Identity, Industry, and Perceptions of Climate Futures

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Climate change and decarbonization will impose costs on a range of industries, but in ways that are difficult to predict. I argue that the racial makeup of an industry serves as a heuristic by which communities evaluate its viability in contexts of deep uncertainty. In surveys of diverse samples of the U.S. public, I randomize the racial compositions of hypothetical industry workforces. I find that individuals are more pessimistic about industries that draw workers from marginalized racial groups, expecting those industries to be denied government support as climate-related stressors manifest. Individuals are more confident in industries tied to privileged groups, believing politicians will more readily come to their aid when called upon. These findings illustrate how racial divisions shape mass climate politics and suggest that group hierarchies serve as a touchstone for evaluating economic risk in uncertain settings.

Keywords: climate change; decarbonization; economic risk; identity; race

Climate change is an issue rife with economic risk. Efforts to arrest the pace of global warming threaten the viability of industries reliant upon fossil fuels. Levels of warming locked in by past emissions endanger industries vulnerable to the physical impacts of climate change. Yet while such disruptions have become increasingly likely, they are marked by "extremely large" uncertainties around their timing, breadth, and intensity (Nordhaus 2017, 1522; Chenet, Ryan-Collins, and van Lerven 2021). Decarbonization, dependent on policy changes and technological advances, implies an unprecedented transformation of the carbon-based global economy, which complicates attempts to calculate industries' risk of decline or obsolescence. Future physical climate damages are similarly subject to unforeseen policy choices, demographic and economic shifts, and unknowns around the Earth's climate sensitivity. Governments' ability to protect all industries is moreover constrained: propping up dirty industries endangers vulnerable industries, while decarbonizing in aid of vulnerable industries necessarily imperils the fossil fuel reliant (Colgan, Green, and Hale 2021; Gaikwad, Genovese, and Tingley 2022).

How do individuals make sense of economic futures amid such complexities and uncertainities? To answer these questions, I develop a theory that emphasizes *identity* as an important and heretofore underappreciated determinant of political contestation around climate change. Political economists have long tied risk perceptions to objective economic criteria, such as skill profiles, the experience of economic shocks, or competition with foreign producers (Rogowski 1987; Iversen and Soskice 2001; Walter 2010). I instead argue that ascriptive attributes of industries, namely their ethnoracial makeups, are used as a subjective heuristic for estimating their ability to avoid decline. Racial and ethnic groups often concentrate in distinct industries, which publics are attentive to (Jha 2013; Baccini and Weymouth 2021; Zucker 2022).[2] Industries seen as tied to politically favored groups are thought to have unique access to government backstops, allowing them to avoid decline as decarbonization accelerates and physical climate impacts intensify. Conversely, connection to

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[2]My use of the term "ethnoracial" acknowledges the extent to which racial and ethnic divides are overlaid, following extensive prior scholarship (e.g., Bobo and Mickey-Pabello 2019; Grumbach and Sahn 2020).

Note that perceptions of industries' ethnoracial composition need not be accurate. Baccini and Weymouth 2021 document how many Americans see the decline of manufacturing as undermining the white working class, despite it in fact imposing heavier costs on minority communities.

marginalized groups casts doubt on an industry's prospects, with it believed to have fewer bene-factors in government. Identity-based features of industries, alongside prior beliefs about group favoritism in government, thus help resolve — accurately or not — the uncertainties that surround the futures of climate change and decarbonization.

A prevailing approach in the climate politics literature has been to ask why states do more or less to abate climate change. This work explores why the international community has struggled to conclude ambitious climate pacts and identified factors that may make climate cooperation more appealing and effective (Barrett 2003; Bättig and Bernauer 2009; Victor 2011; Bechtel and Scheve 2013; Tingley and Tomz 2014; Finnegan 2022). In this paper, by shifting focus to risks gener-ated by future decarbonization and physical climate damages,[3] I probe the *consequences* of this gridlock: how publics see and cope with failures to facilitate orderly transitions away from fossil fuels and limit the physical damages of climate change. In doing so, I evaluate how mass attitudes form around the "existential" contest for government protection between "climate-vulnerable" in-dustries exposed to those physical damages and the "climate-forcing" industries threatened by de-carbonization (Colgan, Green, and Hale 2021; also see Aklin and Mildenberger 2020; Bayer and Genovese 2020; Kennard 2020).[4] This sheds light on a choice of mounting importance to workers and communities: whether to exit and lessen reliance on industries threatened by decarbonization or climate change, or remain in place and gamble on their continued viability and ability to support livelihoods (Gazmararian and Tingley 2023).

To test whether ascriptive features of industries can shift risk attitudes, I conduct experiments embedded in surveys of diverse samples of the U.S. public. Results show that the racial makeup of workforces has powerful effects on risk perceptions. Americans who believe the government favors

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[3]"Transition risks" are those generated by future decarbonization, threatening fossil fuel-reliant and other climate-forcing industries. Stranded assets may result, for example, if rapid government policy shifts render crude oil produc-tion infrastructure unusable. "Physical risks" emerge from failures to adequately decarbonize and avert the physical impacts of climate change, such as drought and sea level rise. These risks are particularly pronounced for climate-vulnerable industries such as drought-prone agriculture.

[4]Climate-vulnerable and climate-forcing industries are ideal types. I define the former as industries predominantly invested in assets susceptible to devaluation due to physical climate impacts. I define the latter as those predominantly invested in assets susceptible to devaluation due to decarbonization. See Colgan, Green, and Hale 2021 on asset revaluation.

white citizens see greater risk to industries that employ large numbers of Black workers, expecting these industries to have more difficulty accessing support as decarbonization accelerates and physical climate impacts intensify.[5] These subjects reported, for example, that a white-majority fossil fuel-reliant industry would be more than twice as likely as a hypothetical Black-majority climate-vulnerable industry to win subsidies. On the other hand, Americans who believe that minorities are politically favored see greater risk to workers in white-majority industries, expecting the government to, in the words of one respondent, "pander" to Black-majority workforces. Such attitudes are apparent among both Democrats and Republicans and across economic classes and racial groups.

These findings advance the literatures on climate change and the intersection of risk and identity. Scholars are increasingly approaching climate change not just as a matter of global collective action but as a problem of industrial viability, acknowledging the high likelihood of carbon-intensive (climate-forcing) and climate-vulnerable assets being devalued by decarbonization and continued global warming (Aklin and Mildenberger 2020; Green et al. 2022). This new framing reflects the growing attention among policymakers to climate-related economic risks (Clark and Zucker 2023). There is a wealth of public opinion research on climate change (e.g., Egan and Mullin 2017; Bechtel, Genovese, and Scheve 2019; Bush and Clayton 2023). But we have little sense of how electorates percieve and mobilize around the industrial disruptions threatened by climate change and decarbonization, nor the contest for government aid between industries responsible for and vulnerable to climate change (Colgan, Green, and Hale 2021).[6] Moreover, there has been limited grappling with the *uncertainties* of climate change, decarbonization, and the global economy generally — the complexities that inhibit objective calculations of economic risk (Keynes 1921; Knight 1921; Chenet, Ryan-Collins, and van Lerven 2021; Katzenstein 2022).

This paper illustrates how race molds perceptions of economic futures amid such uncertainities. In doing so, I introduce identity conflict as an important determinant of the contours of mass

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[5]Government subsidies have historically targeted white communities (Katznelson 2005).

[6]Existing discussions of climate risks often focus on the all-encompassing impacts of climate change, not dangers to specific industries. Surveys conducted by the Yale Program on Climate Change ask, e.g., "how much do you think global warming will harm people in developing countries?" [bit.ly/37FHvKn].

climate politics, highlighting how communities may lean on prior beliefs around political privilege and exclusion in attempting to make sense of deeply uncertain issues. The argument I lay out illustrates how failures of international cooperation, such as those that have allowed global warming to accelerate, are differentially interpreted according to where individuals place themselves in domestic political orders (cf. Gourevitch 1978).

This paper focuses on the case of race in the U.S. However, the argument should extend to other settings where climate-related risks are overlaid on highly salient ethnoracial divides. Real and perceived patterns of ethnoracial favoritism in government policymaking are present across many polities (White 2007; McClendon 2016; De Luca et al. 2018). Moreover, ethnoracial groups often disproportionately concentrate in certain industries, lending local workforces distinct and observable ascriptive characteristics (Reich, Gordon, and Edwards 1973; Hechter 1978; Jha 2013; Becker and Pascali 2019; Zucker 2022). The argument is less applicable where ethnoracial divides are not a dominant political cleavage and where the public accordingly does not see those divides as a plausible determinant of government policy — features that may be more likely, for example, under proportional representation electoral rules, in countries with less economic inequality, or in polities with small minority populations (Huber 2012, 2017; Posner 2004). It is likewise less applicable in labor markets exhibiting less ethnoracial segmentation, where groups do not clearly cluster in separate industries. The argument may extend to other issue areas, though climate is unique in the breadth and depth of "unprecedented existential and temporal uncertainty" that attends it (Hamilton 2019, 610; on the unique uncertainties of climate change and decarbonization, also see Keohane, Lane, and Oppenheimer 2014; Chenet, Ryan-Collins, and van Lerven 2021; Constantino and Weber 2021; Kurki 2022; Colgan and Hinthorn 2023).[7]

This paper further advances the broader literature on industrial decline and identity. Recent work finds that realizations of economic risks, such as deindustrialization and job loss, deepen identity cleavages (Broz, Frieden, and Weymouth 2021; Ballard-Rosa, Jensen, and Scheve 2022). The *ex post* observation of coethnics losing work can stoke fears of economic precarity and political

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[7]Precedents for globalization-induced shocks, for example, might be more readily available in communities with histories of trade-related economic dislocations.

displacement (Baccini and Weymouth 2021; Zucker 2022). This paper shifts our focus to *yet-to-be-realized* risks, such as those stemming from future climate change. My findings here suggest that even prior to actual job losses, the concentration of in-group members in certain industries can shape views of their long-run viability, perceptions of workers' job security, and voters' propensity to pursue government protection.

The paper lastly answers calls to better incorporate race into international and comparative political economy scholarship (Zvobgo and Loken 2020), describing how ingrained beliefs about racial hierarchies shape how communities perceive and prepare for economic disruption. This speaks to the literature on race and economic insecurity, including work highlighting how persistent racial wealth gaps complicate efforts by minorities to manage economic risks (Ganong et al. 2020; Derenoncourt et al. 2022). The findings in this paper indicate that such communities may be particularly attuned to issues of political marginalization when developing views of economic risks and uniquely wary of the ability of in-group workers to call upon the state for support as such risks manifest.

Uncertainty, Identity, and the Evaluation of Economic Risk

Scholars traditionally model economic risk perceptions as functions of objective material conditions. Classic work on welfare states ties increased social spending to labor's observation of volatility stemming from globalization or deindustrialization (Rodrik 1998; Iversen and Cusack 2000). Workers with less transferrable skills seek government protections to hedge against unemployment (Iversen and Soskice 2001). Studies of trade and immigration tie individual preferences to personal skill profiles and nationwide factor abundancies (Scheve and Slaughter 2001; Mayda 2006; Lake 2009). Yet there is growing appreciation for the subjectivity of risk assessments. Investors lean on cognitive shortcuts when assessing sovereigns' creditworthiness (Brooks, Cunha, and Mosley 2015). Social emulation, as opposed to objective analysis, fed dangerous risk taking by financial institutions ahead of the 2008 financial crisis (Nelson and Katzenstein 2014).

The complexities and uncertainties that mark decarbonization and climate change impede es-

timation of risk. The phasing out of fossil fuels and broad environmental consequences of climate change imply "dramatic transformations in the underlying economic structure" that complicate efforts to calculate an industry's likelihood of decline (Nelson and Katzenstein 2014, 362, on sources of economic uncertainty). Decarbonization will be governed by yet-to-be-seen policy choices, as well as socioeconomic trends and technological advances that will determine the world's eventual energy consumption and may render fossil fuels obsolete.[8] While fossil fuel-reliant, climate-forcing industries are uniquely susceptible to the energy transition, they may be able to creatively adapt or intervene in policymaking to remain afloat as "transition risks" materialize (Kennard 2020; Cory, Lerner, and Osgood 2021). The course of climate change will similarly be shaped by future policy choices, socioeconomic scenarios that lack clear precedents, and the intricacies of the Earth's physical climate system. While it is assured that global warming will continue for at least the next several years (IPCC 2021), the physical implications of that for single industries are less apparent — uncertainties over potential physical climate damages, or "physical risks," mount at fine geographic and temporal scales (Sobel 2021). In some cases, climate-related disasters may render some local industries unviable in the short term; in other cases, long-term processes such as ocean acidification may gradually harm industries such as fishing. These syndromes of "radical" uncertainty prevent economic agents "from having the deterministic or probabilistic vision of the future that they are looking for" in an era of climate dislocation (Chenet, Ryan-Collins, and van Lerven 2021, 6).[9]

In light of this deep uncertainty, how do communities evaluate the future viability of climate-forcing and climate-vulnerable industries, and assess the security of workers within those industries? I argue that one means of doing so is to guess the intentions of the government: whether the government will come to the aid of a climate-forcing industry struggling under the weight of decarbonization or a climate-vulnerable industry battling mounting climate damages. Industries

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[8]Decarbonization-related dislocations may occur gradually or abruptly. This lack of clarity around "the speed of the global energy transition" is itself a source of uncertainty (Colgan and Hinthorn 2023, 10).

[9]This discussion follows from the distinction between a world of risk and one of uncertainty, initially described by Keynes 1921 and Knight 1921. In a world of risk, asset values can be modeled as probability distribution functions, with known probabilities of appreciation and depreciation. In a world of uncertainty, probabilities cannot be reliably modeled; "the future is unknowable and unpredictable" (Chenet, Ryan-Collins, and van Lerven 2021, 4).

with greater access to state subsidies should be seen as better positioned to avoid decline as those risks materialize.

Scholars have identified a number of determinants of industry access to government protection. These include campaign contributions, connections to lawmakers, asymmetric levels of expertise, political institutions, and electoral geography (Grossman and Helpman 1994; Rickard 2018; Stokes 2020; Zucker 2021; Betz and Pond 2023). While all such claims have strong theoretical and empirical bases, such dictates of industry access to the state are likely obscure to broad swathes of the public. Individuals may associate campaign contributions and industry size with political sway, but the magnitude of such contributions and output of different industries are often not readily apparent. Social connections between industries and individual legislators are presumably even more opaque. A country's electoral institutions and economic geography are unlikely to factor into individuals' calculus of industrial strength, as suggested by work finding that citizens tend to be poorly informed (Rho and Tomz 2017). Given the opacity of these factors, members of the public may look elsewhere for indicators of industry access to subsidies.

I argue that ethnoracial characteristics of industries serve as a heuristic for evaluating their political sway and ability to weather climate disruptions and decarbonization.[10] Publics often observe or hold well-formed beliefs about the racial or ethnic composition of local workforces (Jha 2013; Baccini and Weymouth 2021; Zucker 2022). Prior work also shows that in divided societies, individuals are closely attuned and responsive to the ethnoracial attributes of groups under social or economic threat. The perceived racial character of HIV/AIDS victims shifted public opinion on the health crisis, for example (Lieberman 2009). Prejudiced white Americans became more acceptant of COVID-19 risks when informed that the pandemic disproportionately affected Black Americans (Stephens-Dougan 2023). Voters in the U.S. have clear, if sometimes inaccurate, beliefs about the racial identities of workers in declining industries (Baccini and Weymouth 2021).

People moreover often have prior beliefs about which racial or ethnic groups can best "get ahead" in a society: which are best able to obtain favors from politicians, or which contend with

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[10]In this respect, uncertainty lies more with the timing, site, and magnitude of climate and decarbonization-related disruption than future government policy.

political exclusion. Americans frequently have firm views about whether or not Black Americans are subject to structural discrimination, with such racial attitudes having been passed down across generations (Goldman 2017; Acharya, Blackwell, and Sen 2018; Kam and Burge 2018; Rucker and Richeson 2021). Right-wing populists in Europe exploit fears that states are allocating more resources to immigrants than natives (Betz and Habersack 2020). Poor Muslims in parts of India attribute their low economic station to religious discrimination, amending their behavior in expectation of political and economic exclusion (Jeffrey, Jeffery, and Jeffery 2008; Williams 2011). Expectations of favoritism drive support for coethnic politicians in Ghanaian cities (Nathan 2016).

These beliefs may be most likely to emerge in ethnoracially stratified polities, where political battles are waged along racial or ethnic lines and where certain groups are consistently favored by the state (Huber and Suryanarayan 2016; Huber 2017; Gaikwad and Suryanarayan 2022). In these contexts of group stratification, beliefs about ascriptive criteria for economic and political advancement take root due to personal experiences of state-sanctioned discrimination or perceived deprivation (Oskooii 2020; Morris and Shoub 2023), media and elite messaging (Wasow 2020; Stephens-Dougan 2021), the formal institutionalization of group categories (e.g., via apartheid, Lieberman and Singh 2012), and the transmission of norms and attitudes from parents to children (Acharya, Blackwell, and Sen 2018; Mazumder 2018). Of course, beliefs about group hierarchies are not uniform where ethnoracial favoritism is apparent; favored groups often fear transformation of the status quo order (Blumer 1958; Bobo 1999) and see their political power as restricted or imperiled (Oliver and Mendelberg 2000; Walsh 2012; Cowie 2022). In these settings, marginalized communities and "sympathetic" members of privileged groups may exhibit the strongest beliefs that certain groups will continue to be favored into the future.[11]

Prior beliefs about group privilege should help individuals make sense of economic risks amid uncertainty.[12] Scholars argue that people refer to social conventions to impose order in uncertain settings (Nelson and Katzenstein 2014). As Constantino and Weber (2021) contend, under deep

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[11]See Chudy 2021 on sympathy for outgroups. White Americans have adopted increasingly positive views of Black Americans in recent decades (Engelhardt 2023).

[12]This heuristic may be less operative where group hierarchies and patterns of political privilege are volatile, reducing certainty over long-run patterns of government favoritism.

climate uncertainty, "people rely on heuristics and social cues to guide their decisions, [as well as] cultural artifacts and narratives to make sense of the world" (152). Perceived ethnoracial criteria for economic and political advancement may serve as one such ordering principle. The presence of a privileged group in an industry, one that satisfies those criteria, may indicate that that industry will enjoy easy access to government backstops. The presence of a marginalized group, one that fails to meet such criteria, should conversely cast doubt on that industry's political support. The use of ascriptive information as an indicator of political access may lead to incorrect conclusions about government intentions — several other factors determine subsidy allocation, as noted above.[13] But it nonetheless may be a way by which individuals resolve uncertainties around the trajectories of at-risk industries.[14] This argument is in line with work finding that, in racially divided polities, many people focus on the racial character or perceived racial intent of public spending (Gilens 1996). It moreover reflects scholarship documenting that voters often perceive a link between the maintenance of the status quo racial hierarchy and, specifically, the survival of certain industries (Baccini and Weymouth 2021).

It is accordingly plausible that publics will see biased patterns of public spending and industrial policymaking as a consequence of ethnoracial favoritism in government. When climate-forcing industries are associated with subjectively privileged groups, concerns around decarbonization-related risks to those industries should be diminished.[15] While the specter of decarbonization may loom over such industries, the presence of favored groups suggests that the government will safeguard the industries and their workforces — subsidizing fossil fuel production and consumption, resisting costly emissions reduction policies. Correspondingly, concern for the future of climate-vulnerable industries may mount if they feature relatively more marginalized workforces. On the

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[13]I do not claim that this heuristic is wholly determinative of risk perceptions. Non-ascriptive industry-specific characteristics may affect baseline perceptions of government intentions. For example, some people may believe that fossil fuel industries are distinctly powerful due to the amount of money spent lobbying politicians. Connection of those industries to privileged groups would then compound prior expectations that they are set to win government support.

[14]Perceptions of industry influence may engender real shifts in industry power. If workers in a subjectively privileged industry invest more in political mobilization, they may augment their industry's political sway and access to state support (cf. Alt and Gilligan 1994).

[15]"Subjectively privileged" is meant to reflect the variation in beliefs about group privilege.

other hand, if subjectively advantaged groups are tied to those climate-vulnerable industries, such fears may subside. This leads to the following hypothesis.

Hypothesis 1. *The concentration of subjectively privileged ethnoracial groups in an industry should attenuate concerns around transition and physical risks to that industry.*

Risk and Race in the United States

In countries such as the United States, ethnorace is plausibly a distinguishing characteristic of at-risk industries and an influential determinant of perceived industry access to state support. In contemporary American politics, race remains a dominant axis of political polarization (Hutchings 2009; Goldman 2012; Jardina 2019). Americans have long viewed government spending through the lens of race: white Americans, for example, traditionally associate welfare with spending on minorities (Quadagno 1994; Gilens 1996). Both minority and white communities are known to be attuned to real or imagined threats to their group (White, Laird, and Allen 2014; Jardina 2019). Shifts in political efficacy, the perceived ability to effectively participate in politics, are known to affect rates of political mobilization along racial lines (Merolla, Sellers, and Fowler 2013; West 2017). Race is thus a likely heuristic for assessing economic conditions in the U.S., particularly where ethnoracial groups segment into distinct industries.

Risks from the energy transition and physical climate impacts have distinct racial characters in the U.S. On the side of transition risks, industries like coal have become public symbols of white identity in some corners of national politics (Earle 2017). The whiteness of oil and gas work-forces has attracted national media attention (Brady 2017; Elliott 2020; Harder 2020). Figure 1 illustrates how non-Hispanic white Americans tend to disproportionately cluster in such heavy emitting, climate-forcing industries. Eighty-three percent of counties featured disproportionately white climate-forcing industries in 2019, where the white share of climate-forcing workers exceeded the white share of all county workers. In Texas, the climate-forcing workforce was 10.5 percentage points more white than the state's overall workforce (see Appendix A for workforce shares by state). Nonwhite Americans, conversely, rarely work in such industries at high rates;

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90% of counties featured disproportionately low shares of Black climate-forcing workers in 2019.
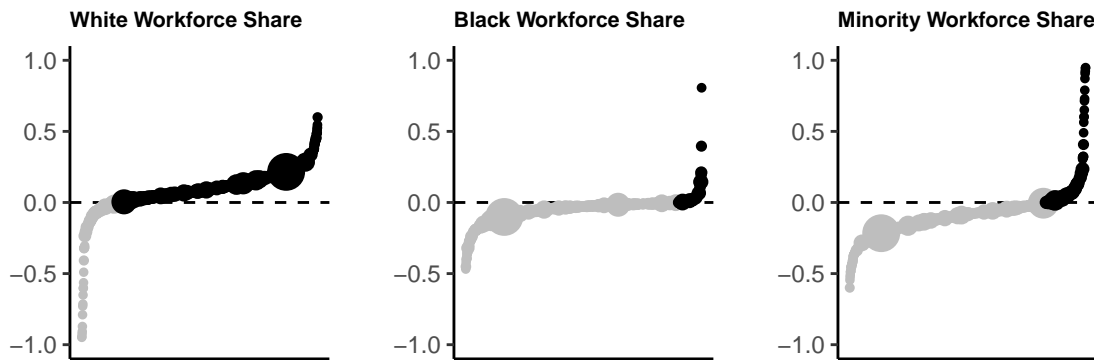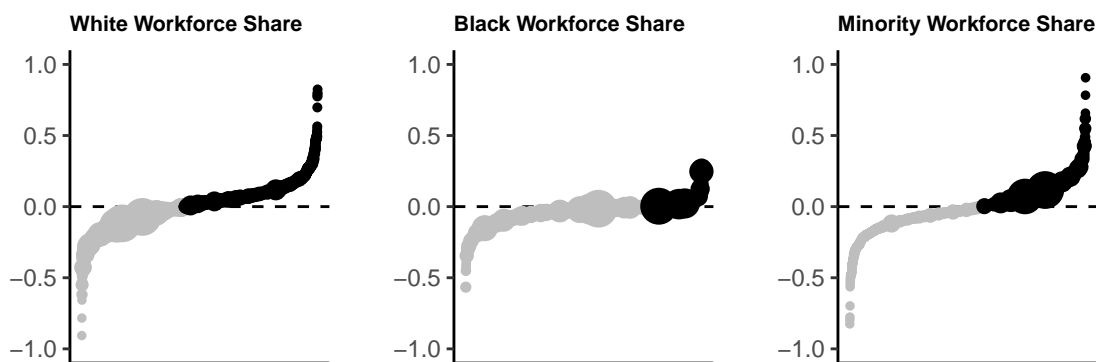

Figure 1: White (non-Hispanic), Black, and aggregate minority (nonwhite and/or Hispanic) shares of county-level mining, quarrying, and oil and gas extraction workforces, relative to shares of overall county workforces. Plotted in ascending order; colored black if above zero (more than overall workforce share), gray if at or below zero. Points scaled to total number of workers in county by race. Data drawn from the U.S. Census Bureau Quarterly Workforce Indicators for the fourth quarter of 2019.

On the side of physical risks, minorities are uniquely exposed to the impacts of unmitigated climate change (EPA 2021). Historically "redlined" neighborhoods, largely populated by people of color, are prone to flooding from rising sea levels (Katz 2021; Smiley et al. 2022). Minority communities often struggle to access government funds after natural disasters, including climate change-fueled events like hurricanes, an issue accentuated by a lack of shock-absorbing wealth (Flavelle 2021; also see Ganong et al. 2020). Climate-vulnerable industries are notably less skewed towards whites than climate-forcing industries. Figure 2 shows that just 56% of counties have disproportionately white climate-vulnerable workforces (defined here as agriculture, forestry, fishing, and hunting), far less than the number with unusually white climate-forcing workforces.[16] California, with its large agricultural sector, features a climate-vulnerable workforce nearly ten percetange points less white than its overall workforce (Appendix A). These larger shares of minorities in climate-vulnerable lines of work have attracted attention from the media and politicians.[17]

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[16]Black workers in these industries have historically struggled to access subsidies (Reiley 2021).

[17]A recent ABC News report highlighted that "people of color are ... disproportionately exposed to extreme heat through their occupations" (Alfonseca and Grant 2022). A National Public Radio report noted, "people of color, who are disproportionately represented in outdoor occupations, stand to be hit especially hard" by climate change (McDaniel 2021). Also see Congressional Hispanic Caucus 2021.

Climate-vulnerable industries are markedly less white than their climate-forcing counterparts.

Figure 2: White (non-Hispanic), Black, and aggregate minority (nonwhite and/or Hispanic) shares of county-level agriculture, forestry, fishing, and hunting workforces, relative to shares of overall county workforces. Plotted in ascending order; colored black if above zero (more than overall workforce share), gray if at or below zero. Points scaled to total number of workers in county by race. Data drawn from the U.S. Census Bureau Quarterly Workforce Indicators for the fourth quarter of 2019.

Views of racial privilege vary widely. Belief that whites are politically advantaged should lead many Americans to see less risk of decline in whiter industries. This thinking is likely to be prevalent among minorities and white citizens who exhibit "racial sympathy," or "distress over black misfortune" (Chudy 2021, 122). For minorities, individual and historical experiences of discrimination — in labor markets, elections, and other interactions with the state (Bertrand and Mullainathan 2004; White 2019; Curiel and Clark 2021) — may sow doubt as to the government's willingness to intervene in the economy to protect minority workers. The history of white favoritism in U.S. government spending may compound this skepticism (Katznelson 2005, 2013).

In contrast, fears of white displacement or an upset racial hierarchy should prompt the opposite response to climate-related risks (cf. Hooker 2017; Baccini and Weymouth 2021). Among those skeptical of the political advantages of white Americans, less white workforces may instead be seen as most secure. While this tendency may be most pronounced among white Americans actively hostile towards minorities, it is likely to also be apparent among the many whites who, fearing status loss or growth in minority communities, express solidarity with their racial in-group (Oliver and Mendelberg 2000; Goldman 2017; Jardina 2019).

Alongside race, class divisions are also prominent. While I focus empirically on race, I do not

deny the importance of class grievances; race and class cleavages are tightly interwoven (Huber 2017; Suryanarayan and White 2021). But the racial compositions of workforces exposed to decarbonization and climate change vary widely, more so than their class makeups, making race a potentially powerful separating indicator of industries' power and cue for people contemplating an industry's viability.[18]

By shaping views of industry access to public subsidies, perceived racial biases in government should shift the weight Americans place on risks to climate-vulnerable industries versus those risks to climate-forcing industries. In situations where subjectively privileged groups concentrate more in climate-forcing industries than in climate-vulnerable industries, Americans should be more pessimistic about the future of the latter. When subjectively marginalized groups concentrate in climate-forcing industries, on the other hand, concerns about disruptive decarbonization should mount.

Experimental Analysis

To illuminate the structure of mass risk attitudes, I conducted pre-registered online surveys of diverse samples of the U.S. adult population. Subjects were recruited via Lucid Theorem, which supplies samples to match U.S. census breakdowns along the dimensions of age, gender, race, and region. Lucid Theorem samples have been shown to be appropriate for political science theory testing, with potentially greater external validity than convenience samples recruited via services like Amazon Mechanical Turk (Coppock and McClellan 2019). Surveys were conducted in August 2021, yielding 1,604 responses.[19] Appendices B and C provide sample details and the survey content.

To test whether racial divides shape perceptions of transition and physical risks, experiments

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[18]Social identities also often supersede class loyalties, even in settings with yawning economic inequities (Du Bois 1935; Huber 2017; Mutz 2018).

[19]A pilot survey was conducted June 20–28, 2021; the full survey was conducted August 4–14, 2021. While these surveys were fielded during the COVID-19 pandemic, the results of in-pandemic surveys largely match those of pre-pandemic surveys (Peyton, Huber, and Coppock 2022). Of the 1,604 responses obtained, 374 (23%) failed an attention check. Subjects who completed the survey in less than 30 seconds (1.6% of sample) are excluded, as described in the pre-registration (Appendix V). Results are robust to excluding those who failed the attention check.

embedded in these surveys randomize the racial makeups of hypothetical climate-forcing and climate-vulnerable workforces. Prior to the experimental modules, the survey presented subjects with a description of risks to climate-forcing and climate-vulnerable industries, indicating that realizations of these risks could cause industries to lose money and lay off workers. The vignette noted that government subsidies could protect industries from such risks.

Subjects were then shown a pair of hypothetical industries, one labeled "fossil fuel-reliant" and the other "climate-vulnerable," along with example industries for each.[20] One-third of respondents received no additional information; this group is used to describe the general contours of public opinion around physical and transition risks (conditional on having received the aforementioned vignette describing such risks). Two-thirds of respondents were shown information on the racial balance of the two industries. Half of these respondents were told that the climate-forcing industry had "mostly White workers" and the climate-vulnerable industry "mostly Black workers"; the other half were shown the opposite. While minority-majority climate-forcing workforces are rare in the U.S. (Figure 1), Americans often hold exaggerated views of workforces' racial composition (Baccini and Weymouth 2021) and overestimate the size of minority population shares (Orth 2022).[21]

The experimental analyses compare these two treatment groups to each other, identifying the causal effect of shifting the balance of white and Black workers between climate-forcing and climate-vulnerable industries.[22] While other ethnic minorities may cluster in climate-forcing and climate-vulnerable industries, I focus on the distinction between white and Black given the unique historical significance and salience of that cleavage.

This experimental design is relatively abstract. I opt for this streamlined approach to precisely test whether racial features of industries affect risk perceptions. As argued in a recent piece on

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[20]Subjects were told "fossil fuel-reliant" instead of "climate-forcing" to ease comprehension. Examples of fossil fuel-reliant industries given were "oil and gas, coal, heavy manufacturing." Examples of climate-vulnerable industries given were "agriculture, fishing, coastal industries." These industry classifications are ideal types; agriculture, for example, is a carbon emitter, but is often highly climate vulnerable.

[21]A milder treatment (e.g., one noting that a given workforce is merely disproportionately Black) would likely attenuate treatment effect magnitude; effect directions would presumably remain consistent.

[22]Comparing these treatment groups to the group that received no race information would risk conflating the effects of racial primes with the effects of the industries' racial compositions.

experimental abstraction, "if the purpose [of the study] is to demonstrate that an effect exists, a sparser experimental design better enables researchers to identify it" (Brutger et al. 2022, 3). Rich evidence also demonstrates that individuals are attuned to industries' ethnoracial makeup outside of hypothetical experimental confines (Jha 2013; Baccini and Weymouth 2021; Zucker 2022).[23]

After being shown the pair of hypothetical industries, subjects were asked to indicate the likelihood of each industry declining over the next decade on a five-point scale. Subjects were also asked about which industry they saw as likelier to receive government subsidies in the next decade.[24] They then elaborated on their answers in short written responses. This experimental module blocked on race: treatments were randomized within the subsets of non-Hispanic white subjects and minority (Hispanic and/or nonwhite) subjects.

To further evaluate the effect of industries' racial composition, subjects were subsequently shown a set of four hypothetical industries that randomly varied in type and racial makeup: "Think about a [climate-vulnerable / fossil fuel-reliant] industry employing mostly [White / Black] people." For each industry permutation, subjects were asked two questions. First, "How much do you think the government would help people in this industry keep their jobs?"[25] Second, subjects were told, "Suppose you worked in this industry. If you were to call your Senator or Congressperson asking that he or she help protect your job, how helpful do you think he or she would be?" Subjects answered each question along a five-point scale. I use this second experimental module to conduct within-subject analyses of the effects of shifting the type and composition of industries susceptible to climate change and decarbonization.

Non-experimentally, subjects were asked pre-treatment demographic questions and questions about their political attitudes, including some probing views of racial bias in government. The above theory implies that changing industries' racial compositions will have heterogeneous effects

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[23]Further, the goal of this study is not to compare the effects of racial makeup to other industry attributes or heuristics, though this is a promising direction for future work.

[24]I opt for a general reference to "subsidies" given the diverse range of instruments governments can use to back climate-forcing or climate-vulnerable industries (Sovacool 2017). This broad conceptualization of government support follows other recent work on climate-related transitions (Colgan, Green, and Hale 2021).

[25]The pre-registration includes an outcome of perceived "likelihood of industry receiving government support." This refers to both the subsidy question in the first experimental module and this worker support question. No other questions relating to government support were asked.

according to subjects' perceptions of group hierarchies. In analyses described below, I accordingly divide subjects into subgroups by these stated racial attitudes.

I seek to measure beliefs that government favors one racial group over another when allocating financial resources.[26] I measure perceptions of this bias in multiple ways. Primarily, I ask subjects to estimate how the government would allocate ten tokens, representing some amount of money, between a white citizen, Black citizen, rich citizen, and poor citizen.[27] Allocations to the white citizen that exceed allocations to the Black citizen are taken to indicate belief that the government favors white people. Indicative of the racial lens through which many Americans see government spending, a plurality of respondents (both white and minority) allocated more tokens to the white citizen than the rich citizen. In supplementary tests, I examine responses to other questions about whether the governments caters to white citizens more or less than Black citizens.[28]

Survey results indicate that many Americans lack strong views about the future viability of climate-forcing and climate-vulnerable industries. About 26% of subjects reported that a climate-forcing industry is "neither likely nor unlikely" to decline in the next ten years; 30% indicated the same for the climate-vulnerable industry. Such results are notable in light of subjects receiving a vignette describing the risks to these industries; outside experimental confines, where such information is not provided, this equivocation may be more common. However, subjects did on average indicate that the climate-forcing industry was more likely to decline than the climate-vulnerable industry (0.2 points on the five-point scale; $p = 0.008$, t-test; Figure 3, left panel). Respondents were largely split on whether a climate-forcing or climate-vulnerable industry was more likely to receive subsidies; 53% said that the climate-forcing industry would be subsidized over the climate-vulnerable industry (Figure 3, right panel). Additional summary statistics are available in Appendix D.

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[26]These beliefs are distinct from, though may be correlated with, levels of racial resentment and racial in-group identification (Kinder and Sanders 1996; Jardina 2019). Note that both the theory and this experimental design are agnostic with respect to administrative level. Public views of the level of government most responsible for industries' fortunes (i.e., responsible for subsidy allocation) may vary, as may perceptions of government bias across administrative levels. I expect the heuristic described in the theory to operate when bias is perceived at the level of government seen as having sway over industries' fortunes, regardless of whether that level is local, provincial/state, or national.

[27]I include the rich and poor citizen to separate perceived racial bias from perceived class bias.

[28]Details in Appendix C under "perceptions of racial privilege."
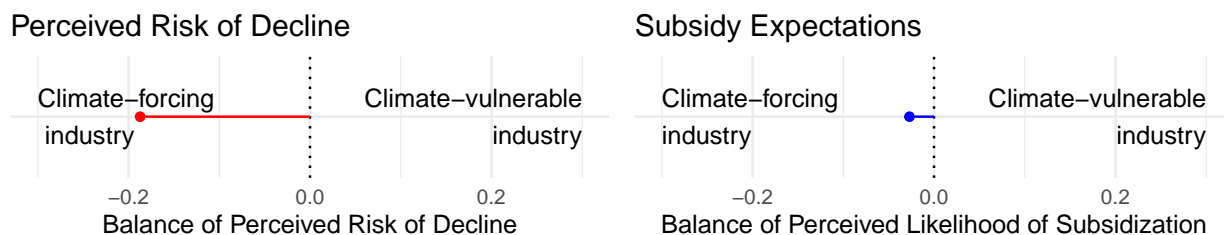
Figure 3: Control group beliefs about (*a*) relative risk of decline in climate-forcing and climate-vulnerable industries, and (*b*) the industry most likely to receive government subsidies ($n = 408$).

Race and Risk Perceptions

Does an industry's racial makeup affect its perceived risk of decline? Figure 4 presents the average treatment effects of switching from a Black-majority workforce to a white-majority workforce, conditional on prior beliefs about racial favoritism in government.[29] As anticipated, I find significant effects for subjects who believed the government favors white citizens. These subjects were sensitive to changes in the industries' racial composition, with risk perceptions shifting according to the balance of white and Black workers in each industry. Among these subjects, substantially less risk was seen to white-majority climate-forcing and climate-vulnerable industries — declines of 0.3–0.4 points on the five-point outcome scale (27–41% of a standard deviation). I find substantively small, statistically null results for subjects who did not believe the government favors white citizens and accordingly may have doubted that white-majority industries have distinct political advantages. These results are robust to Bonferroni corrections (Appendix E), randomization inference (Appendix F), alternative measures of perceived racial favoritism in government (Appendix G), specification as interaction models (Appendix H), and exclusion of subjects who failed an attention check (Appendix I).

As indicated in the graphical insert of Figure 4, these shifts in industries' racial makeup tilt the balance of perceived risks to climate-forcing and climate-vulnerable industries. Absent any racial information, subjects tended to see climate-forcing industries as at greater risk of decline. For subjects who saw white citizens as favored (left-hand plot), information indicating that the climate-

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[29]Beliefs are measured here according to subjects' estimate of how the government would allocate tokens between a white and Black citizen (more tokens allocated to a white citizen than Black citizen, or not).

	Perceived Risk of Decline (0–4)											
	Climate-forcing industry						Climate-vulnerable industry					
Perceived gov't bias	*All subjects*		*Whites favored*		*Whites not favored*		*All subjects*		*Whites favored*		*Whites not favored*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Majority white	−0.18*	−0.22**	−0.29*	−0.32*	−0.12	−0.18	−0.09	−0.10	−0.42***	−0.45***	0.14	0.15
	(0.07)	(0.07)	(0.13)	(0.13)	(0.11)	(0.11)	(0.07)	(0.07)	(0.12)	(0.13)	(0.10)	(0.10)
N	975	927	314	304	436	409	966	917	313	302	430	403
Controls		✓		✓		✓		✓		✓		✓

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$
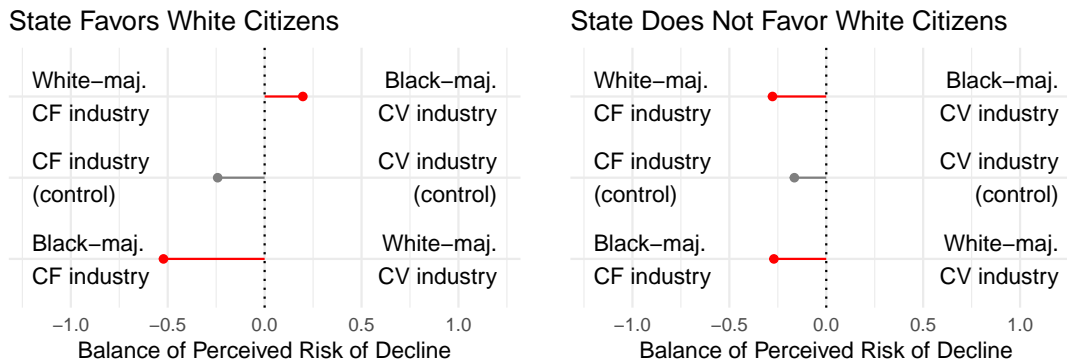
Figure 4: Ordinary least squares regression of perceived risk of industry decline, indicated on five-point scale, on racial makeup of industry (majority white or majority Black). Subjects separated by prior beliefs about racial bias in government. Block fixed effects included; robust standard errors parenthesized. Indicated models include controls for party identification, liberal-conservative ideology, age, gender, income, and education. Graphic contrasts perceived risk of decline in climate-forcing (CF) industry versus climate-vulnerable (CV) industry, by prior beliefs and treatment group (gray line indicates mean response for subjects receiving no race information).

forcing industry was mostly white — and climate-vulnerable industry mostly Black — inverted this balance of perceived risk. In this scenario, the climate-*vulnerable* industry was seen as most susceptible to decline. Conversely, the scenario with a Black-majority climate-forcing industry and white-majority climate-vulnerable industry compounded perceived risks to the former. Shifting the balance of white workers to the climate-forcing industry reduced its subjective risk of decline by 0.8 points relative to the climate-vulnerable industry.[30]

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[30]OLS regression of the difference in the perceived risk to each industry on the treatment, plus covariates with block fixed effects and robust standard errors ($\hat{\beta} = -0.78$***; s.e. $= 0.17$).

Access to Subsidies

The above theory expects these varied beliefs about industries' viability to be rooted in views of their access to public backstops. Here I test this mechanism, analyzing responses to a question about whether a climate-forcing or climate-vulnerable industry would be more likely to be subsidized than the other. This zero-sum framing reflects the "existential" competition between climate-forcing and climate-vulnerable industries for government support (Colgan, Green, and Hale 2021). Beliefs about subsidies and industries' long-run profitability are closely correlated: subjects who believed the climate-forcing industry would be subsidized saw less risk of decline in that industry, and correspondingly more risk of decline in the climate-vulnerable industry.[31]

Figure 5 illustrates that beliefs about subsidies are highly responsive to shifts in industries' racial composition. Pooling all subjects together, there is little evidence that differences in racial composition change subsidy expectations. But countervailing effects emerge when splitting the sample by prior beliefs about government favoritism. Among subjects who believed the government favors white citizens, shifting the composition of the climate-forcing industry to a white majority increased the perceived probability of it being subsidized by 20 points to roughly 70%. Others, skeptical of pro-white favoritism, saw the white-majority industry as marginally *less* likely to be subsidized than a Black-majority counterpart. The differences between these conditional average treatment effects are statistically significant. These results are robust to Bonferroni corrections (Appendix J), randomization inference (Appendix K), alternative measures of perceived racial favoritism (Appendix L), specification as an interaction model (Appendix M), and exclusion of inattentive subjects (Appendix N).

Prior beliefs about racial bias in government thus split views about climate-forcing and climate-vulnerable industries: Industries that principally employ members of subjectively privileged groups are seen as better protected than industries tied to subjectively disadvantaged groups, and in turn better situated to weather future shocks. In line with this, I find that subsidy expectations are a

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[31]Subjects who expected the climate-forcing industry to be subsidized saw less risk of decline in that industry ($\hat{\beta} = -0.24^{***}$, s.e. $= 0.07$) and greater risk to the climate-vulnerable industry ($\hat{\beta} = 0.31^{***}$, s.e. $= 0.07$). Bivariate models estimated via OLS with block fixed effects.

	Pr(Subsidies for Climate-Forcing Industry = 1)					
Perceived gov't bias	*All subjects*		*Whites favored*		*Whites not favored*	
	(1)	(2)	(3)	(4)	(5)	(6)
White-maj. CF industry	0.05	0.04	0.20***	0.20***	−0.06	−0.08
	(0.03)	(0.03)	(0.05)	(0.06)	(0.05)	(0.05)
N	952	907	312	301	423	398
Controls		✓		✓		✓

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$
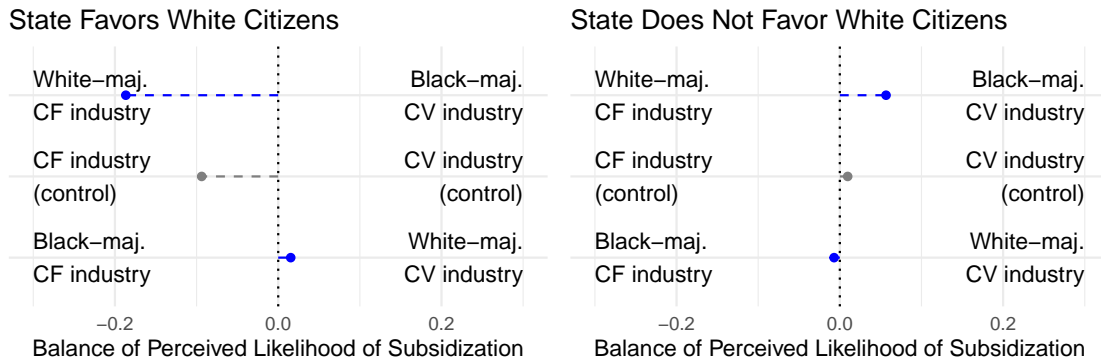
Figure 5: Regressions of perceived likelihood of climate-forcing industry being subsidized over a climate-vulnerable industry on racial balance of industries. Subjects separated by prior beliefs about racial bias in government. Block fixed effects included; robust standard errors parenthesized. Indicated models include controls for party identification, liberal-conservative ideology, age, gender, income, and education. Graphic indicates mean answers by prior beliefs and treatment condition (gray line indicates mean response for subjects receiving no race information).

significant mediator of the effect of industries' racial composition on perceptions of their viability (Appendix O).

Subjects' written responses support this interpretation. A mix of minority and white respondents argued that pro-white bias in government would yield more subsidies for white-majority industries. "If one industry is mostly white, it has more political clout," wrote a white respondent who said the government would subsidize a white-majority climate-vulnerable industry. "Because there is a long history of responding more to needs of white people than to black people and that has not changed," explained another. Per one minority respondent, the government would prioritize a white-majority climate-forcing industry "because the white people always get more then [sic] the rest." Wrote a second minority respondent, "It's [a] white job like you said [...] that explains everything I need to know." Subjects who mentioned "white" in their written responses

were nearly 30 points more likely to have answered that the white-majority industry would win government subsidies, suggesting that beliefs about favored groups were top of mind for subjects when considering industry futures.[32]

Other subjects, principally white, contended that employing minorities would instead be to industries' advantage. "Everything is based on keeping black people happy," wrote one white respondent. "They want to lean that way and appease blacks," added another, who said the government would subsidize a Black-majority climate-vulnerable industry over a white-majority fossil fuel industry. A third subject stated that the "government gives black folks more benefits then [sic] white folk." These written responses indicate that subjects' attitudes were shaped by expectations that the government would support industries in which favored groups clustered.[33]

Worker Security and Political Efficacy

Policies to facilitate orderly exits from climate-vulnerable and climate-forcing industries are attracting growing attention in political circles. Lawmakers and civil society groups are increasingly emphasizing "just transitions" that move workers from fossil fuel industries to low-carbon alternatives. Some are calling for "managed retreats" from communities vulnerable to physical climate impacts (Evans and Phelan 2016; Carey 2020; Muttitt and Kartha 2020). While governments may choose to encourage such exits, it is the communities themselves who will largely decide whether to remain in place, betting on the survival of local industries and jobs, or seek employment elsewhere. Do racial attitudes weigh on this choice?

The second survey experiment tests how the racial character of climate-forcing and climate-vulnerable workforces shapes beliefs about worker access to government protections and the returns to political mobilization (political efficacy). Presented with climate-forcing and climate-vulnerable industries that randomly varied in their racial makeup, subjects were asked, "how much do you think the government would help people in this industry keep their jobs?" Subjects were further told to imagine they worked in the given industry and called their Senator or Congressper-

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[32]See Appendix P for regression results.
[33]See Appendix P for structural topic models of these responses.

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son asking for help in protecting in their job; they were then asked about how helpful they expect the legislator would be.

	Government Employment Protection (0–4)			Political Efficacy (0–4)		
Perceived gov't bias	*All subjects*	*Whites favored*	*Whites not favored*	*All subjects*	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.19***	0.71***	−0.15***	0.16***	0.59***	−0.10**
	(0.03)	(0.06)	(0.04)	(0.03)	(0.05)	(0.04)
N	5,800	1,878	2,567	5,798	1,879	2,566
Subjects	1,459	472	645	1,458	472	645

$^{***}p < 0.001; ^{**}p < 0.01; ^{*}p < 0.05$

Table 1: Regressions of perceived likelihood of government employment protection (models 1–3) and perceived political efficacy of workers (models 4–6) on racial composition of industry. Subjects separated by prior beliefs about racial bias in government. Subject fixed effects included; robust standard errors clustered by subject parenthesized. Indicated models include controls for party identification, liberal-conservative ideology, age, gender, income, and education.

Estimation of models 1–3 in Table 1 shows that an industry's racial composition powerfully affects beliefs about the government's intention to keep workers in their jobs. Subjects who saw white people as advantaged expected the government to devote more resources to protect jobs in white-majority industries than in Black-majority industries (difference of 0.7 points on a five-point scale). Subjects who doubted a pro-white bias in government responded differently. These subjects expected the government to invest more in protecting Black-majority workforces (declines of 0.1 points in support for white-majority workforces).

A workforce's racial makeup similarly affected the anticipated responsiveness of elected officials. Models 4–6 in Table 1 indicate that subjects told they were working alongside members of subjectively privileged groups were more optimistic about the responsiveness of their legislators. Among subjects who saw white citizens as favored, employment in white-majority workforces increased the expected returns to political mobilization by 0.6 points. Conversely, among other subjects, employment in a white-majority workforce significantly *reduced* the anticipated efficacy of mobilization by 0.1 points.

These results are robust to Bonferroni corrections (Appendix Q), alternative measures of perceived racial favoritism (Appendix R), exclusion of inattentive subjects (Appendix S), and disag-

gregation of climate-forcing and climate-vulnerable industries (Appendix T). Both Democrats and Republicans exhibit similar responses to these racial cues, as do voters for Joe Biden and Donald Trump in 2020, wealthier and poorer respondents, subjects situated at opposite ends of the traditional racial resentment scale, as well as subjects who vary in perceived status threats. I moreover identify these effects among white, non-Hispanic subjects, minority subjects, and Black subjects, as well as subjects who vary in their concern about climate change (Appendix U). Independent of political preferences, economic class, racial animosity, and racial identification, prior beliefs about group favoritism in government cleave expectations about the security and political efficacy of workers.

Discussion

These findings illuminate how perceived racial biases in government, in conjunction with the racial makeup of industry workforces, can transform expectations around the future of climate-forcing and climate-vulnerable industries. Given the uncertainties that pervade climate change and decarbonization, these highly salient ascriptive features of industries serve as a heuristic for evaluating their ability to stave off decline as economic disruptions mount. Industries associated with subjectively privileged groups are believed — rightly or wrongly — to have unique sway in government, making them uniquely well-positioned to survive an era of climate-related economic dislocation. Workers in such industries are correspondingly seen as better equipped to mobilize for job protections. Collectively, these findings illustrate the importance of identity divisions as a source of attitude formation around climate change and political contests between climate-forcing and climate-vulnerable industries.

As perceptions of racial and ethnic privilege are subjective, cleavages in risk perceptions are likely to emerge in ethnoracially fragmented polities. The results described here plainly show that the same industries are seen in different lights by different corners of the American public. Such varied risk attitudes have important implications for the "existential politics" of climate change: contestation between holders of climate-forcing assets and holders of climate-vulnerable assets

(Colgan, Green, and Hale 2021). In the U.S., climate-forcing industries are distinctly white while climate-vulnerable local economies are often largely populated by minorities. This racial imbalance may shape how communities prepare for decarbonization and climate instability, evaluating whether exit at-risk industries or gamble on their continued viability. Confidence in the availability of government backstops may render communities more sanguine about the status quo, perhaps unduly so given limits to what subsidies are able to accomplish.

This paper suggests several routes for future research. The argument in this paper should be most operative in countries where ethnoracial divisions are a dominant political cleavage, and where there are accordingly popular expectations of ethnoracial favoritism in government decision-making (Goldman 2017). Countries such as India, where economic dislocations linked to climate change and decarbonization loom, may fall into this category. Some work suggests these criteria are less likely to be met in countries with less economic inequality and with proportional representation, not majoritarian, electoral systems (Huber 2012, 2017). Scholars might thus also explore how the argument holds in European countries where transition and physical risks are prominent, but that feature milder economic inequities and distinct electoral rules.

Racial hierarchies and attitudes have proven to be sticky over time in the U.S. (Acharya, Blackwell, and Sen 2018). This paper's argument may be most applicable in contexts like this. Where patterns of group favoritism are not seen as entrenched or stable — e.g., where power oscillates between parties representing different groups, or where the electoral utility of in-group voters frequently varies (Wilkinson 2004) — such patterns may be less informative when projecting industry futures over the medium to long term. Comparing across polities that vary in the real or perceived stability of ethnoracial hierarchies is a fruitful direction for future work.

This paper also rests on abstract experimental designs, as discussed above. While such designs are valuable in "demonstrat[ing] that an effect exists," they are less useful than more context-rich designs in estimating "how important an effect might be relative to other considerations" (Brutger et al. 2022, 14). Scholars should evaluate how the public views industries' ethnoracial makeup in relation to other heuristics or attributes, such as industries' class connotations or perceptions

of their lobbying might. Conjoint experimentation or focus group discussions may be well-suited for assessing the relative salience and effect size of multiple industry characteristics. Scholars might also contrast climate-forcing and climate-vulnerable industries to those facing other types of economic disruption, such as import competition. The heuristic described in this paper may be less influential in areas marked by less uncertainty, such as where historical precedents for industrial decline are more readily available for use in estimating industry futures.

Furthermore, researchers might consider how groups look to *overcome* political exclusion in pursuit of support for certain workforces and delineate when such efforts are likely to succeed. Where racial groups segment into climate-forcing and climate-vulnerable industries, might contests over climate policy exacerbate political conflict along racial lines? Lastly, scholars should explore how racial and ethnic information affects the risk decision-making of elite actors, such as institutional investors. Findings that mass behaviors replicate for elites, as well as work highlighting investors' reliance on heuristics (Kertzer 2022; Brooks, Cunha, and Mosley 2015), hint that ascriptive features of industries may mold how financial actors perceive and manage risk. The racial and ethnic conflicts that mark much of the world may hold important insights into whether the risks of climate change and decarbonization will be averted or left to intensify.

References

Acharya, Avidit, Matthew Blackwell, and Maya Sen. 2018. *Deep Roots: How Slavery Still Shapes Southern Politics*. Princeton, N.J.: Princeton University Press.

Aklin, Michaël, and Matto Mildenberger. 2020. "Prisoners of the Wrong Dilemma: Why Distributive Conflict, Not Collective Action, Characterizes the Politics of Climate Change." *Global Environmental Politics* 20 (4): 4–27.

Alfonseca, Kiara, and Teddy Grant. 2022. "Why Extreme Heat Endangers More Black, Hispanic and Indigenous People.".

Alt, James E., and Michael Gilligan. 1994. "The Political Economy of Trading States: Factor Specificity, Collective Action Problems and Domestic Political Institutions." *Journal of Political Philosophy* 2 (2): 165–192.

Baccini, Leonardo, and Stephen Weymouth. 2021. "Gone for Good: Deindustrialization, White Voter Backlash, and U.S. Presidential Voting." *American Political Science Review* 115 (2): 550–567.

Ballard-Rosa, Cameron, Amalie Jensen, and Kenneth Scheve. 2022. "Economic Decline, Social Identity, and Authoritarian Values in the United States." *International Studies Quarterly* 66 (1).

Barrett, Scott. 2003. *Environment and Statecraft: The Strategy of Environmental Treaty-Making*. New York, N.Y.: Oxford University Press.

Bayer, Patrick, and Federica Genovese. 2020. "Beliefs About Consequences from Climate Action Under Weak Climate Institutions: Sectors, Home Bias, and International Embeddedness." *Global Environmental Politics* 20 (4): 28–50.

Bechtel, Michael, and Kenneth Scheve. 2013. "Mass Support for Global Climate Agreements Depends on Institutional Design." *Proceedings of the National Academy of Sciences* 110 (34): 13763–13768.

Bechtel, Michael M., Federica Genovese, and Kenneth Scheve. 2019. "Interests, Norms and Support for the Provision of Global Public Goods: The Case of Climate Co-operation." *British Journal of Political Science* 49 (4): 1333–1355.

Becker, Sascha, and Luigi Pascali. 2019. "Religion, Division of Labor, and Conflict: Anti-semitism in Germany over 600 Years." *American Economic Review* 109 (5): 1764–1804.

Bertrand, Marianne, and Sendhil Mullainathan. 2004. "Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination." *American Economic Review* 94 (4): 991–1013.

Betz, Hans-Georg, and Fabian Habersack. 2020. "Regional Nativism in East Germany." In *The People and the Nation: Populism and Ethno-Territorial Politics in Europe*, ed. Emanuele Massetti, and Oscar Mazzoleni. New York, N.Y.: Routledge.

Betz, Timm, and Amy Pond. 2023. "Politically Connected Owners." *Comparative Political Studies* 56 (4): 561–595.

Blumer, Herbert. 1958. "Race Prejudice as a Sense of Group Position." *Pacific Sociological Review* 1 (1): 3–7.

Bobo, Lawrence D. 1999. "Prejudice as Group Position: Microfoundations of a Sociological Approach to Racism and Race Relations." *Journal of Social Issues* 55 (3): 445–472.

Bobo, Lawrence, and David Mickey-Pabello. 2019. "Ethnoracial Exclusion and Social Inequality." *Du Bois Review* 16 (2): 285–289.

Brady, Jeff. 2017. "Big Oil Has A Diversity Problem.".

Brooks, Sarah, Raphael Cunha, and Layna Mosley. 2015. "Categories, Creditworthiness, and Contagion: How Investors' Shortcuts Affect Sovereign Debt Markets." *International Studies Quarterly* 59 (3): 587–601.

Broz, J. Lawrence, Jeffry Frieden, and Stephen Weymouth. 2021. "Populism in Place: The Economic Geography of the Globalization Backlash." *International Organization* 75 (2): 464–494.

Brutger, Ryan, Joshua D. Kertzer, Jonathan Renshon, Dustin Tingley, and Chagai M. Weiss. 2022. "Abstraction and Detail in Experimental Design." *American Journal of Political Science* (forthcoming).

Bush, Sarah, and Amanda Clayton. 2023. "Facing Change: Gender and Climate Change Attitudes Worldwide." *American Political Science Review* 117 (2): 591–608.

Bättig, Michèle B., and Thomas Bernauer. 2009. "National Institutions and Global Public Goods: Are Democracies More Cooperative in Climate Change Policy?" *International Organization* 63 (2): 281–308.

Carey, John. 2020. "Core Concept: Managed Retreat Increasingly Seen as Necessary in Response to Climate Change's Fury." *Proceedings of the National Academy of Sciences* 117 (24): 13182.

Chenet, Hugues, Josh Ryan-Collins, and Frank van Lerven. 2021. "Finance, Climate-Change and Radical Uncertainty: Towards a Precautionary Approach to Financial Policy." *Ecological Economics* 183: 106957.

Chudy, Jennifer. 2021. "Racial Sympathy and Its Political Consequences." *Journal of Politics* 83 (1): 122–136.

Clark, Richard, and Noah Zucker. 2023. "Climate Cascades: IOs and the Prioritization of Climate Action." *American Journal of Political Science* (forthcoming).

Colgan, Jeff D., and Miriam Hinthorn. 2023. "International Energy Politics in an Age of Climate Change." *Annual Review of Political Science* 26 (1): 79–96.

Colgan, Jeff, Jessica F. Green, and Thomas Hale. 2021. "Asset Revaluation and the Existential Politics of Climate Change." *International Organization* 75 (2): 586–610.

Congressional Hispanic Caucus. 2021. "Congressional Hispanic Caucus Members Support Heat Stress Legislation to Protect Farmworkers.".

Constantino, Sara M., and Elke U. Weber. 2021. "Decision-Making Under the Deep Uncertainty of Climate Change: The Psychological and Political Agency of Narratives." *Current Opinion in Psychology* 42: 151–159.

Coppock, Alexander, and Oliver A. McClellan. 2019. "Validating the Demographic, Political, Psychological, and Experimental Results Obtained From a New Source of Online Survey Respondents." *Research & Politics* 6 (1): 2053168018822174.

Cory, Jared, Michael Lerner, and Iain Osgood. 2021. "Supply Chain Linkages and the Extended Carbon Coalition." *American Journal of Political Science* 65 (1): 69–87.

Cowie, Jefferson. 2022. *Freedom's Dominion: A Saga of White Resistance to Federal Power*. New York, N.Y.: Basic Books.

Curiel, John A., and Jesse T. Clark. 2021. "Disparities in Poll Closures in the Age of COVID-19: A Case Study of Wisconsin." *Election Law Journal: Rules, Politics, and Policy* 20 (4): 345–363.

De Luca, Giacomo, Roland Hodler, Paul Raschky, and Michele Valsecchi. 2018. "Ethnic Favoritism: An Axiom of Politics?" *Journal of Development Economics* 132: 115–129.

Derenoncourt, Ellora, Chi Hyun Kim, Moritz Kuhn, and Moritz Schularick. 2022. "Wealth of Two Nations: The U.S. Racial Wealth Gap, 18602020.".

Du Bois, W.E.B. 1935. *Black Reconstruction in America*. New York, N.Y.: Harcourt.

Earle, Thomas Blake. 2017. "No White Man Left Behind.".

Egan, Patrick J., and Megan Mullin. 2017. "Climate Change: US Public Opinion." *Annual Review of Political Science* 20 (1): 209–227.

Elliott, Rebecca. 2020. "Oil Industry Frets About Recruiting Its Next Generation of Workers.".

Engelhardt, Andrew M. 2023. "Observational Equivalence in Explaining Attitude Change: Have White Racial Attitudes Genuinely Changed?" *American Journal of Political Science* 67 (2): 411–425.

EPA. 2021. "Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts.".

Evans, Geoff, and Liam Phelan. 2016. "Transition to a Post-Carbon Society: Linking Environmental Justice and Just Transition Discourses." *Energy Policy* 99: 329–339.

Finnegan, Jared. 2022. "Institutions, Climate Change, and the Foundations of Long-Term Policymaking." *Comparative Political Studies* 55 (7): 1198–1235.

Flavelle, Christopher. 2021. "Why Does Disaster Aid Often Favor White People?".

Gaikwad, Nikhar, Federica Genovese, and Dustin Tingley. 2022. "Creating Climate Coalitions: Mass Preferences for Compensating Vulnerability in the World's Two Largest Democracies." *American Political Science Review* 116 (4): 1165–1183.

Gaikwad, Nikhar, and Pavithra Suryanarayan. 2022. "Attitudes Toward Globalization in Ranked Ethnic Societies.".

Ganong, Peter, Damon Jones, Pascal Noel, Fiona Greig, Diana Farrell, and Chris Wheat. 2020. "Wealth, Race, and Consumption Smoothing of Typical Income Shocks.".

Gazmararian, Alexander F., and Dustin Tingley. 2023. *Uncertain Futures: How to Unlock the Climate Impasse*. New York, N.Y.: Cambridge University Press.

Gilens, Martin. 1996. "'Race Coding' and White Opposition to Welfare." *American Political Science Review* 90 (3): 593–604.

Goldman, Seth K. 2012. "Effects of the 2008 Obama Presidential Campaign on White Racial Prejudice." *Public Opinion Quarterly* 76 (4): 663–687.

Goldman, Seth K. 2017. "Explaining White Opposition to Black Political Leadership: The Role of Fear of Racial Favoritism." *Political Psychology* 38 (5): 721–739.

Gourevitch, Peter. 1978. "The Second Image Reversed: The International Sources of Domestic Politics." *International Organization* 32 (4): 881–912.

Green, Jessica, Jennifer Hadden, Thomas Hale, and Paasha Mahdavi. 2022. "Transition, Hedge, or Resist? Understanding Political and Economic Behavior toward Decarbonization in the Oil and Gas Industry." *Review of International Political Economy* 29 (6): 2036–2063.

Grossman, Gene, and Elhanan Helpman. 1994. "Protection for Sale." *American Economic Review* 84 (4): 833–850.

Grumbach, Jacob, and Alexander Sahn. 2020. "Race and Representation in Campaign Finance." *American Political Science Review* 114 (1): 206–221.

Hamilton, Scott. 2019. "I Am Uncertain, but We Are Not: A New Subjectivity of the Anthropocene." *Review of International Studies* 45 (4): 607–626.

Harder, Amy. 2020. "Civil Rights Leaders Call For More Diverse Oil and Gas Industry.".

Hechter, Michael. 1978. "Group Formation and the Cultural Division of Labor." *American Journal of Sociology* 84 (2): 293–318.

Hooker, Juliet. 2017. "Black Protest / White Grievance: On the Problem of White Political Imaginations Not Shaped by Loss." *South Atlantic Quarterly* 116 (3): 483–504.

Huber, John D. 2012. "Measuring Ethnic Voting: Do Proportional Electoral Laws Politicize Ethnicity?" *American Journal of Political Science* 56 (4): 986–1001.

Huber, John D. 2017. *Exclusion by Elections: Inequality, Ethnic Identity, and Democracy*. New York, N.Y.: Cambridge University Press.

Huber, John D., and Pavithra Suryanarayan. 2016. "Ethnic Inequality and the Ethnification of Political Parties: Evidence from India." *World Politics* 68 (1): 149–188.

Hutchings, Vincent L. 2009. "Change or More of The Same?: Evaluating Racial Attitudes in the Obama Era." *Public Opinion Quarterly* 73 (5): 917–942.

IPCC. 2021. *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. New York, N.Y.: Cambridge University Press.

Iversen, Torben, and David Soskice. 2001. "An Asset Theory of Social Policy Preferences." *American Political Science Review* 95 (4): 875–893.

Iversen, Torben, and Thomas R. Cusack. 2000. "The Causes of Welfare State Expansion: Deindustrialization or Globalization?" *World Politics* 52 (3): 313–349.

Jardina, Ashley. 2019. *White Identity Politics*. New York, N.Y.: Cambridge University Press.

Jeffrey, Craig, Patricia Jeffery, and Roger Jeffery. 2008. *Degrees Without Freedom? Education, Masculinities, and Unemployment in North India*. Stanford, Calif.: Stanford University Press.

Jha, Saumitra. 2013. "Trade, Institutions, and Ethnic Tolerance: Evidence from South Asia." *American Political Science Review* 107 (4): 806–832.

Kam, Cindy D., and Camille D. Burge. 2018. "Uncovering Reactions to the Racial Resentment Scale across the Racial Divide." *Journal of Politics* 80 (1): 314–320.

Katz, Lily. 2021. "A Racist Past, a Flooded Future: Formerly Redlined Areas Have $107 Billion Worth of Homes Facing High Flood Risk 25% More Than Non-Redlined Areas.".

Katzenstein, Peter J. 2022. "Worldviews in World Politics." In *Uncertainty and Its Discontents: Worldviews in World Politics*, ed. Peter J. Katzenstein. New York, N.Y.: Cambridge University Press.

Katznelson, Ira. 2005. *When Affirmative Action Was White: An Untold History of Racial Inequality in Twentieth-Century America*. New York, N.Y.: Norton.

Katznelson, Ira. 2013. *Fear Itself: The New Deal and the Origins of Our Time*. New York, N.Y.: Liveright.

Kennard, Amanda. 2020. "The Enemy of My Enemy: When Firms Support Climate Change Regulation." *International Organization* 74 (2): 187–221.

Keohane, Robert O., Melissa Lane, and Michael Oppenheimer. 2014. "The Ethics of Scientific Communication Under Uncertainty." *Politics, Philosophy & Economics* 13 (4): 343–368.

Kertzer, Joshua D. 2022. "Re-Assessing Elite-Public Gaps in Political Behavior." *American Journal of Political Science* 66 (3): 539–553.

Keynes, John Maynard. 1921. *A Treatise on Probability*. London, UK: MacMillan.

Kinder, Donald, and Lynn Sanders. 1996. *Divided by Color*. Chicago, Ill.: University of Chicago Press.

Knight, Frank. 1921. *Risk, Uncertainty, and Profit*. New York, N.Y.: Houghton Mifflin.

Kurki, Milja. 2022. "Relationality, Post-Newtonian International Relations, and Worldviews." In *Uncertainty and Its Discontents: Worldviews in World Politics*, ed. Peter J. Katzenstein. New York, N.Y.: Cambridge University Press.

Lake, David A. 2009. "Open Economy Politics: A Critical Review." *Review of International Organizations* 4 (3): 219–244.

Lieberman, Evan S. 2009. *Boundaries of Contagion: How Ethnic Politics Have Shaped Government Responses to AIDS*. Princeton, N.J.: Princeton University Press.

Lieberman, Evan S., and Prerna Singh. 2012. "The Institutional Origins of Ethnic Violence." *Comparative Politics* 45 (1): 1–24.

Mayda, Anna Maria. 2006. "Who Is Against Immigration? A Cross-Country Investigation of Individual Attitudes toward Immigrants." *Review of Economics and Statistics* 88 (3): 510–530.

Mazumder, Soumyajit. 2018. "The Persistent Effect of U.S. Civil Rights Protests on Political Attitudes." *American Journal of Political Science* 62 (4): 922–935.

McClendon, Gwyneth. 2016. "Race and Responsiveness: An Experiment with South African Politicians." *Journal of Experimental Political Science* 3 (1): 60–74.

McDaniel, Eric. 2021. "Outdoor Workers Could Face Far More Dangerous Heat By 2065 Because Of Climate Change.".

Merolla, Jennifer L., Abbylin H. Sellers, and Derek J. Fowler. 2013. "Descriptive Representation, Political Efficacy, and African Americans in the 2008 Presidential Election." *Political Psychology* 34 (6): 863–875.

Morris, Kevin T., and Kelsey Shoub. 2023. "Contested Killings: The Mobilizing Effects of Community Contact with Police Violence." *American Political Science Review* (forthcoming).

Muttitt, Greg, and Sivan Kartha. 2020. "Equity, Climate Justice and Fossil Fuel Extraction: Principles for a Managed Phase Out." *Climate Policy* 20 (8): 1024–1042.

Mutz, Diana. 2018. "Status Threat, Not Economic Hardship, Explains the 2016 Presidential Vote." *Proceedings of the National Academy of Sciences* 115 (19): E4330–E4339.

Nathan, Noah L. 2016. "Local Ethnic Geography, Expectations of Favoritism, and Voting in Urban Ghana." *Comparative Political Studies* 49 (14): 1896–1929.

Nelson, Stephen, and Peter Katzenstein. 2014. "Uncertainty, Risk, and the Financial Crisis of 2008." *International Organization* 68 (2): 361–392.

Nordhaus, William D. 2017. "Revisiting the Social Cost of Carbon." *Proceedings of the National Academy of Sciences* 114: 1518–1523.

Oliver, J. Eric, and Tali Mendelberg. 2000. "Reconsidering the Environmental Determinants of White Racial Attitudes." *American Journal of Political Science* 44 (3): 574–589.

Orth, Taylor. 2022. "From Millionaires to Muslims, Small Subgroups of the Population Seem Much Larger to Many Americans.".

Oskooii, Kassra A. R. 2020. "Perceived Discrimination and Political Behavior." *British Journal of Political Science* 50 (3): 867–892.

Peyton, Kyle, Gregory Huber, and Alexander Coppock. 2022. "The Generalizability of Online Experiments Conducted During the COVID-19 Pandemic." *Journal of Experimental Political Science* 9 (3): 379–394.

Posner, Daniel. 2004. "The Political Salience of Cultural Difference: Why Chewas and Tumbukas Are Allies in Zambia and Adversaries in Malawi." *American Political Science Review* 98 (4): 529–545.

Quadagno, Jill. 1994. *The Color of Welfare: How Racism Undermined the War on Poverty*. New York, N.Y.: Oxford University Press.

Reich, Michael, David M. Gordon, and Richard C. Edwards. 1973. "A Theory of Labor Market Segmentation." *American Economic Review* 63 (2): 359–365.

Reiley, Laura. 2021. "Relief Bill Is Most Significant Legislation for Black Farmers Since Civil Rights Act, Experts Say.".

Rho, Sungmin, and Michael Tomz. 2017. "Why Don't Trade Preferences Reflect Economic Self-Interest?" *International Organization* 71 (S1): S85–S108.

Rickard, Stephanie J. 2018. *Spending to Win: Political Institutions, Economic Geography, and Government Subsidies*. New York, N.Y.: Cambridge University Press.

Roberts, Margaret, Brandon Stewart, and Dustin Tingley. 2019. "stm: An R Package for Structural Topic Models." *Journal of Statistical Software* 91 (2): 1–40.

Rodrik, Dani. 1998. "Why Do More Open Economies Have Bigger Governments?" *Journal of Political Economy* 106 (5): 997–1032.

Rogowski, Ronald. 1987. "Political Cleavages and Changing Exposure to Trade." *American Political Science Review* 81 (4): 1121–1137.

Rucker, Julian M., and Jennifer A. Richeson. 2021. "Toward an Understanding of Structural Racism: Implications for Criminal Justice." *Science* 374 (6565): 286–290.
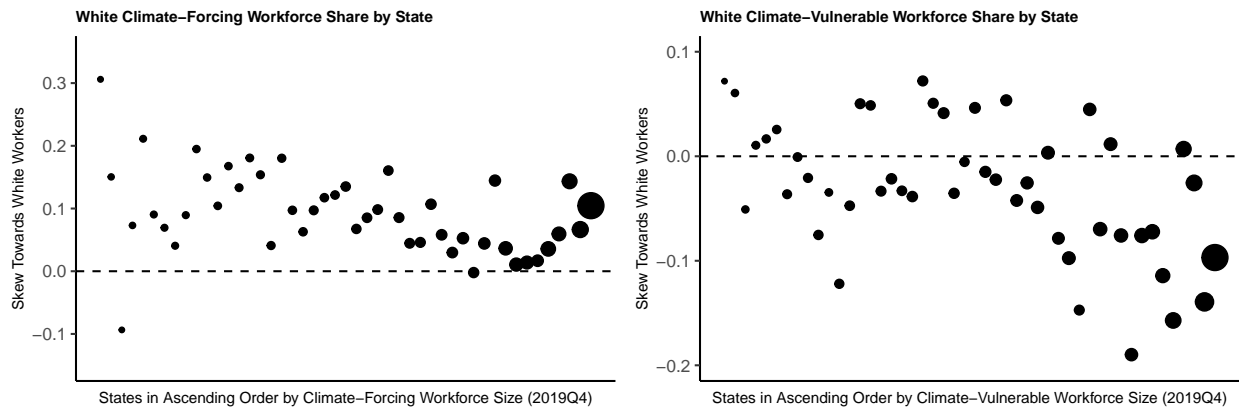
Scheve, Kenneth F., and Matthew J. Slaughter. 2001. "What Determines Individual Trade-Policy Preferences?" *Journal of International Economics* 54: 267–292.

Smiley, Kevin T., Ilan Noy, Michael F. Wehner, Dave Frame, Christopher C. Sampson, and Oliver E. J. Wing. 2022. "Social Inequalities in Climate Change-Attributed Impacts of Hurricane Harvey." *Nature Communications* 13 (1): 3418.

Sobel, Adam. 2021. "Usable Climate Science Is Adaptation Science." *Climatic Change* 166 (8): 1–11.

Sovacool, Benjamin K. 2017. "Reviewing, Reforming, and Rethinking Global Energy Subsidies: Towards a Political Economy Research Agenda." *Ecological Economics* 135: 150–163.

Stephens-Dougan, LaFleur. 2021. "The Persistence of Racial Cues and Appeals in American Elections." *Annual Review of Political Science* 24 (1): 301–320.

Stephens-Dougan, LaFleur. 2023. "White Americans' Reactions to Racial Disparities in COVID-19." *American Political Science Review* 117 (2): 773–780.

Stokes, Leah C. 2020. *Short Circuiting Policy: Interest Groups and the Battle Over Clean Energy and Climate Policy in the American States*. New York, N.Y.: Oxford University Press.

Suryanarayan, Pavithra, and Steven White. 2021. "Slavery, Reconstruction, and Bureaucratic Capacity in the American South." *American Political Science Review* 115 (2): 568–584.

Tingley, Dustin, and Michael Tomz. 2014. "Conditional Cooperation and Climate Change." *Comparative Political Studies* 47 (3): 344–368.

Tingley, Dustin, Teppei Yamamoto, Kentaro Hirose, Luke Keele, and Kosuke Imai. 2014. "Mediation: R Package for Causal Mediation Analysis." *Journal of Statistical Software* 59 (5): 1–38.

Victor, David G. 2011. *Global Warming Gridlock: Creating More Effective Strategies for Protecting the Planet*. New York, N.Y.: Cambridge University Press.

Walsh, Katherine Cramer. 2012. "Putting Inequality in Its Place: Rural Consciousness and the Power of Perspective." *American Political Science Review* 106 (3): 517–532.

Walter, Stefanie. 2010. "Globalization and the Welfare State: Testing the Microfoundations of the Compensation Hypothesis." *International Studies Quarterly* 54 (2): 403–426.

Wasow, Omar. 2020. "Agenda Seeding: How 1960s Black Protests Moved Elites, Public Opinion and Voting." *American Political Science Review* 114 (3): 638–659.

West, Emily A. 2017. "Descriptive Representation and Political Efficacy: Evidence from Obama and Clinton." *Journal of Politics* 79 (1): 351–355.

White, Ariel. 2019. "Misdemeanor Disenfranchisement? The Demobilizing Effects of Brief Jail Spells on Potential Voters." *American Political Science Review* 113 (2): 311–324.

White, Ismail K. 2007. "When Race Matters and When It Doesn't: Racial Group Differences in Response to Racial Cues." *American Political Science Review* 101 (2): 339–354.

White, Ismail K., Chryl N. Laird, and Troy D. Allen. 2014. "Selling Out?: The Politics of Navigating Conflicts between Racial Group Interest and Self-interest." *American Political Science Review* 108 (4): 783–800.

Wilkinson, Steven I. 2004. *Votes and Violence: Electoral Competition and Ethnic Riots in India*. New York, N.Y.: Cambridge University Press.

Williams, Philippa. 2011. "An Absent Presence: Experiences of the 'Welfare State' in an Indian Muslim Mohall." *Contemporary South Asia* 19 (3): 263–280.

Zucker, Noah. 2021. "Free Trade and Forms of Democratization." *Journal of Politics* 83 (4): 1867–1871.

Zucker, Noah. 2022. "Group Ties amid Industrial Change: Historical Evidence from Fossil Fuel Industry." *World Politics* 74 (4): 610–650.

Zvobgo, Kelebogile, and Meredith Loken. 2020. "Why Race Matters in International Relations." *Foreign Policy* 237.

Appendices

A. White Workforce Shares by State

Figure A1: White (non-Hispanic) shares of climate-forcing workforces (left panel) and climate-vulnerable workforces (right panel), relative to shares of overall workforces by state. Plotted in ascending order by total state-level employment in each set of industries. Points scaled to total number of workers in state. Data drawn from the U.S. Census Bureau Quarterly Workforce Indicators for the fourth quarter of 2019. See Figures 1 and 2 for industry definitions.

The following lists indicate the percentage-point "skew" towards white workers in the ten states with the most climate-forcing and climate-vulnerable workers. Skew defined as the share of inudstry workers who are white (non-Hispanic), minus the white (non-Hispanic) share of the total state workforce. Positive values indicate the workforce is disproportionately white. Negative values indicate the workforce is disproportionately nonwhite. For example, the climate-forcing workforce of Texas is 10.5 percentage points more white than the overall state workforce; California's climate-vulnerable workforce is 9.7 points less white than its overall workforce.

- **Climate-forcing workforces:** Texas (+10.5 percentage points), Oklahoma (+6.6), Louisiana (+14.3), Colorado (+5.9), Pennsylvania (+3.6), New Mexico (+1.7), North Dakota (+1.4), Wyoming (+1.1), West Virginia (+3.7), California (+14.5).

- **Climate-vulnerable workforces:** California (−9.7 percentage points), Washington (−13.9), Florida (−2.6), Texas (+0.7), Oregon (−15.7), New York (−11.4), Michigan (−7.2), Wisconsin (−7.6), Idaho (−19), Pennsylvania (−7.6).

B. Subject Balance

Variable	Control	T1 = CF Majority Black	T2 = CF Majority White	t-test (T1, T2)
Female	0.506	0.528	0.510	p = 0.58
Age	44.3	44.8	45.4	p = 0.58
Income (1–9)	1.68	1.71	1.88	p = 0.13
Non-Hispanic white	0.685	0.712	0.698	p = 0.63
Republican	0.317	0.311	0.328	p = 0.57
Lib.-conserv. (1–5)	2.06	1.99	2.08	p = 0.27
Education (1–5)	2.11	2.10	2.13	p = 0.61

Table B1: Covariate balance. Left three columns list covariate means by group. Rightmost column list p-values from a Welch two sample t-test of treatment group means; no significant differences are found at conventional thresholds.

C. Experimental Design

The surveys described in this paper received an exempt determination from the [institution redacted] Institutional Review Board as a "benign behavioral intervention" (protocol [number redacted]). All subjects were recruited via the Lucid Theorem service, which supplies samples of U.S. adults with demographic characteristics matching national averages in the U.S. census. The survey was hosted on Qualtrics. Question orders and answer orders were randomized.

C.1. Survey Flow
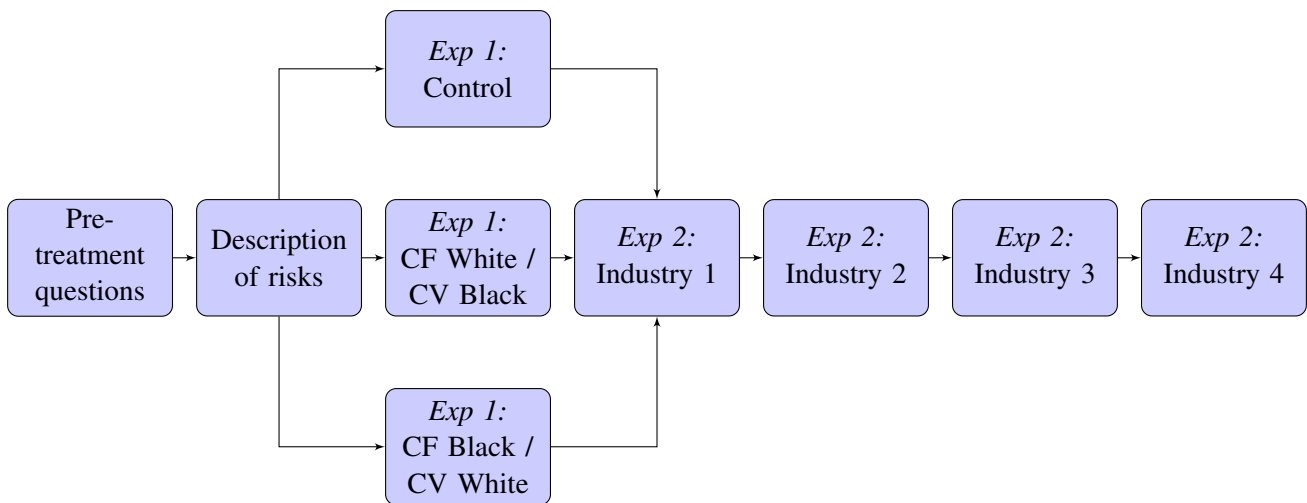
Figure C1: Visual summary of survey flow. "Description of risks" refers to the descriptive vignette at the beginning of Experimental Module 1; "Exp 1" refers to the control/treatment conditions in Experimental Module 1; "Exp 2" refers to the four hypothetical industry permutations (presented in random order) in Experimental Module 2. See below for details on these components.

C.2. Pre-Treatment Demographic Questions

- What is your gender?

    – Male; Female; Non-binary / third gender; Prefer not to say

- What is your age?

    – 18 – 100+

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- What is your annual household income?

  - Less than $25,000 – $250,000 (scale in $25,000 increments)

- What is your race?

  - White; Black or African American; American Indian or Alaska Native; Asian; Native Hawaiian or Pacific Islander; Other

- Do you identify as Hispanic or Latino?

  - Yes, I identify as Hispanic or Latino; No, I do not identify as Hispanic or Latino

- What best describes your political ideology?

  - Very liberal; Moderately liberal; Centrist; Moderately conservative; Very conservative

- How would you describe yourself politically?

  - Strong Democrat; Lean Democrat; Weak Democrat; Independent; Weak Republican; Lean Republican; Strong Republican; Other

- Who did you vote for in the 2020 presidential election?

  - Donald Trump; Joe Biden; Did not vote; Third party or write-in candidate; Do not remember

- What is the highest level of education you have completed?

  - Some high school or less; High school diploma or equivalent; Some college; Undergraduate college degree (Associate's, BA, BS, etc.); Postgraduate degree (MA, MBA, MD, JD, etc.)

- Were you laid off from a job at any point in the last five years?

  - Yes; No; Haven't worked in the last five years

- How likely is it that many whites are unable to find a job because employers are hiring minorities instead? (Non-Hispanic white subjects only; adapted from Jardina 2019)

  – Extremely likely; Somewhat likely; Neither likely nor unlikely; Somewhat unlikely; Extremely unlikely

- How likely is it that many minorities are unable to find a job because employers are hiring white people instead? (all other subjects; adapted from Jardina 2019)

  – Extremely likely; Somewhat likely; Neither likely nor unlikely; Somewhat unlikely; Extremely unlikely

- Earlier your identified your race as [answer]. How important is being [answer] to your identity? (From Jardina 2019)

  – Extremely important; Very important; Moderately important; Slightly important; Not at all important

- How worried are you that the American way of life is under threat? (From Mutz 2018)

  – Not at all worried; Slightly worried; Moderately worried; Very worried; Extremely worried

- How much discrimination is there in the U.S. today against each of the following groups? White people, Black people, Men, Women, Christians, Muslims. (From Mutz 2018)

  – None at all; A little; A moderate amount; A lot; A great deal

Racial resentment questions from Kinder and Sanders (non-Hispanic white subjects only):

- Please indicate how much you agree with the following statements:

  – "Over the past few years, Blacks have gotten less than they deserve."

* Strongly agree; Agree; Disagree; Strongly disagree

- "The Irish, Italian, Jews, Vietnamese, and other minorities overcame prejudice and worked their way up. Blacks should do the same without any special favors."

  * Strongly agree; Agree; Disagree; Strongly disagree

- "It's really a matter of some people not trying hard enough; if Blacks would only try harder, they could be as well off whites."

  * Strongly agree; Agree; Disagree; Strongly disagree

- "Generations of slavery and discrimination have created conditions that make it difficult for Blacks to work their way out of the lower class."

  * Strongly agree; Agree; Disagree; Strongly disagree

Climate change attitudes from Yale Program on Climate Change Communications:

- How concerned are you about climate change?

  - Very worried; Somewhat worried; Not very worried; Not at all worried

- Assuming climate change is happening, do you think it is...?

  - Caused mostly by human activities; Caused mostly by natural changes in the environment; None of the above because climate change isn't happening; Other; Don't know

Perceptions of racial privilege:

- Please rate your levels of agreement or disagreement with the following statements:

  - White people have an easier time accessing government support when they want it than Black or Hispanic people.

    * Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree

- On average, politicians are today more responsive to white citizens than Black or Hispanic citizens.

    * Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree

- When the government spends money, white people typically benefit more than Black people.

    * Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree

- Suppose the government were considering how to allocate 10 tokens, representing some amount of money, between the following four American citizens. Based on what you know about the U.S. government, how do you think these tokens would be allocated? Please make sure that the four lines add up to 10.

    * Tokens to a White citizen: __

    * Tokens to a Black citizen: __

    * Tokens to a rich citizen: __

    * Tokens to a poor citizen: __

C.4. *Experimental Module 1*

Business leaders and experts have begun to describe "climate risks" to the American economy that will emerge as a result of global warming and climate change.

Some of these risks are "transition risks." Economies are shifting from fossil fuels to renewable energy sources, which may cause industries heavily reliant on fossil fuels, like oil and gas producers and heavy manufacturers, to lose money and lay off workers. The industries exposed to transition risks are **fossil fuel-reliant industries**.

Some of these risks are "physical risks." Climate change will intensify droughts and floods and cause oceans to warm, which may lead industries like agriculture and fish-

ing to lose money and lay off workers. The industries exposed to physical risks are called **climate-vulnerable industries**.[34]

To protect industries against these climate risks, governments can spend money on "subsidies." Subsidies amount to financial support delivered, for example, in the form of tax breaks or direct investments in a company. Subsidies are intended to help companies grow and create jobs.

—

Consider the following two hypothetical American industries:

Fossil Fuel-Reliant Industry

- Examples: oil and gas, coal, heavy manufacturing

- *Treatments:* Mostly [**White** / **Black**] workers

Climate-Vulnerable Industry

- Examples: agriculture, fishing, coastal industries

- *Treatments:* Mostly [**Black** / **White**] workers

How likely do you think it is that each industry will *decline* — losing money and laying off working — in the next decade?

- Fossil fuel-reliant Industry

  – Extremely likely; Somewhat likely; Neither likely nor unlikely; Somewhat unlikely; Extremely unlikely

---

[34]Note that the description of physical risks takes the occurrence of climate change as a given, but is agnostic as to the causes of climate change. This recognizes that climate skepticism today principally concerns the anthropogenic origins of climate change, not its occurrence. In pre-treatment questions, just 6% of the 1,230 subjects surveyed reported that "climate change isn't happening," similar to national averages [bit.ly/3jm0QY0].

- Climate-vulnerable industry

    - Extremely likely; Somewhat likely; Neither likely nor unlikely; Somewhat unlikely; Extremely unlikely

If you had to guess, which industry would be likelier to receive support (subsidies) from the U.S. government over the next decade?

- Fossil fuel-reliant industry; Climate-vulnerable industry

—

Only to control group: Some people want the government to help workers in industries like these move to jobs in other parts of the economy. How much would you personally support the U.S. government spending taxpayer money helping workers in each industry find new jobs elsewhere?

- Fossil fuel-reliant industry: Strongly support (1), 2, ..., 6, Strongly oppose (7)

- Climate-vulnerable industry: Strongly support (1), 2, ..., 6, Strongly oppose (7)

Only to control group: How much would you *personally* support the U.S. government spending taxpayer money subsidizing each industry?

- Fossil fuel-reliant industry: Strongly support (1), 2, ..., 6, Strongly oppose (7)

- Climate-vulnerable industry: Strongly support (1), 2, ..., 6, Strongly oppose (7)

Only to control group: Some people want the government to subsidize industries to help workers stay at their jobs. Other people instead want the government to help workers transition to jobs in other parts of the economy. Which approach would you rather the government take for each industry?

- Fossil fuel-reliant industry: Complete focus on helping workers **find new jobs** (1), 2, 3, Even focus on both (4), 5, 6, Complete focus on helping workers **stay at their jobs** (7)

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- Climate-vulnerable industry: Complete focus on helping workers **find new jobs** (1), 2, 3, Even focus on both (4), 5, 6, Complete focus on helping workers **stay at their jobs** (7)

—

Please briefly describe why you think the government might give more support to one industry – either a Fossil Fuel-Reliant industry like coal or Climate-Vulnerable industry like agriculture – than the other. (Short answer)

—

Attention Check: What issue were you asked about just now?

- Climate change; Immigration; COVID-19; Summer Olympics; War in Afghanistan; College football

C.5. *Experimental Module 2*

Think about a [**climate-vulnerable** / **fossil fuel-reliant**] industry employing mostly [**White** / **Black**] people.

- How much do you think the government would help people in this industry keep their jobs?

    - Not at all; A little; Somewhat; A good deal; A great deal

- Suppose you worked in this industry. If you were to call your Senator or Congressperson asking that he or she help protect your job, how helpful do you think he or she would be?

    - Not at all; Slightly helpful; Somewhat helpful; Very helpful; Extremely helpful

(Each subject shown all four permutations of this industry in random order.)

D. Outcome Summary Statistics

	N	Mean	St. Dev.	Min	Max
Perceived risk of decline (climate-forcing)	496	2.49	1.10	0	4
Perceived risk of decline (climate-vulnerable)	489	2.30	1.12	0	4
Pr(subsidies for climate-forcing industry = 1)	480	0.527	0.500	0	1

Table D1: Summary statistics of outcome variables, based on control group responses.

E. Race and Risk Perceptions: Bonferroni Corrections

	Perceived Risk of Decline (0–4)					
	Climate-forcing industry			Climate-vulnerable industry		
Perceived gov't bias	*All subjects*	*Whites favored*	*Whites not favored*	*All subjects*	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	−0.22	−0.32$^+$	−0.18	−0.10	−0.45**	0.15
Corrected p-value	0.755	0.086	0.626	0.919	0.003	0.833
Controls	✓	✓	✓	✓	✓	✓
$^{***}p < 0.001; ^{**}p < 0.01; ^{*}p < 0.05; ^{+}p < 0.1$						

Table E1: Replication of Figure 4, accounting for multiple comparisons with Bonferroni-corrected p-values.

F. Race and Risk Perceptions: Randomization Inference

	Perceived Risk of Decline (0–4)					
	Climate-forcing industry			Climate-vulnerable industry		
Perceived gov't bias	*All subjects*	*Whites favored*	*Whites not favored*	*All subjects*	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	-0.22^{*}	-0.32^{*}	-0.18	-0.10	-0.45^{**}	0.15
RI p-value	0.01	0.039	0.179	0.205	0.004	0.23
Controls	✓	✓	✓	✓	✓	✓
$^{***}p < 0.001; ^{**}p < 0.01; ^{*}p < 0.05; ^{+}p < 0.1$						

Table F1: Replication of Figure 4 via randomization inference (RI). Conducted via the R package ri2 with 1,000 simulations.

G. Race and Risk Perceptions: Alternative Measures of Prior Beliefs

G.1. Differential Access to Government Support

Separating subjects who agree with the following from those who do not: "White people have an easier time accessing government support when they want it than Black or Hispanic people."

	Perceived Risk of Decline (0–4)							
	Climate-forcing industry				Climate-vulnerable industry			
Perceived gov't bias	*Whites favored*		*Whites not favored*		*Whites favored*		*Whites not favored*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Majority white	−0.44***	−0.45***	−0.03	−0.06	−0.33**	−0.35**	0.10	0.09
	(0.12)	(0.12)	(0.09)	(0.09)	(0.12)	(0.12)	(0.08)	(0.09)
N	393	380	582	547	391	377	575	540
Controls		✓		✓		✓		✓

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Figure G1: Replication of Figure 4, replacing token allocation measure with alternative measure of perceived racial favoritism in government.

G.2. Responsiveness to Different Groups

Separating subjects who agree with the following from those who do not: "On average, politicians are today more responsive to white citizens than Black or Hispanic citizens."

	Perceived Risk of Decline (0–4)							
	Climate-forcing industry				Climate-vulnerable industry			
Perceived gov't bias	*Whites favored*		*Whites not favored*		*Whites favored*		*Whites not favored*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Majority white	−0.34**	−0.35**	−0.08	−0.10	−0.35**	−0.38**	0.11	0.10
	(0.12)	(0.12)	(0.09)	(0.09)	(0.11)	(0.12)	(0.09)	(0.09)
N	400	388	575	539	397	384	569	533
Controls		✓		✓		✓		✓

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Figure G2: Replication of Figure 4, replacing token allocation measure with alternative measure of perceived racial favoritism in government.

G.3. *Beneficiaries of Government Spending*

Separating subjects who agree with the following from those who do not: "When the government spends money, white people typically benefit more than Black people."

Perceived gov't bias	Perceived Risk of Decline (0–4)							
	Climate-forcing industry				Climate-vulnerable industry			
	Whites favored		Whites not favored		Whites favored		Whites not favored	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Majority white	−0.33**	−0.34**	−0.10	−0.12	−0.36**	−0.38**	0.10	0.09
	(0.13)	(0.13)	(0.09)	(0.09)	(0.12)	(0.12)	(0.08)	(0.09)
N	375	361	599	565	371	357	594	559
Controls		✓		✓		✓		✓

$^{***}p < 0.001;$ $^{**}p < 0.01;$ $^{*}p < 0.05$

Figure G3: Replication of Figure 4, replacing token allocation measure with alternative measure of perceived racial favoritism in government.

H. Race and Risk Perceptions: Interaction Models
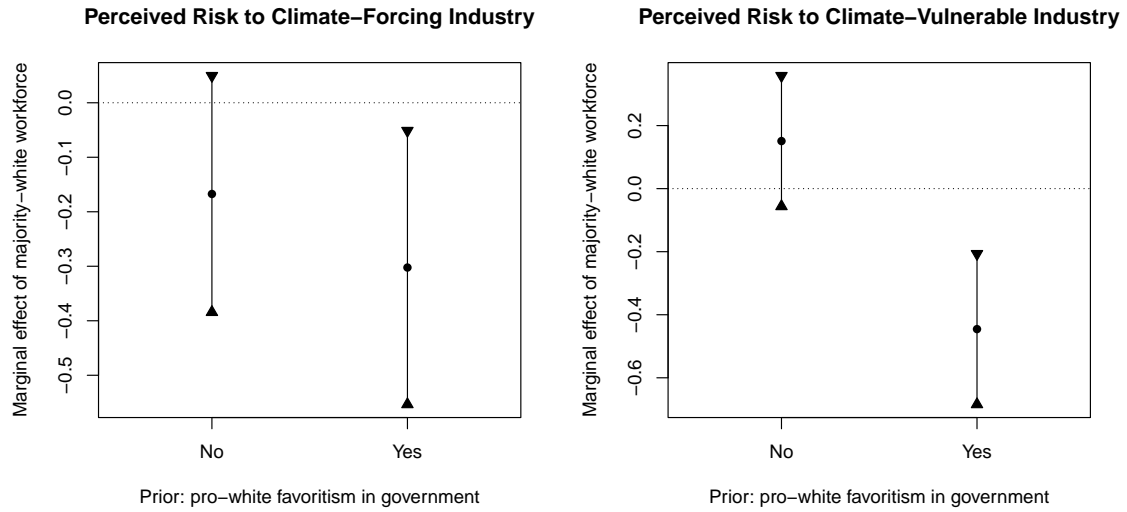
Figure H1: Marginal effect plots based on interaction of treatment with prior belief about racial favoritism in government. Outcome is perceived risk of decline in industry, as in Figure 4. Controls included. Lines denote 95% confidence intervals.

I. Race and Risk Perceptions: Excluding Inattentive Subjects

Perceived gov't bias	Perceived Risk of Decline (0–4)											
	Climate-forcing industry						Climate-vulnerable industry					
	All subjects		Whites favored		Whites not favored		All subjects		Whites favored		Whites not favored	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Majority white	−0.20*	−0.23**	−0.35*	−0.40**	−0.14	−0.19	−0.10	−0.12	−0.42**	−0.44**	0.15	0.14
	(0.08)	(0.08)	(0.14)	(0.14)	(0.11)	(0.12)	(0.08)	(0.08)	(0.13)	(0.14)	(0.11)	(0.11)
N	809	771	276	266	381	358	802	764	275	265	376	353
Controls		✓		✓		✓		✓		✓		✓

$^{***}p < 0.001; \, ^{**}p < 0.01; \, ^{*}p < 0.05$

Figure I1: Replication of Figure 4, excluding subjects who failed an attention check.

J. Access to Subsidies: Bonferroni Corrections

	Pr(Subsidies for Climate-Forcing Industry = 1)		
Perceived gov't bias	*All subjects*	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)
White-maj. CF industry	0.04	0.20***	−0.08
Corrected p-value	0.571	0.001	0.336
Controls	✓	✓	✓
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$			

Table J1: Replication of Figure 5, accounting for multiple comparisons with Bonferroni-corrected p-values.

K.   Access to Subsidies: Randomization Inference

Perceived gov't bias	Pr(Subsidies for Climate-Forcing Industry = 1)		
	All subjects	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)
White-maj. CF industry	0.04	0.20**	−0.08
RI p-value	0.216	0.001	0.161
Controls	✓	✓	✓
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$			

Table K1: Replication of Figure 5 via randomization inference (RI). Conducted via the R package ri2 with 1,000 simulations.

L. Access to Subsidies: Alternative Measures of Prior Beliefs

L.1. *Differential Access to Government Support*

Separating subjects who agree with the following from those who do not: "White people have an easier time accessing government support when they want it than Black or Hispanic people."

Perceived gov't bias	Pr(Subsidies for Climate-Forcing Industry = 1)			
	Whites favored		Whites not favored	
	(1)	(2)	(3)	(4)
White-maj. CF industry	0.19***	0.18***	−0.05	−0.07
	(0.05)	(0.05)	(0.04)	(0.04)
N	384	372	568	535
Controls		✓		✓

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table L1: Replication of Figure 5, replacing token allocation measure with alternative measure of perceived racial favoritism in government.

L.2. *Responsiveness to Different Groups*

Separating subjects who agree with the following from those who do not: "On average, politicians are today more responsive to white citizens than Black or Hispanic citizens."

Perceived gov't bias	Pr(Subsidies for Climate-Forcing Industry = 1)			
	Whites favored		Whites not favored	
	(1)	(2)	(3)	(4)
White-maj. CF industry	0.19***	0.18***	−0.05	−0.06
	(0.05)	(0.05)	(0.04)	(0.04)
N	388	377	564	530
Controls		✓		✓

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table L2: Replication of Figure 5, replacing token allocation measure with alternative measure of perceived racial favoritism in government.

L.3. Beneficiaries of Government Spending

Separating subjects who agree with the following from those who do not: "When the government spends money, white people typically benefit more than Black people."

Perceived gov't bias	Pr(Subsidies for Climate-Forcing Industry = 1)			
	Whites favored		Whites not favored	
	(1)	(2)	(3)	(4)
White-maj. CF industry	0.19***	0.19***	−0.04	−0.06
	(0.05)	(0.05)	(0.04)	(0.04)
N	364	352	587	554
Controls		✓		✓

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table L3: Replication of Figure 5, replacing token allocation measure with alternative measure of perceived racial favoritism in government.

M. Access to Subsidies: Interaction Model

Pr(Subsidies for Climate Forcing Industry = 1)
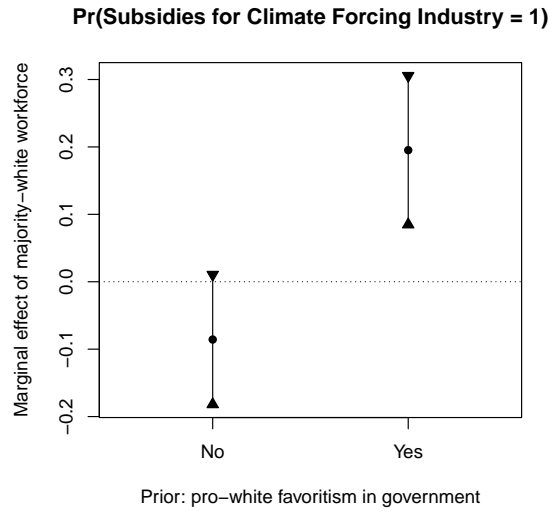
Figure M1: Marginal effect plots based on interaction of treatment with prior belief about racial favoritism in government. Outcome is perceived probability of climate-forcing industry being subsidized over climate-vulnerable industry, as in Figure 5. Controls included. Lines denote 95% confidence intervals.

N. Access to Subsidies: Excluding Inattentive Subjects

Perceived gov't bias	Pr(Subsidies for Climate-Forcing Industry = 1)					
	All subjects		Whites favored		Whites not favored	
	(1)	(2)	(3)	(4)	(5)	(6)
White-maj. CF industry	0.04	0.03	0.23***	0.25***	−0.10	−0.12*
	(0.04)	(0.04)	(0.06)	(0.06)	(0.05)	(0.05)
N	795	760	274	264	374	353
Controls		✓		✓		✓

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Figure N1: Replication of Figure 5, excluding subjects who failed an attention check.

O.   Subsidy and Decline Expectations: Mediation Analysis

	Estimate	p-value
ACME	−0.0815	0.002***
ADE	−0.2216	0.104
Total Effect	−0.3031	0.038**
Proportion Mediated	0.2568	0.040**

***p <.01; **p <.05; *p <.1

Table O1: Mediation analysis via Tingley et al. (2014). Treatment is racial makeup of industry (climate-forcing majority white; climate-vulnerable majority Black). Mediator is beliefs about subsidy allocations. Outcome is perceived risk of decline in climate-forcing industry. Sample limited to subjects with prior belief that the government favors white citizens (via token measure). Block fixed effects included.

	Estimate	p-value
ACME	0.0676	0.014**
ADE	0.3567	0.004***
Total Effect	0.4243	0.000***
Proportion Mediated	0.1563	0.014**

***p <.01; **p <.05; *p <.1

Table O2: Mediation analysis via Tingley et al. (2014). Treatment is racial makeup of industry (climate-forcing majority white; climate-vulnerable majority Black). Mediator is beliefs about subsidy allocations. Outcome is perceived risk of decline in climate-vulnerable industry. Sample limited to subjects with prior belief that the government favors white citizens (via token measure). Block fixed effects included.

P. Analyses of Written Responses

P.1. Subsidy Expectations and Mentions of "White"

	Pr(White-Majority Industry Subsidized = 1)
"White" mentioned in written response	0.295***
	(0.064)
N	920

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table P1: Regression of a binary indicator of whether the subject indicated that the white-majority industry was likelier to be subsidized on a binary indicator of a "white" mention in the subject's written response. Estimated by ordinary least squares with robust standard errors parenthesized.

P.2. Structural Topic Modeling

Topic 1:
govern, climat, will, peopl, give, help, vulner, way, just, care, can, benefit,
believ, seem, move, due, life, comment, chang, that

Topic 2:
fuel, know, dont, white, thing, don...t, energi, countri, focus, none, alway,
keep, job, idk, love, food, feel, current, invest, earth

Topic 3:
money, think, need, chang, get, agricultur, want, better, oil, compani, polit,
depend, tri, much, realli, control, black, coal, away, new

Topic 4:
industri, fossil, support, one, like, make, import, sure, use, reliant, good,
politician, climatevulner, caus, power, world, environ, might, less, gas

Figure P1: Topics identified in subjects' written responses by the **stm** package in R. Four topics chosen based on diagnostic tools of Roberts, Stewart, and Tingley 2019.

Figure P1 depicts topics identified in subjects' written responses via structural topic modeling (Roberts, Stewart, and Tingley 2019). The topics generally indicate a lack of specific knowledge about the manner by which the government may aid specific industries, with the vocabulary instead suggesting that subjects had a broader conception of government support in mind when answering the survey (Topic 1 indicates "help" and "benefit"; Topic 2 "invest"; Topic 3 "money"; Topic 4 "support" and "like").

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Q.   Worker Security and Political Efficacy: Bonferroni Corrections

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.191***	0.705***	−0.148***	0.165***	0.586***	−0.104**
Corrected p-value	0.000	0.000	0.0001	0.000	0.000	0.005

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table Q1: Replication of Table 1, accounting for multiple comparisons with Bonferroni-corrected p-values.

R. Worker Security and Political Efficacy: Alternative Measures of Prior Beliefs

R.1. Differential Access to Government Support

Separating subjects who agree with the following from those who do not: "White people have an easier time accessing government support when they want it than Black or Hispanic people."

Perceived gov't bias	Government Employment Protection (0–4)		Political Efficacy (0–4)	
	Whites favored	Whites not favored	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)
Majority white	0.63***	−0.09*	0.53***	−0.07*
	(0.05)	(0.04)	(0.04)	(0.03)
N	2,244	3,556	2,245	3,553
Subjects	564	895	564	894
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$				

Table R1: Replication of Table 1, replacing token allocation measure with alternative measure of perceived racial favoritism in government.

R.2. Responsiveness to Different Groups

Separating subjects who agree with the following from those who do not: "On average, politicians are today more responsive to white citizens than Black or Hispanic citizens."

Perceived gov't bias	Government Employment Protection (0–4)		Political Efficacy (0–4)	
	Whites favored	Whites not favored	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)
Majority white	0.68***	−0.13***	0.56***	−0.10**
	(0.05)	(0.03)	(0.04)	(0.03)
N	2,317	3,483	2,318	3,480
Subjects	582	877	582	876
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$				

Table R2: Replication of Table 1, replacing token allocation measure with alternative measure of perceived racial favoritism in government.

R.3. Beneficiaries of Government Spending

Separating subjects who agree with the following from those who do not: "When the government spends money, white people typically benefit more than Black people."

Perceived gov't bias	Government Employment Protection (0–4)		Political Efficacy (0–4)	
	Whites favored	*Whites not favored*	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)	(4)
Majority white	0.71***	−0.12***	0.58***	−0.08**
	(0.05)	(0.03)	(0.04)	(0.03)
N	2,160	3,636	2,160	3,634
Subjects	542	916	542	915

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table R3: Replication of Table 1, replacing token allocation measure with alternative measure of perceived racial favoritism in government.

S. Worker Security and Political Efficacy: Excluding Inattentive Subjects

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.21***	0.75***	−0.17***	0.18***	0.63***	−0.12**
	(0.03)	(0.06)	(0.04)	(0.03)	(0.05)	(0.04)
N	4,871	1,702	2,243	4,868	1,702	2,242
Subjects	1,225	427	564	1,224	427	564

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table S1: Replication of Table 1, excluding subjects who failed an attention check.

Note that similar results are found when focusing only on subjects' responses to the first industry profile they were presented with — then comparing across, as opposed to within, subjects — albeit with less statistical power and less precise estimates. Average treatment effect on expectations of government employment protection: 0.13^* (s.e. $= 0.06$). Average treatment effect on perceived political efficacy: 0.04 (s.e. $= 0.06$). Robust standard errors reported.

T. Worker Security and Political Efficacy: By Industry

T.1. Climate-Forcing Industries

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.22***	0.70***	−0.11*	0.19***	0.59***	−0.07
	(0.04)	(0.07)	(0.05)	(0.03)	(0.06)	(0.04)
N	2,898	940	1,280	2,899	941	1,281
Subjects	1,453	471	642	1,453	471	642
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$						

Table T1: Replication of Table 1, limited to climate-forcing industries.

T.2. Climate-Vulnerable Industries

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.16***	0.71***	−0.18***	0.14***	0.59***	−0.14**
	(0.03)	(0.06)	(0.05)	(0.03)	(0.05)	(0.04)
N	2,902	938	1,287	2,899	938	1,285
Subjects	1,457	471	645	1,456	471	645
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$						

Table T2: Replication of Table 1, limited to climate-vulnerable industries.

U. Worker Security and Political Efficacy: Other Subgroups

U.1. Democrats vs. Republicans

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.52***	0.91***	0.13	0.42***	0.71***	0.12*
	(0.05)	(0.08)	(0.07)	(0.04)	(0.06)	(0.06)
N	2,391	1,054	765	2,393	1,056	765
Subjects	602	265	193	602	265	193
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$						

Table U1: Replication of Table 1, limited to self-identified Democrats.

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	−0.17***	0.38***	−0.37***	−0.07	0.39***	−0.24***
	(0.05)	(0.10)	(0.07)	(0.05)	(0.09)	(0.06)
N	1,776	388	1,022	1,774	388	1,021
Subjects	447	97	257	446	97	257
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$						

Table U2: Replication of Table 1, limited to self-identified Republicans.

U.2. Biden Voters vs. Trump Voters

	Government Employment Protection (0–4)			Political Efficacy (0–4)		
Perceived gov't bias	*All subjects*	*Whites favored*	*Whites not favored*	*All subjects*	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.50***	0.92***	0.13	0.39***	0.70***	0.08
	(0.05)	(0.07)	(0.07)	(0.04)	(0.07)	(0.06)
N	2,517	1,099	834	2,517	1,099	834
Subjects	633	276	210	633	276	210

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table U3: Replication of Table 1, limited to self-identified voters for Joe Biden in the 2020 general election.

	Government Employment Protection (0–4)			Political Efficacy (0–4)		
Perceived gov't bias	*All subjects*	*Whites favored*	*Whites not favored*	*All subjects*	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	−0.24***	0.09	−0.37***	−0.15***	0.22*	−0.26***
	(0.05)	(0.09)	(0.06)	(0.04)	(0.09)	(0.06)
N	1,995	348	1,216	1,993	348	1,215
Subjects	501	87	305	500	87	305

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table U4: Replication of Table 1, limited to self-identified voters for Donald Trump in the 2020 general election.

U.3. Wealthy vs. Poor

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.15**	0.74***	−0.13	0.11	0.62***	−0.13
	(0.06)	(0.10)	(0.08)	(0.06)	(0.10)	(0.08)
N	1,435	415	677	1,436	416	678
Subjects	361	104	170	360	104	170

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$

Table U5: Replication of Table 1, limited to subjects reporting annual household income of at least $75,000 (top 24.7% of subjects).

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.16**	0.52***	−0.16*	0.17***	0.44***	−0.02
	(0.06)	(0.10)	(0.08)	(0.05)	(0.10)	(0.06)
N	1,417	495	566	1,414	494	565
Subjects	356	124	143	356	124	143

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$

Table U6: Replication of Table 1, limited to subjects reporting annual household income below $25,000 (bottom 24.5% of subjects).

U.4. Racial Resentment

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	*Whites favored*	*Whites not favored*	*All subjects*	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	−0.19***	0.16	−0.31***	−0.13***	0.20**	−0.23***
	(0.04)	(0.08)	(0.05)	(0.04)	(0.07)	(0.05)
N	2,579	496	1,521	2,577	496	1,520
Subjects	648	124	382	648	124	382

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table U7: Replication of Table 1, limited to subjects with racial resentment at or above median (racial resentment questions drawn from Kinder and Sanders 1996 and collapsed into single index).

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	*Whites favored*	*Whites not favored*	*All subjects*	*Whites favored*	*Whites not favored*
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.58***	0.91***	0.19*	0.46***	0.71***	0.19**
	(0.06)	(0.09)	(0.08)	(0.05)	(0.08)	(0.06)
N	1,428	640	520	1,429	640	521
Subjects	360	162	131	360	162	131

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table U8: Replication of Table 1, limited to subjects with racial resentment below median (racial resentment questions drawn from Kinder and Sanders 1996 and collapsed into single index).

U.5. Race and Ethnicity

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.08*	0.58***	−0.19***	0.08**	0.49***	−0.13**
	(0.04)	(0.07)	(0.05)	(0.03)	(0.06)	(0.04)
N	4012	1136	2045	4010	1136	2045
Subjects	1010	286	514	1009	286	514

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table U9: Replication of Table 1, limited to white non-Hispanic subjects.

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.44***	0.90***	0.00	0.35***	0.75***	−0.01
	(0.06)	(0.10)	(0.09)	(0.05)	(0.08)	(0.08)
N	1760	734	514	1760	735	513
Subjects	442	184	129	442	184	129

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table U10: Replication of Table 1, limited to non-white and/or Hispanic subjects.

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.54***	1.04***	0.18	0.40***	0.77***	0.09
	(0.10)	(0.16)	(0.13)	(0.08)	(0.14)	(0.13)
N	704	324	180	704	324	180
Subjects	176	81	45	176	81	45

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table U11: Replication of Table 1, limited to Black subjects.

U.6. Climate Concerns

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.35***	0.77***	−0.01	0.29***	0.64***	−0.00
	(0.04)	(0.06)	(0.05)	(0.03)	(0.05)	(0.04)
N	4150	1583	1641	4149	1583	1641
Subjects	1045	398	413	1045	398	413
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$						

Table U12: Replication of Table 1, limited to subjects reporting they are "somewhat worried" or "very worried" about climate change.

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	−0.20***	0.36**	−0.38***	−0.15**	0.29**	−0.29***
	(0.06)	(0.12)	(0.07)	(0.05)	(0.10)	(0.07)
N	1646	291	926	1645	292	925
Subjects	413	73	232	412	73	232
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$						

Table U13: Replication of Table 1, limited to subjects reporting they are "not at all worried" or "not very worried" about climate change.

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U.7. Status Threat

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.10	0.68***	−0.12	0.13*	0.62***	−0.12
	(0.07)	(0.12)	(0.10)	(0.06)	(0.11)	(0.08)
N	1103	300	584	1103	300	584
Subjects	276	75	146	276	75	146

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table U14: Replication of Table 1, limited to subjects reporting they are "somewhat worried" or "very worried" about the American way of life being under threat (from Mutz 2018).

Perceived gov't bias	Government Employment Protection (0–4)			Political Efficacy (0–4)		
	All subjects	Whites favored	Whites not favored	All subjects	Whites favored	Whites not favored
	(1)	(2)	(3)	(4)	(5)	(6)
Majority white	0.56***	1.01***	0.02	0.40***	0.76***	0.01
	(0.09)	(0.14)	(0.13)	(0.07)	(0.12)	(0.10)
N	868	375	281	867	374	281
Subjects	218	94	71	218	94	71

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table U15: Replication of Table 1, limited to subjects reporting they are "not at all worried" or "not very worried" about the American way of life being under threat (from Mutz 2018).

V. Pre-Analysis Plan

The pre-analysis plan for this study was registered with the Wharton Credibility Lab at the University of Pennsylvania. This plan is included on the following pages.

There were no deviations from the pre-registered hypotheses or basic experimental design. The ultimate survey included 1,604 subjects, exceeding the 1,453 specified in the plan; this is due to the survey vendor supplying additional responses before the survey was closed. One pre-registered outcome question (likelihood of industry subsidization on a 5-point scale) was excluded from the survey in order to reduce the overall length of the survey and limit subject attrition.

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Climate Risk Preferences (Follow Up 1) (#71984)

Created: 08/03/2021 12:32 PM (PT)

This is an anonymized copy (without author names) of the pre-registration. It was created by the author(s) to use during peer-review.
A non-anonymized version (containing author names) should be made available by the authors when the work it supports is made public.

1) Have any data been collected for this study already?
It's complicated. We have already collected some data but explain in Question 8 why readers may consider this a valid pre-registration nevertheless.

2) What's the main question being asked or hypothesis being tested in this study?
How do individuals perceive climate change-induced economic risks? Individuals who consider Group A to be politically privileged - with easy access to government support - should see less downside risk in industries in which members of Group A are concentrated. They should expect these industries to receive more government subsidies than other industries. Individuals who consider Group B to be politically disadvantaged - without easy access to government support - should see more downside risk in industries in which members of Group B are concentrated, expecting those industries to be deprived of government support.

3) Describe the key dependent variable(s) specifying how they will be measured.
Perception of climate risks: statement of likelihood of decline in climate-forcing/climate-vulnerable industry, 5-point scale.

Likelihood of industry receiving government support: (a) forced choice between two industries, (b) 5-point scale for single industries.

Expected returns to political mobilization on behalf of industry: 5-point scale for single industries.

4) How many and which conditions will participants be assigned to?
Three conditions: 1) control (no race information), 2) white majority in climate-forcing industry / Black majority in climate-vulnerable industry, 3) Black majority in climate-forcing industry / white majority in climate-vulnerable industry

Respondents will then be shown four different industries, varying by industry type (climate-forcing / climate-vulnerable) and demographics (majority white / majority Black)

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
Linear regressions predicting climate risk perceptions according to treatment condition.

Linear regressions predicting expectation of government support and expected returns to political mobilization according to racial composition of industry (majority white vs. majority Black), conducted with climate-forcing and climate-vulnerable industries both aggregated together and disaggregated. Within-subject analyses, comparing single subjects' attitudes towards industries with varied racial compositions. Cross-subject analyses, comparing subjects' responses to the first industry they were shown according to that industry's characteristics (order of four industries randomized across subjects).

Subgroup analyses based on statements of political attitudes: racial identity and animosity, perceived threat to group status, climate attitudes, expectations about group access to government support. Subgroup analyses based on stated race/ethnicity (e.g., white vs. nonwhite).

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We exclude participants who fail attention check and those who complete the survey <30 seconds.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
547 subjects completed pilot study. We will now be enrolling an additional 1,453 subjects for a total sample size of 2,000. This sample should enable sufficiently powered subgroup analyses (noted above).

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
Non-experimental questions address basic demographics (e.g., age, education), political activity (partisanship, 2020 presidential vote choice), political attitudes (racial animosity/identity from Kinder and Sanders 1992, Jardina 2019; status threat from Mutz 2018 and Jardina 2019; climate attitudes from Yale Program on Climate Change Communications), views of racial groups' access to government support (e.g., bias in government spending decisions).

NB: This plan follows on a pre-registered pilot study (https://aspredicted.org/blind.php?x=cf27i7). Theory and basic experimental setup remain the same. Primary change is in the sample size, as well as in the addition of new questions probing views of industries' access to government support (described

above).