs associated with return migration.

Risk and Disasters

Millions in the US live in places that regularly experience natural hazards. For some, this is likely due to employment, housing, social connections, or a sense of place. Others, however, do not fear disasters because they do not believe the natural hazards will have disastrous consequences; this is due in part to the trust they have in their local, state, and federal officials to be able and willing to mitigate and curtail the disastrous effects of critical events, thus limiting the disasters themselves.

My logic is similar to that in previous studies examining migration of post-conflict refugees. Moore and Shellman (2004) argue that threats to one's life and liberty drive decisions about where to settle, and that places with greater threats are more likely to witness a drain of citizens. They reason that government behavior leads to outward migration when that behavior conditions expectations about the future behavior of government, and thereby perceptions of threat. Acknowledging

differences between government behavior during conflict versus disaster, the principle is the same: perceived risks to disaster evacuees' lives influence decisions about where to live, and the return migration decision is connected to government behavior during disasters because that behavior conditions people's beliefs about how government will perform during future disasters. This argument is founded on the relationship between political trust and personal experience.

Trust and Personal Experience

Political trust is an orientation toward public officials or agencies based on character and ability (Keele 2007; Miller 1974). That is, trust is the belief that public officials can and will perform their jobs. *A trusts B to do X, or in matters Y* (Hardin 2002, p. xx). Trust increases with the belief that an official is both capable of doing the job (*I trust him to do it because he is competent at doing it*) and has the moral fortitude to do it (*I trust him to do it even if it is a personally difficult thing to do*; Nicholls and Picou 2013; Levi and Stoker 2000; Ullmann-Margalit 2004).

Trust is a product of experience. Some experience is formative in nature, occurring early in life and contributing to one's overall socialization and beliefs. This type of experience is typically tied to identifying characteristics such as sex, race, age, and education, and contributes to *diffuse trust* (Mishler and Rose 1997). Recent experience conditions assessments of government performance, and contributes to *specific trust* (Weatherford 1987; Hetherington and Globetti 2002).

Hetherington and Husser (2011) find that people are primed to evaluate trust based on salience, which in turn causes trust to affect preferences in the same domain. The disaster experience activates trust as citizens sacrifice personal autonomy and trust the government to make decisions on their behalf (Montgomery, Jordens, and Little 2008). This means evacuees are primed to evaluate trust with the disaster in mind. A successfully managed disaster boosts trust, uniting citizens with public officials to overcome fear and rebuild a community (Teets 2009). Poorly handled disasters diminish trust by exposing the inabilities of government officials to carry out the work they were

entrusted to perform (see Troy 2004). Because each person can experience the disaster differently, it is possible for one disaster to fortify trust among some people while it damages trust among others.⁴

Race, Trust, and Personal Experience

According to Elliot and Pais (2008), differences in disaster experience have occurred along racial lines. Among Hurricane Katrina survivors, they find that Blacks were significantly less likely than Whites to evacuate, and significantly more likely than Whites to have lost their jobs. Their findings, consistent with those of Morrow (1997) and Kessler (1979), support the idea that social, political, and economic disadvantages that exist prior to disasters are exacerbated by the disaster experience. The experience situates Blacks well to have low specific trust.

This work builds on evidence that political trust is racially distinct in the United States. Historically, the low political trust of Blacks has been "one of the most persistent and powerful characteristics of American political life" (Marschall and Shah 2007, p. 649).⁵ As a disadvantaged subcultural group, Blacks confront a political reality of unbalanced power and unfair treatment, making them less likely to trust. These trust levels have in turn been linked to political participation and civic involvement (Abramson 1983, 160-64, 219-223; Marschall and Shah 2007; Howell and Fagan 1988; Bobo and Gilliam 1990; Emig, Hesse, and Fisher 1996; Avery 2006).

Basic trust theory tells us that personal characteristics fuse with experiences to form one's particular level of trust in government at any given moment. One's race contributes to the political socialization that molds diffuse trust, and to the personal experiences that condition specific trust. As the political reality model predicts lower diffuse trust among Blacks, and disaster experience is

⁴ Acknowledging the difference between generalized and political trust, I follow Keele (2005; 2007) and use *trust* and *political trust* interchangeably, referring to *interpersonal trust* only when necessary.

⁵ Although Simpson, McGrimmon, and Irwin (2007) give a compelling argument that Blacks have higher in-group trust.

expected to generate lower specific trust among Blacks, I expect overall trust to be lower among Blacks than among evacuees of other races.

Now consider how trust conditions return migration. As people experience a disaster, they update expectations about how future disasters will unfold. Because government behavior can either ameliorate or exacerbate the disaster experience, expectations about future government preparation, mitigation, recovery, and relief will translate directly into expectations regarding future disaster risk. An updated trust level based on the disaster experience is, in effect, the same as an updated belief regarding the risk of a future disaster. The worse one's disaster experience, the lower one's trust, the greater one's perceived risk of future disasters, and the less likely one is to return migrate.

Return-migration decisions, then, are shaped by political trust via the political socialization and disaster experiences, which in turn vary with race. That is, a person's trust affects whether or not they will return home, and that trust varies by racial group. Blacks are expected to have lower return migration rates because their political reality and bad disaster experiences lead to lower trust.⁶

Additional Drivers of Return Migration

Having explored the connection between race and return migration, let us consider other potential reasons to go home. Disasters may affect return migration through means such as housing damages, community destruction, unemployment, or the formation of social networks.

Homeownership factors into return-migration in that homeowners have invested in property that could be lost if they do not return. I therefore expect homeowners to be more likely to return than those who do not own homes. Damaged property, however, becomes a liability, taking money

⁶ Note that this is not the same as expecting a racially-differential effect of trust on return migration. Theoretical bases for an interactive effect of trust and race on return migration are scarce. Since race and trust are expected to co-vary, however, there is a chance their relationships with other variables could do the same. These ideas are explored in Appendix E to streamline this presentation.

and effort to repair. Because damaged homes are more costly to return to and rebuild, I expect higher levels of housing damages to be correlated with lower levels of return.⁷

Those with employment in the disaster location also enjoy substantial benefits of returning, as their net income will decrease if they choose to live farther away. If staying away means losing employment, the cost of doing so looms even larger. For those without jobs, there is less to lose in choosing not to return. I thus expect the employed to be more likely to return than the unemployed.

Even among people with identical homeownership, damages, and job status, studies find racial differentiation in return migration (Elliot and Pais 2006). Lower return rates could be due to overall neighborhood desolation. For some, there are few benefits to a home with no neighbors, churches, or community networks, and the cost of that social void outweighs the benefits of moving back. This social network perspective suggests that certain groups of people are more likely to return migrate while others are more likely to form social ties in their new locations (Fussell, Sastry, and VanLandingham 2010). Social networks can help group members feel comfortable with decisions about where to live, sharing information about housing, jobs, and public services.⁸ Work by Gimpel, Lee, and Kaminski (2006) and Gimpel et al (2008) suggests that people will be pulled back to their home church and small-town communities based on repeated pre-disaster personal interactions and the close physical proximity present in coastal hamlets.⁹ I therefore expect return migration to decrease as church attendance and coastal proximity decrease.

⁷ Homeownership and damages may co-vary. Renters often live in poorly-kept properties, unable to withstand severe weather and more likely to incur damages (Fussell, Sastry, and VanLandingham 2010). Rental properties are also likely to be located in low-value areas susceptible to disasters, such as in floodplains, below dams, or near refineries and power plants (Falk, Hunt, and Hunt 2006).

⁸ Moore and Shellman (2007) explain how similar groups help international refugees resettle.

⁹ Although Paxson and Rouse (2008) find an exception with church-going evacuees.

Social connections also produce intrinsic benefits. Falk, Hunt, and Hunt (2006) suggest that longevity in a region builds social connectedness by creating a *sense of place*: "When families ... exist in one area for generations, their sense of place may be very strong – keeping them there in good times and bad, drawing them back after they have moved away" (p. 117). Because a strong sense of place can keep people in an area despite the pull to leave due to other factors (Landry et al 2007), I expect family longevity in a region to increase the likelihood of return migration.

Endogeneity Considerations

A few additional matters of the race-trust-migration relationship demand attention. First, there are several factors known to influence both trust and return migration. Previous studies suggest that certain demographic groups are more likely to return migrate than others, some dimensions of which have shown differences in trust: sex, class (measured with education), age, and political ideology. If any of these characteristics do determine trust and return migration, and trust also determines return migration, then trust is endogenous to the determination of return migration.

There may be other complications as well, such as unobserved determinants of both variables. The value one places on their community, for example, could influence the decision to return as well as the level of trust in public officials (if held responsible for community quality). Yet concepts such as community value are difficult to measure and rarely tested. The existence of unobserved characteristics such as this, that influence both variables, would violate exogeneity.

The final concern regards response error. Evacuees assess their own trust in government and their own likelihood of return migration. Self-reporting of both feelings and intentions is known to be flawed because of response error and simple lack of knowledge regarding the future (Manski 1990). There is thus reason to believe there is a non-zero correlation between error terms.

The shared covariates, possibility of unobserved predictors, and potential non-zero correlation of error terms combine to form a compelling case for the endogeneity of trust. It would

be advantageous to find and use a determinant of trust that is not a direct determinant of return migration. Imai et al (2011) tells us that with proper mediation analysis, this predictor would allow the prediction of trust based on race, and return migration based on trust, with all common variables included in the mix. If trust is significant and the model passes endogeneity/exogeneity tests, we can conclude it is a causal mechanism connecting race to return migration.

Instrumenting Trust

A reliable way to predict how the disaster experience affects trust should be through the level of stress an evacuee experiences. During a disaster, evacuees band together to face challenges, uniting to confront adversity (Teets 2009). Merolla et al (2013) find that these types of situations encourage interpersonal and political trust through the release of the neuropeptide oxytocin (OT). OT is manufactured by the hypothalamus gland and distributed throughout the central nervous system in response to social support or challenges, reducing the response to stressors and allowing people to behave calmly, to lower defenses, and ultimately, to trust (Heinrichs et al. 2003; Heinrichs and Domes 2008; Churchland and Winkielman 2012; Baumgartner et al. 2008; Kosfeld et al. 2005). We can thus hypothesize: the higher the stress, the lower the trust.

There is a dearth of information on the relationship between stress and return migration, which reflects the lack of theoretical and empirical foundation for a direct relationship between the two. Limited research has attempted to connect health to migration, however. This work posits that better health might correspond to a lower likelihood of return migrating because an unhealthy person would have difficulty bearing with the move, or a higher likelihood because an unhealthy person might have difficulty bearing with living away from home (see Wallace and Kulu 2013). While theory supports either relationship, data does not support either theory. Empirical investigations show no predictable health effects on migration within or across countries, age groups, or nationalities (Lu 2008; Tong and Piotrowski 2013; Wallace and Kulu 2013). I therefore

submit that stress, which is tangentially connected to health, meets the exclusion restriction necessary of an instrument and that it will be a strong exogenous instrument of trust.

Other Considerations

Since trust will be predicted as a first-stage dependent variable, it is important to form expectations regarding how particular attributes will covary with trust, and with return migration. Although results are mixed, previous theories and empirical findings support the idea that people with more skepticism, possibly stemming from more education and a resulting impetus to challenge authority, will have lower levels of trust (Christensen and Laegreid 2005; Fiscella, Franks, and Clancy 1998; Catterberg and Moreno 2005). Based on these findings, men should be more skeptical and trust less, as should older people and the college educated (Lindstrom and Mohseni 2009; Quintelier 2007). I also expect liberals to trust state and federal officials less than conservatives (Keele 2005).

Hurricane Katrina evacuees also require special consideration. These people experienced an unprecedented disaster that caused the largest long-term displacement in US history, and damaged trust at all levels of government.¹⁰ Birkland and Waterman (2008) explain how treatment of Katrina in the media helped transfer blame from one level of government to another, leading to a situation where observers and evacuees alike could have damaged trust for each level of government to different degrees. In terms of return migration, however, I do not expect to find a difference between Katrina evacuees and evacuees of other disasters. This expectation may surprise those who believe Katrina's devastation has been insurmountable, or that New Orleans is not a city undergoing recovery. Though skewed media has given the impression that the New Orleans experience *was* the

¹⁰ Disproportionate media attention on New Orleans led to drastic misconceptions about Katrina survivors, fewer than 3.8% of which were evacuated after the hurricane. Evacuations were declared "mandatory" in order to alert the citizenry and mobilize public resources for evacuation; yet no one was legally required to evacuate, and 28,000 New Orleans residents never left the city (FEMA 2005).

Katrina experience, it is important to remember that New Orleanians represent less than one-third of the more than 1.5 million Katrina evcuees (Stein et al 2011). Further, by mid-2007, 63% of New Orleans' pre-hurricane population total had returned (U.S. Census Bureau 2009).

I should be clear that I am not trying to model *all* influences on individual political trust. Other impressive work incorporates municipal/community factors, into multiple-level models (Rahn and Rudolph 2005; Marschall and Shah 2007; Rahn et al 2009). Rather, I am investigating trust as a causal mechanism in the relationship between race and return migration. As such, I hope only to investigate common covariates that could be confounding or confusing a proper mediation analysis, and to use an accurate specification to determine whether political trust causes return migration.¹¹

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. These two seasons caused \$240.5 billion in damage (2012 US\$), resulted in 2170 deaths (Lott et al. 2013), and displaced up to 3 million people (Groen and Polivka 2010; Stein et al 2011).

Data is from an internet survey¹² collected in 2006, administered by Survey Sampling International (SSI)¹³ to residents of hurricane-threatened areas in the US. *Hurricane-threatened areas*

¹¹ For example, previous work shows that some of trust's determinants are conditional on race (Rahn and Rudolph 2005; Bobo and Gilliam 1990). As I am not trying to estimate a full model of individual-level trust, I address the racial differentiation of trust's determinants in Appendix E.

¹² We chose the internet sampling frame to reach as many displaced evacuees (and non-evacuees) as possible (see Appendix A for full discussion of population, setting, and measurement validity).

¹³ SSI, a well-known and respected firm similar to Knowledge Networks (KN), fielded a random sample within the target population. We counted nonresponses as "unknown eligibility," the most

were defined as containing respondents with registered addresses in a county or parish that either borders the coast, or is separated from the coast by no more than one other county/parish. The coastal region surveyed spans the US coastline from Texas through North Carolina. As displaced residents were included based on their original physical home addresses *before* displacement, responses came in from 38 states and Puerto Rico. Of the 7024 respondents, 2329 (33.16%) reported evacuating for a hurricane during the 2004-2005 hurricane seasons. Of those, 1068 (15.21% of total) had still not returned to their original place of residence, which we take as evidence that the internet sampling frame was useful for contacting a difficult-to-reach population, while still striving for maximum generalizability. These 2329 evacuees are the subsample examined here.

Measurement

The ultimate dependent variable is *return migration*, the respondent's intentions of return migrating, ranging from 0 to 1. Respondents who had returned scored "1" (1259 respondents; 54.06%). Respondents who had settled in another location with no intention to return scored "0" (166; 7.13%). Remaining evacuees chose values of 0-10 (later standardized 0-1), gauging their likelihood of return (902; 38.73%).¹⁴ Appendix C give measurement and descriptives.

restrictive definition, because we did not know whether nonresponse indicated unwillingness, unavailability, or death. By this eligibility estimate, 100% of nonresponses were eligible to respond, meaning our response rate was AAPOR-1 9.4% (Smith 2009; AAPOR 2009). Merkle and Edelman (2002) find no relationship between response rate and survey accuracy, and Keeter et al (2006) find that results from surveys with lower response rates were generally statistically indistinguishable from those with much higher response rates, so the response rate here does not raise concern.

¹⁴ Scaled this way, *return migration* merges people who have and have not returned; I do so in order to not seriously undermine the analysis with selection bias. Additional analysis yields the same results

There has been much debate on the proper measurement of trust. Recall that trust is based on one's ability, or *competence* to perform one's job, as well as one's *credibility*, or believability, and basic character (Keele 2007; Hardin 2002; Ullman-Margalit 2004; Levi and Stoker 2000; Nicholls and Picou 2013). Because scholars see trust as a multi-dimensional concept, the use of indices to measure trust is common. Many use the Trust in Government Index from the American National Election Studies (ANES), which offers easily accessible longitudinal data. As we aimed to follow Hardin's guidelines that "*A trusts B to do X, or in matters Y*" (2002, p. xx), we opted to create a trust index that asked specifically about the respondent's (*A*'s) evaluation of government (*B*), with respect to disasters (*Y*). Each respondent answered a battery of trust questions regarding the local, state, and federal government from which they evacuated, which were averaged to create an index (0 to 1) for local, state, and federal trust, similar to the ANES Trust in Government score.

Political trust is measured at each level of government because trust in each level has been found to differ in composition (Rahn and Rudolph 2005, 2002). In terms of the effect of trust on return migration, we should see the most noticeable effect with local trust, a less noticeable effect with state trust, and the least noticeable effect with federal trust. Part of this relationship is practical; all return migrations in this data would mean a physical move of 50 miles or more, meaning a change in local government. But several of the return migrations would allow a constant state government, and they would all require a constant federal government, meaning state and federal trust should be less of a factor in return migration decisions. In fact, because federal government will remain constant for everyone, any effect of federal trust on return migration will be indicative of

when a logit model is employed omitting the 902 displaced individuals and using 1s for "returned" and 0s for "not returned," as well as when a regression model is employed using the 0-1 scale on a sample of only the 902 displaced respondents. These findings indicate that the patterns below are robust and give valid inferences about the mechanisms of interest while relieving selection concerns.

one's risk aversion. Those who do not trust the federal government to manage and mitigate disasters will be more likely to avoid disaster-prone areas.

Stress is 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?"¹⁵ Respondents chose from "All of the time," to "None of the time," coded 1-5, with 5 being the highest level of stress.

Race is self-identified by the respondent. As Blacks are the racial group with return migration rates of interest in this study, 1 indicates Black and 0 indicates other races. *Church attendance* is gauged on a 4-point Likert scale ranging from "never" to "regularly." *Family longevity* in an area (0-100) and *age* (18-100) are both measured in years and divided by 10 to obtain coefficients with sizes able to be interpreted vis-à-vis the dependent variables. Damages are estimated by subtracting self-declared post- from pre-evacuation home values in tens of thousands of dollars. *Ideology* is a 1-7 scale, with 7 representing liberal.¹⁶ Following the return migration literature, several variables are measured dichotomously. *Homeownership* scores 1 for homeowners, *employment* scores 1 for respondents with jobs, *sex* is 1 for males, and *education* is 1 for people with college degrees. Katrina evacuees score 1. To guard against possible state-specific effects, I control for each state, compared to Louisiana.¹⁷

¹⁵ Question based on the National Health Interview Survey, given by the National Center for Health Statistics. Appendix C in Supplementary Materials gives details.

¹⁶ Keele (2005) explains that since respondents often mis-identify their own ideology, a question of feelings on economic intervention is better. We asked about sharing wealth via redistribution.

¹⁷ In unreported regressions for state trust, I include a control for "member of the governor's party." Results do not change for other coefficients' significance, direction, or magnitude, so I omit these alternative specifications to focus on the key issues at hand.

There are no extra controls for localities. Rahn and Rudolph (2005) use local-level controls in their comprehensive multi-city study (also Rahn et al 2009), in which they select their sample of cities with

Estimation Strategy

As I argue that political trust is a causal mechanism connecting race to return migration, I begin with basic mediation analysis (based on MacKinnon et al 2002). Figure 1A shows the expected race-trust-migration relationship. The causal arrow A represents the effect of race on trust. B is the effect of trust on return migration. C is the direct effect of race on return migration. First I will establish that A and C exist. Then I will address B , accounting for the endogeneity of trust by estimating a two-stage-least-squares (2SLS) regression using the stress instrument. Tests confirm that stress only affects return migration via trust. Finally, I estimate return migration with both race and instrumented trust. The significance of race as a direct determinant of return migration disappears, confirming trust's position as a causal mediator between race and return migration.

Normally, mediation analysis would establish a causal *effect* of trust in the system, but would not prove trust a causal *mechanism* (Imai et al 2011). Such analysis, however, requires no unmeasured covariates or correlation between error terms. Since the race-trust-migration relationship has both, the stress instrument serves two purposes. First, it addresses the endogeneity of trust, as discussed above. Second, it confirms trust as a causal *mechanism*, rather than mere evidence of causal effect (ibid.). I conclude that trust is the causal link through which race affects return migration.

Results

Mediation analysis involves three separate statistical steps (Rahn et al 2009; MacKinnon et al 2002). In the first step, I must establish that the independent variable, race, has an effect on the ultimate dependent variable, return migration (C in Figure 1A). Model (1) in Table 1 predicts return migration with race and the other covariates discussed above. The coefficient on race in Model (1)

≥ 40 respondents, limiting it to 55 cities. Our random sample covers 1178 cities, only 20 with ≥ 40 respondents (15.89% of sample). City-level controls are not methodologically possible.

suggests that Blacks are 5% less likely to return to their pre-disaster place of residence than evacuees of other races ($p < .01$). Results conform to previous return migration studies; despite a large effect of homeownership, which makes one 10% more likely to return ($p < .01$), race still exerts a stronger pull than employment, which makes one 4% more likely to return ($p < .01$).

The second step in demonstrating a mediating effect lies in establishing that the independent variable, race, has an impact on the mediator, trust. Models (2)-(4) use race to predict local, state, and federal trust. These models are specified just like Model (1), except that instead of predicting return migration, they predict trust at each level of government. These models confirm that results meet the second test requirement. Race has a negative, significant, substantively important effect on trust at each level of government, with Black evacuees trusting their local officials 16% less, state officials 4% less, and federal officials 4% less than evacuees of other races (all $p < .01$).

As these models are meant to establish the relationship between race and trust, and race and return migration (A and C), I will use these results as cause to move on to the third step, rather than linger over other interpretations. In this final step of mediation analysis I include the independent variable (race) and the hypothesized mediator variable (trust) simultaneously while predicting the original dependent variable, return migration. Recall that due to endogeneity concerns, I must use stress as an instrument for trust in a 2SLS model for this step. Models (5)-(7) present these results in Table 2. For each, the first stage shows that stress is a significant ($p < .01$) predictor of trust, with higher stress making one 3% less likely to trust all levels of government.

Two tests of exogeneity, the Wu-Hausman and Durbin-Wu-Hausman, gauge whether it is better to use ordinary least squares (OLS) to estimate the effect of trust, or whether 2SLS is better. The null hypothesis is that trust is exogenous, so rejecting the null implies that instrumenting for trust is prudent. Results at the bottom of Table 2 suggest that the 2SLS model is wisely chosen. Finally, two tests of identification indicate whether stress is correlated with the endogenous

regressors. With non-i.i.d.-assumed errors, the Wald test and Kleibergen-Paap test of robustness of heteroskedasticity are reported, and suggest the models are strongly identified (Stata 2013).

Now I can assess the mediating effect of trust, depicted in Figure 1B for local trust. We see in the second stage of Table 2 that Model (5)'s coefficient on race is insignificant. Political trust has mediated the effect of race, from -0.16 ($p < .01$) to a statistically insignificant 0.06. It appears all the effects of race on return migration have been mediated by local political trust. The same can be said for state trust and federal trust, the inclusion of which reduce the effect of race on return migration from -0.04 for each (both $p < .01$) to -0.03 and -0.02 (both statistically insignificant; Figure 1 depicts local trust only). Trust completely mediates the direct effect of race on return migration.

The effect of trust itself on return migration is strong, statistically significant, and important. One more unit of local trust makes one 72% more likely to return migrate, while an extra unit of state trust makes one 68% more likely, and an extra unit of federal trust makes one 71% more likely. A decreasing size of the effect of trust as the level of government increased was anticipated but is not evident. It appears that the effect of trust on return migration has more to do with the overall perception of risk than with the assignment of particular risks to different levels of government.

Consistent with predictions, men and the college educated are less likely to trust. Men are 3% less likely to trust federal officials ($p < .05$), and 5% more likely to return migrate when state or federal trust is considered (both $p < .01$). The college educated trust less than those without college degrees, but that difference decreases as the level of government increases, from -9% (both $p < .01$) for local officials to -6% ($p < .01$) for state officials to -2% ($p < .05$) for federal officials, and they are 5% more likely to return migrate when controlling for local trust ($p < .05$). Age is associated with decreases in trust (both $p < .01$), with every 10 more years of age decreasing local trust by 3% and state trust by 1% ($p < .01$; $p < .05$), and increasing return migration by 2% ($p < .01$) when considering local and state trust. Following Keele's (2005) findings, liberals are less likely to trust.

Other statistically and substantively large predictors of return migration are home ownership and employment. Consistently, homeowners are 10-11% more likely to return migrate than those who do not own homes ($p < .01$). Those with jobs trust their local and state officials 2-3% less than those without jobs (both $p < .05$), and are 4-6% more likely to return migrate (all $p < .01$).

The network-related variables behave as predicted, although they are not always significant. Return migration increases 2% with each additional 10 years one's family has lived in the area (all $p < .01$), and decreases 6-7% with each extra 10 miles one's evacuated home lies from the coast when considering local and state trust ($p < .01$ local; $p < .05$ state).

Church attendance exhibits the predicted positive effect on return migration when federal trust is considered, though it negatively affects local and state trust. Since religious communities are posited to be a source for close-knit network formation, it is possible they form a basis for social identity. If so, they could be heightening in-group trust group while lowering out-group trust (Tajfel 1982; Turner 1985), making members less trustful of government in the process.

It is also possible that the unexpected effects of damages (positive) and coastal distance (negative) on federal trust are associated with personal experience. Evacuees who had a positive experience with FEMA relief, for example, would experience increased federal trust. Meanwhile, communities farther from the coast might feel underserved in terms of federal attention, compared to coastal communities, and develop lower trust. Although these experiences are plausible, they are not systematic to Hurricane Katrina evacuees, who exhibit no unique patterns.

Discussion

The preceding analysis shows that political trust, missing from previous return-migration studies, is a crucial link between return migration and race. New is the idea that the migration decision depends 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 is mediated by political trust in determining return-migration decisions.

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 they adjust their expectations about future critical events accordingly. Importantly, this behavior translates into different expectations depending on the race of the evacuee, but it is consistent across local, state, and federal government.

At least two caveats must be acknowledged. First, the research presented here measures political trust, but does not control for social trust. The specificity of the trust measures, in that they refer to trust regarding hurricane and disaster mitigation and management, is an advantage in that it guards against the potential of comingling political and social trust. It is still possible, however, that these measures are picking up some overall differences in social trust among races.

Second, the sample is voluntary. Though we took steps to minimize non-responses, participation was restricted to people with access to the internet before the hurricanes. Yet the sample does represent a broad cross-section of people. Importantly, it does not need to be generalizable to the entire US, but rather to people facing a post-evacuation return-migration decision (see Appendix A). It would therefore be inappropriate to target a population with a higher proportion of individuals inexperienced with the threat or impact of disasters. This study design does still allow generalizations about racially-differentiated migration and trust.

The racial differentiation in resettlement occurs because Blacks and people of other races do not hold public officials in the same esteem. Blacks find their mayors, police departments, fire and rescue, governors, state emergency management, president, and FEMA to be less competent in dealing with disasters, less believable, and on the whole less trustworthy than do other citizens. So

Blacks do return home less frequently than others, but it is not because they are black. Blacks return less than others because they trust their government less than others do.

Conclusion

We now 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 salient topic for future inquiry in the field of political science. If the return-migration decision has political causes, it is also likely to have political consequences.

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. These findings support those of Fair et al (2013) that disasters precede an increase in civic participation. 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. In terms of future policy, heightened civic activity translates into better attention to policy decisions, better disaster management, and a limiting of future disasters (Ruscio 1996; Montgomery, Jordens, Little 2008). Communities of returnees, because they are more trusting, are also more likely to be able to participate in their own fortification and defense.

Furthermore, since race has been linked to voter choice (see Bejarano and Segura 2007), and the racial composition of post-disaster communities is likely to change, the politically active post-disaster community might elect representation that reflects these shifts. Post-disaster areas should also expect changes in the labor force, which can alter area revenue streams and public goods provisions. The allocation of 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. A community that is more

trusting of government while reflecting these demographic shifts might allow for the pursuit of community-altering policies, programs, and initiatives.

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 an international and comparative policy standpoint, consider rebuilding after civil conflict, military intervention, ethnic cleansing, or other crises have destroyed communities. My findings 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. Further, this work indicates that the displaced people's lack in trust may differ according to predictable group characteristics. These findings give credence to policy initiatives that have only recently begun to probe trust-building as a foundation for regeneration and rebuilding in post-conflict societies (see Brinkerhoff 2007).

Any situation that puts citizens in crisis or upheaval could involve political trust in ways as yet unexplored. It is imperative that we continue to investigate the impact of crises on political trust, and the consequences of those changes in trust on politics and economies. Only a comprehensive look at a political and economic system can fully illuminate how trust and disasters interact.

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Figure 1 A

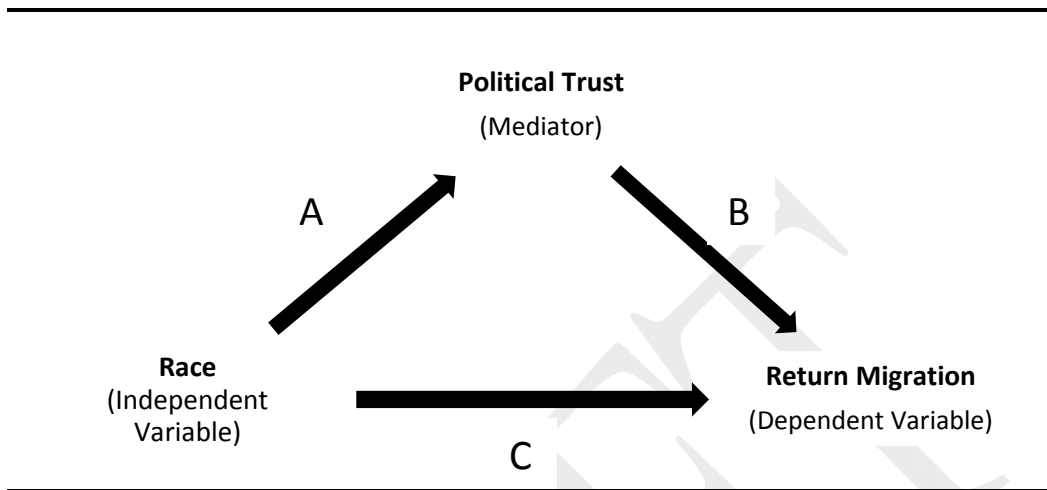


Figure 1 B

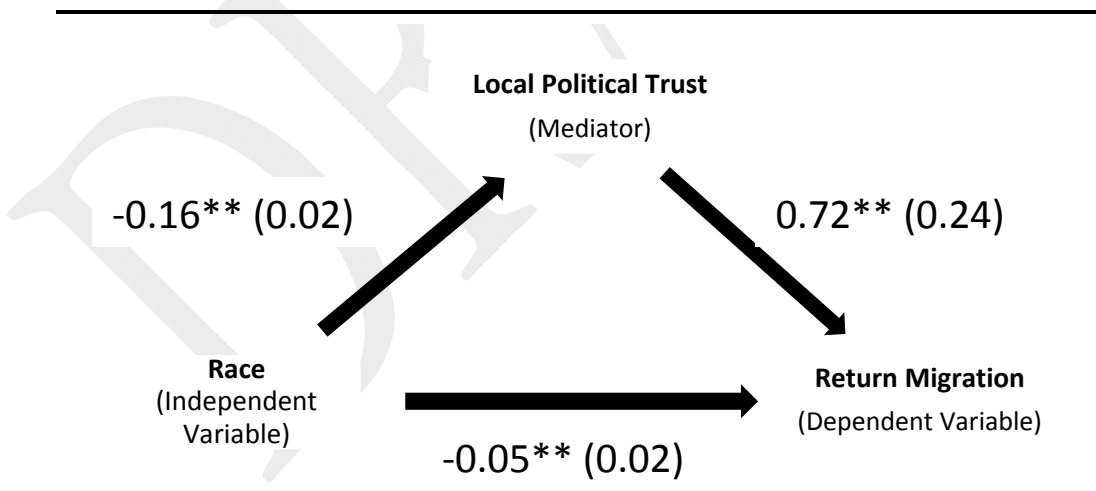


Table 1 Return Migration and Political Trust, Estimated with Race Only

	(1) Return Migration	(2) Local Trust	(3) State Trust	(4) Federal Trust
Race (Non-Black 0, Black 1)	-0.05** (0.02)	-0.16** (0.02)	-0.04** (0.02)	-0.04** (0.02)
Sex (Female 0, Male 1)	0.03* (0.01)	0.01 (0.02)	-0.02 (0.01)	-0.02* (0.01)
Age	0.00 (0.00)	-0.02** (0.01)	-0.01* (0.00)	0.00 (0.00)
Education	-0.01 (0.01)	-0.09** (0.01)	-0.06** (0.01)	-0.02* (0.01)
Ideology	-0.01 (0.00)	-0.02** (0.00)	-0.00 (0.00)	-0.00 (0.00)
Home Ownership	0.10** (0.01)	0.01 (0.01)	0.01 (0.01)	-0.01 (0.01)
Damages	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00* (0.00)
Employment	0.04** (0.01)	-0.03* (0.01)	-0.02* (0.01)	-0.01 (0.01)
Family Longevity	0.02** (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Coastal Distance	-0.06** (0.02)	0.02 (0.02)	-0.00 (0.02)	-0.04** (0.02)
Church Attendance	-0.02 (0.01)	0.05** (0.01)	0.02** (0.00)	0.00 (0.00)
Katrina Evacuee	-0.03 (0.01)	0.01 (0.02)	-0.00 (0.01)	-0.03* (0.01)
Stress	-0.02** 0.01	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.00)
State Controls	YES	YES	YES	YES
Constant	0.79** (0.04)	0.82** (0.05)	0.79** (0.04)	0.83** (0.03)
Observations	1,970	1,970	1,970	1,970
R ²	0.11	0.14	0.19	0.07

Standard errors in parentheses; ** $p < 0.01$, * $p < 0.05$

Table 2 Return Migration Estimated with Political Trust and Race

	Race		
	(5)	(6)	(7)
	Local	State	Federal
First Stage:	Trust	Trust	Trust
Race (Non-Black 0, Black 1)	-0.16** (0.02)	-0.04* (0.02)	-0.05** (0.01)
Stress	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.00)
Sex (Female 0, Male 1)	0.01 (0.02)	-0.02 (0.01)	-0.03* (0.01)
Age	-0.03** (0.01)	-0.01* (0.00)	0.00 (0.00)
Education	-0.09** (0.01)	-0.06** (0.01)	-0.02* (0.01)
Ideology	-0.02** (0.00)	-0.00 (0.00)	-0.00 (0.00)
Home Ownership	0.01 (0.01)	0.01 (0.01)	-0.01 (0.01)
Damages	-0.00 (0.00)	0.00 (0.00)	0.00* (0.00)
Employment	-0.03* (0.01)	-0.02* (0.01)	-0.00 (0.01)
Family Longevity	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Coastal Distance	0.02 (0.02)	-0.00 (0.02)	-0.04** (0.02)
Church Attendance	0.05** (0.01)	0.02** (0.00)	0.00 (0.00)
Katrina Evacuee	0.01 (0.02)	-0.00 (0.01)	-0.03** (0.01)
State Controls	YES	YES	YES
Constant	0.75** (0.04)	0.78** (0.04)	0.84** (0.03)
R ²	0.78	0.89	0.94
F-test of Excluded Instruments:	23.10**	36.39**	49.16**
Second Stage:	Moving Back	Moving Back	Moving Back
Trust	0.72** (0.24)	0.68** (0.21)	0.71** (0.21)
Race (Non-Black 0, Black 1)	0.06 (0.05)	-0.03 (0.03)	-0.02 (0.03)
Sex (Female 0, Male 1)	0.02 (0.02)	0.05** (0.02)	0.05** (0.02)
Age	0.02** (0.00)	0.01* (0.01)	0.00 (0.00)

Education	0.05*	0.03	0.01
	(0.03)	(0.02)	(0.01)
Ideology	0.01	-0.00	-0.00
	(0.01)	(0.00)	(0.00)
Home Ownership	0.10**	0.10**	0.11**
	(0.02)	(0.02)	(0.02)
Damages	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)
Employment	0.06**	0.05**	0.04**
	(0.02)	(0.01)	(0.01)
Family Longevity	0.02**	0.02**	0.02**
	(0.00)	(0.00)	(0.00)
Coastal Distance	-0.07**	-0.06*	-0.03
	(0.03)	(0.02)	(0.03)
Church Attendance	-0.04**	-0.01	-0.01
	(0.01)	(0.01)	(0.01)
Katrina Survivor	-0.03	-0.02	-0.01
	(0.02)	(0.02)	(0.02)
State Controls	YES	YES	YES
Constant	0.29	0.36**	0.23
	(0.17)	(0.13)	(0.16)
Observations	1,979	1,979	1,979
R ²	0.89	0.91	0.91
F	8.14**	9.65**	10.37**
Anderson-Rubin Tests of Joint Significance of Endogenous Regressors			
F-test	13.90**	13.16**	13.90**
Chi2	14.05**	13.30**	14.05**
Tests of Endogeneity:			
Wu-Hausman F-test	13.87**	12.76**	12.61**
Durbin-Wu-Hausman Chi ²	13.93**	12.82**	12.67**
Identification Tests:			
Wald	43.69**	119.03**	116.37**
Kleibergen-Paap	38.19**	93.94**	91.00**

Standard errors in parentheses; ** $p < 0.01$, * $p < 0.05$