Race influences professional investors' financial judgments

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Of the $69.1 trillion global financial assets under management across mutual funds, hedge funds, real estate, and private equity, fewer than 1.3% are managed by women and people of color. Why is this powerful, elite industry so racially homogenous? We conducted an online experiment with actual asset allocators to determine whether there are biases in their evaluations of funds led by people of color, and, if so, how these biases manifest. We asked asset allocators to rate venture capital funds based on their evaluation of a 1-page summary of the fund's performance history, in which we manipulated the race of the managing partner (White or Black) and the strength of the fund's credentials (stronger or weaker). Asset allocators favored the White-led, racially homogenous team when credentials were stronger, but the Black-led, racially diverse team when credentials were weaker. Moreover, asset allocators' judgments of the team's competence were more strongly correlated with predictions about future performance (e.g., money raised) for racially homogenous teams than for racially diverse teams. Despite the apparent preference for racially diverse teams at weaker performance levels, asset allocators did not express a high likelihood of investing in these teams. These results suggest first that underrepresentation of people of color in the realm of investing is not only a pipeline problem, and second, that funds led by people of color might paradoxically face the most barriers to advancement after they have established themselves as strong performers.

racial disparities | bias | investing | financial markets | venture capital

Asset allocators manage more than $69.1 trillion dollars globally on behalf of governments, universities, charities, foundations, and companies. They do so by distributing capital to professional fund managers to generate returns. These asset allocators, which operate via pension funds, endowments, foundations, and sovereign funds, perform 2 key functions for society and their sponsors.

First, they serve as tools for governments and social welfare institutions to meet their promises by providing high rates of return for the organizations they represent. Second, asset allocators act as the base of the global capitalist system, allocating their funds to countless investment opportunities around the world, often through for-profit financial intermediaries (venture capitalists, hedge funds, private equity funds) managed by professional fund managers who attempt to generate a high investment return. Given their power and influence, it is critical to understand how these asset allocators deploy capital and make investment decisions. In today's market, investments begin with these asset allocators and flow through professional money managers before taking root in companies and projects. As such, if asset allocators set incorrect or biased incentives, the entire capitalist system will reflect and reinforce these biases.

This may be exactly what is happening globally, where fewer than 1.3% of assets across 4 classes (mutual funds, hedge funds, real estate, and private equity) are managed by women and people of color (1, 2). Considering the critical role of asset allocators in setting priorities on how capital is distributed, the implications of these stark racial and gender disparities are concerning. Plainly put, asset allocators do not appear to be hiring or investing in professional fund managers with diverse backgrounds, as the racial and gender composition of fund managers does not resemble that of the communities their capital allocation decisions affect.

In a survey of professionals in the funds management industry, more than half of women and people of color believed that their gender or race has hindered their progress (3). Although some recent work has identified factors that prevent women from advancing in finance (4, 5), research on racial disparities is absent. Next, we explore barriers to racial inclusion in investing and propose 3 potential explanations.

The Pipeline Problem

Racial disparities often reflect a lack of diversity in the pipeline. According to this theory, people of color simply lack the interest, experience, education or financial, social, and cultural capital required to break into the world of investing. Without question, access to the elite community of asset allocators requires an impressive set of qualifications and a well-resourced network of relationships. Although there has been no formal study of investors' credentials, some survey data indicate that most investors in venture capital received their degrees from a small number of elite schools (6). Many of these students are knowledgeable and familiar with the financial services industry even before they enter college. Once in college, these students know to major in relevant fields and pursue internships at prestigious companies. On top of holding an elite university degree, aspiring professional fund

Significance

We find evidence of racial bias in the investment decisions of asset allocators, who manage money for governments, universities, charities, foundations, and companies. This bias could contribute to stark racial disparities in institutional investing. In general, asset allocators have trouble gauging the competence of racially diverse teams. At stronger performance levels, asset allocators rate White-led funds more favorably than they do Black-led funds. At weaker performance levels, asset allocators actually prefer Black-led teams to White-led teams. However, asset allocators are unlikely to invest in weaker funds, diverse or otherwise. These results suggest that beyond racial disparities in the pipeline, there are additional systemic racial disparities in how investors evaluate funds and allocate money.

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managers must contribute a significant amount of their own capital, which often comes from friends-and-family networks (7). Those who become fund managers often hail from extremely high-net-worth families, which further disadvantages fund managers of color.

As such, only well-resourced and well-connected managers have a realistic shot at entering this space. Fund managers from underrepresented racial backgrounds might simply lack access to the institutions and networks that pave the pathway to success. In particular, managers of color may be excluded for a deficit in social and cultural capital; they often do not have the right connections or possess the cultural know-how to signal that they belong in the space (8). Indeed, some fund owners of color say they have resorted to cold-calling asset allocators for support because they are not plugged into the right networks. In response to these pipeline problems, many institutions, foundations, and family offices have developed "emerging manager programs." These programs earmark funding for managers that have assets below a certain threshold and are at least partially owned, operated, and controlled by individuals from underrepresented groups, such as women and people of color.

Bias below the Bar

In the competitive landscape of institutional investing, low performers of any racial background are unlikely to thrive. However, when it comes to average-performing funds that simply fail to stand out, we might expect that investment funds owned by people of color are overlooked while their White-male counterparts are given the benefit of the doubt. Indeed, in the absence of individuating information, people tend to rely on stereotypes when making hiring judgments about racial minorities (9). Black Americans, in particular, are stereotyped in a manner that renders them unattractive candidates for investment—unintelligent, uneducated, poor, threatening, and lazy (10, 11).

Asset allocators have a legal obligation to generate the highest possible returns for their investors, and deviating from familiar investment patterns—by investing in funds that are not White male owned—may seem an unnecessary form of "risk" to take. And so, funds owned by people of color that have not yet established themselves as high performers might face higher levels of scrutiny than their White-male–owned counterparts.

Bias above the Bar

What happens when funds owned by people of color successfully raise capital in their first fund and set out to raise a second or third fund? Although firms owned by women and people of color produce returns equivalent to those of White-male–owned firms, they are underrepresented across every asset class (1). This begs the question: What keeps racially diverse teams from controlling more capital when they have competitive credentials?

Audit studies suggest that strong credentials might not advantage people of color as much as they do candidates who are White. In a classic study of hiring discrimination in low-wage markets (12), candidates with White-sounding names received 50% more callbacks for office jobs (i.e., sales, administrative support, clerical services, and customer services) than candidates with Black-sounding names. And while highly qualified White candidates were 27% more likely to get a callback than less qualified White candidates, highly qualified Black candidates were only 8% more likely to get a callback than less qualified Black candidates. Thus, the payoff for strong qualifications is less for Blacks. Although these patterns have not yet been explored in the context of high-status, high-stakes industries like investing, funds led by people of color that have demonstrated a strong track record might still face barriers when competing with other top-tier performers.

In the world of investing, high-performing teams led by people of color are a rarity, and they fail to fit the template of what a successful fund manager looks like. Even after first getting in the door, groups stereotyped as incompetent (e.g., Blacks) have a harder time advancing professionally than groups stereotyped as competent (e.g., Whites; refs. 13 and 14). Because having a strong track record is inconsistent with stereotypes about funds owned by people of color, asset allocators might be unable to recognize and appropriately evaluate these teams. Instead, they may fall back on pattern matching strategies and mitigate risk by sticking with familiar options—that is to say, by continuing to invest in White and male teams.

The Present Study

To date there has been no systematic investigation of the factors that cause racial disparities in investment decision making. In the present study, we aim to identify which of the aforementioned theories can explain these disparities: 1) there is no investor bias against funds owned by people of color (i.e., supporting the claim that racial disparities result primarily from a pipeline problem); 2) bias exists predominantly at weaker levels of performance (i.e., below the bar); and 3) bias exists most strongly at the top (i.e., above the bar). To assess the merit of these explanations, we asked asset allocators to evaluate fund manager materials that varied on the basis of: 1) race of the team's leader (i.e., managing partner); and 2) strength of track record.

One-Pager Rating Paradigm. Through an in-depth series of conversations and interviews with asset allocators and fund managers across the financial services industry, we identified the key criteria that asset allocators use to make investment decisions. To simulate this process in an experimental paradigm, we focused on the first document that reaches an investor's desk: the one pager. One pagers contain short summaries of fund managers' team credentials, track record from previous funds, and investment strategies. Asset allocators often use these one pagers to decide whether they want to meet with the team and pursue the due diligence process that ultimately leads to an investment.

Following extensive consultation with experts in investing, we designed 4 one pagers representing 4 fictitious fund manager teams. All 4 venture capital teams were in the process of raising capital for a third fund, and targeting a similar fund size. We manipulated the one pagers to vary by quality. Two of the teams had a strong track record and credentials (stronger-quality condition), and the other 2 teams demonstrated a comparably weaker track record (weaker-quality condition). Performance track record was indicated by metrics such as the internal rate of return (IRR), the number of exits from previous funds, and individual team member credentials. We named the 2 stronger-quality funds Abaqus Ventures and Alvarock Investors and the 2 weaker-quality funds Exponent Capital and Boreal Partners. All 4 teams featured 3 team members: a managing partner and 2 associates. Each team member had a short biography documenting their professional and leadership experience. These one pagers can be found in *SI Appendix*.

Next to each team member's abbreviated biography was a space for a headshot. In a preliminary study, we used faceless avatars in this space. In the main study, we displayed photos of the fictitious team members. We retrieved these photos from the Chicago Face Database (15) and ultimately selected 12 photos to represent the 12 team members across the 4 one pagers. Because we were exploring the role of race in this study, we kept gender constant and presented all of the team members as male. Because there are so few Black men in this space and generating all Black-male teams might have triggered suspicion among participants, we kept the race of the 2 people at the associate level constant and depicted these team members as White. What varied across the one pagers was the race of the managing partner. We created 4 versions of each one pager such that the 12 headshot photos were rotated across all 4 one pagers. This resulted in 2 versions of each one pager with a Black-male managing partner, and 2 versions with a White-male managing partner. *SI Appendix*

contains more details about the one-pager generation and piloting process.

In both the preliminary study and the main study, we sourced participants from a network of asset allocators and asked these actual investment professionals to evaluate the one pagers.

Experiment Rationale. To motivate asset allocators to take the exercise seriously and to reduce potential suspicion about the role of managing partner race in the study, we developed a non-race-related rationale for the experiment. We invited asset allocators to participate in a research study on artificial intelligence in investment decision making, in which we were testing the accuracy of a new artificially intelligent (AI) system and algorithm that could choose fund managers. The asset allocators were asked to review one pagers that had been sourced from real-world fund managers, and their task was to predict how well the fund manager would perform. Their predictions would be compared against the AI algorithm's predictions, so asset allocators had an incentive to prove they could outperform the computer. See *SI Appendix* for more information.

Measure development. Through our interviews and conversations with current asset allocators and fund managers, we developed a set of novel measures that captured asset allocators' judgments about fund managers and their likelihood of investing.

The *overall performance ratings* measure included evaluations of the team's track record, domain expertise, and ability to execute on strategy. Track record and domain expertise are indicators of a fund's past performance, and asset allocators use these indicators to anchor judgments about a fund's ability to execute on strategy in the future. Taken together, these measures reflect the potential for a fund to succeed. The *evaluation of investment skills* measure included a diverse set of "hard" and "soft" skills, which is believed to indicate whether a team knows how to make sound investment decisions and thrive in the industry.

Next, we developed two sets of measures that directed asset allocators to pivot their focus to the team personnel, rather than the fund as a whole. The *judgments of competence* measure included ratings of how competent, confident, and intelligent the team appeared. The *judgments of social fit* measure included how trustworthy, likeable, and well connected the team appeared. These items were a proxy for whether a team seemed to belong in the community of investors. Because Black Americans are often stereotyped as less competent (16), asset allocators might have a hard time knowing how to judge a strong-performing team led by a person of color. Moreover, allocators may feel that Black fund leaders might not be a good cultural fit.

Finally, although most investors would not make an investment decision after reading a one pager only, we included several concrete indicators of the *intent to invest*: the likelihood they would take a meeting, begin due diligence, and invest in the team. As another proxy for how seriously the investor was taking the team, we asked how much they thought the fund would raise; an asset allocator's confidence about a fund's ability to raise money serves as an indicator of whether or not they would be willing to allocate their own capital to the fund.

Results

Preliminary Study: Calibrating the One Pagers. Before manipulating the race of the managing partner in an experiment, we conducted a study to confirm that the one pagers were appropriately calibrated such that the 2 stronger funds were judged as equal in quality and the 2 weaker funds were judged as equal in quality. Then, going forward, we could be sure that any differences in ratings we detected would be attributable to managing partner race. We tested the 4 one pagers in a preliminary study ($n = 64$) by asking asset allocators to evaluate one pagers that belonged to fund managers in venture capital. Participants assigned to the stronger-quality condition saw the 2 one pagers with strong track records (Abaqus Ventures and Alvarock Investors); participants assigned to the weaker-quality condition saw the 2 one pagers with weaker track records (Exponent Capital and Boreal Partners). In this study, we displayed faceless avatars where there normally would have been photos of the team members.

As expected, a mixed-model ANOVA revealed that participants in the stronger-quality condition gave higher ratings of overall quality (aggregate ratings of the team's track record, domain expertise, and ability to execute on strategy) to their one pagers than did participants in the weaker-quality condition [$F(1,59) = 34.03$, $P < 0.001$]. Participants predicted that the stronger-quality teams would raise more money than the weaker-quality teams [$F(1,60) = 15.08$, $P < 0.001$]. There were no differences by condition with respect to evaluations of investment skills [$F(1,61) = 0.025$, $P = 0.88$].

To confirm that our 2 one pagers with stronger track records (Abaqus and Alvarock) and 2 one pagers with weaker track records (Exponent and Boreal) were well calibrated, we conducted paired-sample t tests for asset allocators' ratings. As expected, asset allocators did not distinguish between Abaqus and Alvarock [$M = 3.96$, SD = 0.67 and $M = 3.98$, SD = 0.60, respectively; $t(29) = -0.10$, $P = 0.92$] or between Exponent and Boreal [$M = 3.05$, SD = 0.63 and $M = 3.26$, SD = 0.64, respectively; $t(30) = 1.63$, $P = 0.11$] on overall quality. When it came to evaluations of the teams' investment skills, asset allocators also did not distinguish between Abaqus and Alvarock [$M = 3.16$, SD = 0.48 and $M = 3.07$, SD = 0.48, respectively; $t(30) = 1.01$, $P = 0.322$] or between Exponent and Boreal [$M = 3.13$, SD = 0.45, and $M = 3.08$, SD = 0.40, respectively; $t(31) = 0.48$, $P = 0.63$]. Finally, we tested for differences in expectations of how much money the funds would raise ($0 to 300 M). Here, too, asset allocators did not distinguish between Abaqus and Alvarock [$M = 228.97$, SD = 74.84 and $M = 239.13$, SD = 64.22, respectively; $t(30) = -1.44$, $P = 0.16$] or Exponent and Boreal [$M = 180.87$, SD = 59.52 and $M = 176.06$, SD = 46.35, respectively; $t(30) = 0.43$, $P = 0.67$]. The results of this preliminary study gave us confidence to use the one pagers in the main study to explore the effect of manager partner race on allocators' ratings.

The Main Study: Race and Asset Allocation. In the main study ($n = 180$), we asked if asset allocators would evaluate venture capital fund manager one pagers differently based on the managing partner's race, and whether these evaluations would be qualified by the strength of the team's track record (stronger vs. weaker). This study was similar to the preliminary study, with 3 exceptions. First, these one pagers contained headshots of the team members instead of faceless avatars. Second, we asked asset allocators to evaluate a single one pager. Because we established in the preliminary study that the qualifications of the 2 teams were so similar, we anticipated that participants might try to calibrate their ratings should they evaluate racially diverse and homogeneous teams side by side. Third, we added information to the cover story about where the one pagers had been sourced. Specifically, we told asset allocators that we had retrieved fund manager materials from emerging manager programs, seeding manager programs, and standard investment programs in which a capital allocator made a new investment in an existing manager. The purpose of providing this additional information was to ensure people believed the one pagers were real as well as create a potential rationale for people unaccustomed to seeing diverse teams.

In the main study, we used a 2 (track record: stronger vs. weaker) × 2 (managing partner race: Black vs. White) between-subjects design. To test for the presence of bias, we analyzed asset allocators' responses to the following: overall performance ratings of the team, evaluations of investment skills, attributions of competence, attributions of social fit, expectations of how much the fund would raise, and the likelihood of taking a meeting with the team, beginning due diligence, and investing in the team.

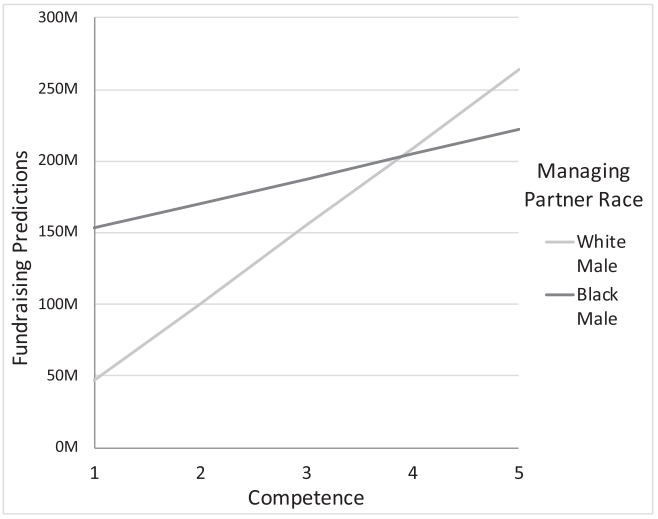

Fig. 1. Regression fit lines showing the relationship between perceived team competence and fundraising predictions (n = 163), by managing partner race.

First, and as expected, asset allocators evaluated the stronger teams more favorably than the weaker teams across all ratings. See *SI Appendix* for means and SDs.

Also as expected, there was an indication that asset allocators were unable to judge the difference between stronger and weaker Black-male–led teams. Asset allocators rated the stronger-quality White-male–led teams more favorably than their weaker-quality counterparts on investment skills, competence, and social fit, but this was not the case for Black-male–led teams. When asset allocators evaluated the teams' investment skills, they could distinguish between stronger and weaker White-male teams [M = 3.24, SD = 0.60 and M = 2.83, SD = 0.50, respectively; $F(1,172) = 13.46$, $P < 0.001$; $\eta^2 = 0.073$]. In contrast, they could not distinguish between stronger and weaker Black-male teams [M = 3.18, SD = 0.49 and M = 3.05, SD = 0.52, respectively; $F(1,172) = 1.20$, $P = 0.276$; $\eta^2 = 0.008$]. Similarly, asset allocators rated stronger and weaker teams differently in terms of competence when their managing partner was White [M = 3.58, SD = 0.59 and M = 2.97, SD = 0.72, respectively; $F(1,171) = 14.28$, $P < 0.001$; $\eta^2 = 0.077$] but not Black [M = 3.28, SD = 0.86 and M = 3.09, SD = 0.78, respectively; $F(1,171) = 1.43$, $P = 0.23$; $\eta^2 = 0.008$]. The same applied with respect to evaluations of social fit for stronger and weaker White-male–led teams [M = 3.07, SD = 0.57 and M = 2.62, SD = 0.73, respectively; $F(1,171) = 8.46$, $P = 0.004$; $\eta^2 = 0.047$], compared with Black-male–led teams [M = 2.87, SD = 0.79 and M = 2.84, SD = 0.78, respectively; $F(1,171) = 0.04$, $P = 0.84$; $\eta^2 < 0.001$].

We asked why asset allocators' judgments of stronger and weaker White-male–led teams varied so drastically from those of Black-male–led teams. We surmised that asset allocators have experience with more or less competent White-male–led teams and can make predictions as to how their expertise will predict their performance. However, they have less experience with Black-male–led teams, competent or otherwise, and thus, find it harder to use judgments of competence to predict performance. We tested this hypothesis using a Fisher's Z test. Indeed, we found this to be the case. The correlation between competence and predictions about how much the fund would raise was stronger for White-male–led teams than Black-male–led teams [r = 0.48 and r = 0.20, respectively; $z(162) = 1.97$, $P = 0.049$; see Fig. 1]. The correlation between competence and overall team ratings was marginally stronger for the White-male–led teams than the Black-male–led teams [r = 0.62 and r = 0.42, respectively; $z(173) = 1.84$, $P = 0.066$].

We found some evidence of bias *against* the Black-male team, but only in the stronger-quality condition. This was indicated by a race × quality interaction for overall performance ratings [$F(1,171) = 8.19$, $P = 0.005$, $\eta^2 = 0.045$; see Fig. 2]. Post hoc comparisons revealed that asset allocators rated the stronger White-male–led team marginally higher than the stronger-quality Black-male–led team [M = 3.86, SD = 0.66 and M = 3.59, SD = 0.72, respectively; $F(1,171) = 3.43$, $P = 0.056$; $\eta^2 = 0.02$]. There was a marginally significant race × quality interaction for ratings of the team's competence [$F(1,171) = 3.36$, $P = 0.068$, $\eta^2 = 0.019$].

Again, post hoc comparisons revealed that asset allocators rated the stronger White-male–led team marginally higher than the stronger Black-male–led team [M = 3.58, SD = 0.59 and M = 3.28, SD = 0.86, respectively; $F(1,171) = 3.63$, $P = 0.058$; $\eta^2 = 0.021$]. We did not observe race-related differences in investment skills, attributions of social fit, expectations of how much the fund would raise, or the likelihood of taking a meeting with the team, beginning due diligence, and investing in the team.

Notably, we found evidence of bias *in favor of* the Black-male team in the weaker-quality condition. Whereas asset allocators exhibited a preference for the stronger White-male–led team in the overall performance ratings as described above, post hoc analyses showed higher ratings for the Black-male–led team than the White-male–led team in the weaker-quality condition [M = 2.89, SD = 0.70 and M = 2.59, SD = 0.58, respectively; $F(1,171) = 4.39$, $P = 0.038$, $\eta^2 = 0.025$]. We also found a marginally significant race × quality interaction for investment skills [$F(1,172) = 3.37$, $P = 0.068$, $\eta^2 = 0.019$]. Post hoc analyses showed more confidence in the Black-male–led team than the White-male–led team in the low-quality condition [M = 3.05, SD = 0.52 and M = 2.83, SD = 0.50, respectively; $F(1,172) = 3.84$, $P = 0.05$; $\eta^2 = 0.022$].

Finally, there was a significant race × quality interaction for the amount asset allocators expected the fund to raise [$F(1,160) = 3.81$, $P = 0.05$, $\eta^2 = 0.023$] in the weaker-quality condition. Asset allocators expected Black-male–led teams to raise $40 M more than White-male–led teams [M = 170.45, SD = 63.79 and M = 130.53, SD = 64.88, respectively; $F(1,160) = 6.75$, $P = 0.01$; $\eta^2 = 0.04$]. There was no statistically significant difference in participants' attributions of social fit or reported likelihood of taking a meeting with the team, beginning due diligence, and investing in the team.

The higher ratings of the racially diverse weaker-quality team did not translate to anticipated funding. Asset allocators were only 20% likely to invest in either of the weaker-quality teams, compared with 43% likely to invest in the stronger-quality teams [$F(1,142) = 30.37$, $P < 0.001$; $\eta^2 = 0.18$].

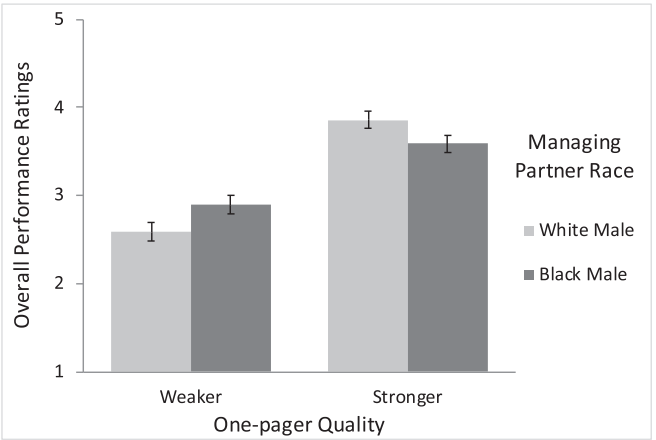

Fig. 2. Mean overall performance ratings of fund managers (n = 175) by one-pager quality and managing partner race. Error bars represent SEs.

Discussion

Asset allocators are becoming familiar with the notion that cognitive biases can impair financial decision making—for example, confirmation bias, loss aversion, and hindsight bias (17, 18). However, racial bias is also among the blind spots that can cause asset allocators to leave returns on the table (19). Our data indicate that top-performing managers of color may be most harmed by racial bias. Even when funds led by people of color possess identical, strong credentials as White-male–led funds, they are judged more harshly. In contrast, White-male fund managers are advantaged by these biases, which perpetuate their disproportionate representation in the industry, and the association between whiteness and investment success. These results for Black-led high-performing funds parallel research that finds that women job seekers with the strongest credentials are penalized substantially more than men and more than women with weaker credentials (20).

In financial services—an industry grounded in the principle of avoiding uncompensated risk—investors are ironically taking on such risk by not investing in more diverse managers, as diverse teams are shown to outperform homogenous teams (21). These findings do not discount the racial disparities in the pipeline, as people of color may still lack access to the financial, social, and cultural resources it takes to succeed in the financial services industry. They do, however, suggest that beyond disparities in the employment pipeline (21, 22), there could be additional impactful racial biases in the evaluation and allocation of money to people of color in private investing. High-performing Black-male–led teams may in fact have induced some feelings of threat to the professional status of the allocators, who were predominantly White. Consistent with this interpretation, exploratory analyses revealed that after allocators rated the stronger-quality, Black-male–led team, they reported their own status as lower on the MacArthur Social Status Scale (23) than allocators in the other 3 groups. In contrast, after allocators rated the weaker-quality, Black-male–led teams, they gave themselves the highest ratings on professional status.

A different picture emerges when we consider Black-male–led teams that possessed relatively unimpressive credentials. Here we actually found a bias *in favor of* these teams: asset allocators preferred the Black-male–led team over the White-male–led team in the weaker-quality condition. However, they were unlikely to want to invest in either team compared with higher-quality teams. At weaker levels of performance, 2 possibilities emerge.

One is that low-performing White-male–led teams, who are stereotyped as competent, might be penalized more for underperforming in a domain where they typically succeed (13, 14). A second possibility is that asset allocators felt compelled to give Black-male–led teams the benefit of the doubt and felt morally credentialed by charitably rating the lower-performing Black-male-team strongly (24, 25), thereby relieving themselves of any sense of obligation to express serious intentions to invest. This interpretation is consistent with the anecdotal reports of many managers of color who report securing early-stage meetings with investors, but the funding never comes through. Indeed, research shows that groups stereotyped as incompetent might encounter more barriers the closer they come to securing professional opportunities (13).

Together, these explanations might account for why asset allocators express a preference for weaker-quality Black-male–led teams rather than White-male–led teams, but why far fewer such teams receive funding in the real world. However, to identify the mechanism responsible for these findings, more research is required to understand: 1) why allocators' positive ratings of funds do not correspond to their decisions to invest, 2) the specific points in the decision-making process where bias may influence real-world funding outcomes (e.g., reading a one pager, in-person meetings, due diligence, final investment decision), and 3) whether racial disparities would be observed if the fund leader was white and the team members were people of color.

It is unlikely that asset allocators are consciously favoring Black-male–led teams with weaker track records and White-male–led teams with stronger track records. Rather, our data suggest that asset allocators are unable to gauge the relationship between competence and performance for person-of-color-led funds, who appear seldomly in this space. A survey conducted by Morgan Stanley revealed that investors who directly fund businesses might experience this uncertainty as well, simultaneously holding underrepresented groups to higher standards and misjudging their likelihood of success (26). For example, investors expected women and people of color business owners to possess higher qualifications than their White-male–owned counterparts. These investors were also twice as likely to expect businesses owned by women and people of color to perform below market average, despite data to the contrary.

Taken together, these findings suggest asset allocators may not realize that they are missing opportunities for higher financial returns by undervaluing high-performing funds led by people of color *or* by overvaluing White-male–led funds. In fact, asset allocators might be violating their fiduciary obligations (i.e., to generate the highest possible returns for their investors) by *not* investing in funds led by people of color that could produce returns as high or higher than White-male–led funds. Consequently, racial bias could potentially result not only in the unfair treatment of fund managers of color and their grantees, but also in leaving significant financial opportunities on the table, thus hurting the entire financial ecosystem.

What, then, can raise the stature of funds led by people of color in the competitive asset management industry? Emerging manager programs are built on the premise that providing resources to first-time funds will help them thrive on their own when they have established themselves as successful managers. However, our results suggest that these programs might not be sufficient to increase representation of people of color in investing. We find that people of color are likely to encounter more bias as they achieve stronger credentials. In fact, some investors may even view emerging manager programs as introducing less qualified teams of racially diverse backgrounds into the decision pool, leading to stigma against emerging managers who move on to raise subsequent funds. And, even though we saw positive ratings for funds led by people of color of weaker quality, our data show no indication that these funds will actually receive more capital from allocators.

Our study points to an additional solution: along with a focus on populating the pipeline, the industry should work toward supporting diverse managers who have already broken into the investing space. Organizations could train asset allocators to overcome their biases by revamping their investment criteria and strategies and ensuring they are knowledgeable about the success of firms led by people of color. Diversity, in fact, is not only a moral obligation; it is a fiduciary one—leading to fewer losses and better performance (27–29). Ultimately, increasing diversity among fund managers will require both shifting mindsets about who can and should participate in generating financial capital and broad and deep systemic change in the policies and practices of the entire industry.

Materials and Methods

Materials and procedures for these studies were approved by the Stanford University Non-Medical Institutional Review Board, under protocol IRB 41138, entitled "Selection in Financial Markets." All subjects gave informed consent to participate in the study. Deidentified data can be made available to qualified researchers upon request. Additional details on the materials and methods can be found in *SI Appendix*.

Preliminary Study.

Participants. Participants were 64 asset allocators recruited from the mailing list of an investment professionals magazine (52 men, 7 women, 5 gender not reported; mean age = 41.08, SD = 10.51). Of the 64 participants, race and ethnicity was as follows: 42 White, 8 East Asian, 5 Hispanic/Latinx, 4 South Asian, 2 Middle Eastern, 1 other race/ethnicity, 0 Black, 2 not reported.

Procedure. We invited asset allocators to voluntarily participate in a 10-min online study. First, they read a page of information about the study, detailing the research team's plans to compare participants' evaluations of fund manager one pagers against an algorithm. The survey was programmed to assign participants to 1 of 2 conditions: stronger quality (n = 31) or weaker quality (n = 33). Then they were presented with the first of the 2 one pagers. The order of the 2 one pagers was counterbalanced across participants. After spending 1 min reading the one pager, the survey advanced to the next screen in which participants were asked to rate the fund manager based on the one pager they had just seen. The one pager was displayed again on this page so that participants could refer back to it. These measures included overall performance ratings of the team (3 items: track record, domain expertise, ability to execute on strategy; 1 = far below average, 5 = far above average), evaluation of investment skills (4 items: ability to adapt to changing market demographics, likelihood of experiencing team dynamic issues, probability of leaving a good deal behind, and failing to return invested capital to limited partners; 1 = extremely unlikely, 5 = extremely likely). After rating the first one pager, participants were shown the second one pager and repeated the ratings process. After rating both teams, participants completed a page of demographic measures, including age, gender, race/ethnicity, and professional status.

The Main Study.

Participants. Participants were 180 asset allocators recruited from the mailing list of a different investment professionals magazine than the one described in the preliminary study (161 men, 9 women, 10 gender not reported; mean age = 44.5, SD = 11.99). An a priori power analysis had determined that a sample of 128 would offer sufficient statistical power ($1 - \beta = 0.80$, $\alpha = 0.05$) to detect a medium-sized effect (f = 0.25). Of the 180 participants, 150 hailed from North America. The race and ethnicity breakdown was: 131 White, 15 East Asian, 6 South Asian, 6 multiracial, 5 Hispanic/Latinx, 5 other, 1 Middle Eastern, and 1 Black. There were 10 participants who did not report their race or ethnicity. Participants represented a diverse cross-section of asset classes and functions: 142 public equities; 119 fixed income; 95 wealth management; 90 hedge funds; 79 private equity; 75 real estate; 51 socially responsible investing or environmental, social, and governance; 49 sales or client relationship; 46 venture capital; 33 growth; and 11 other. Participants could check as many asset classes and functions as applied to them, and so the total exceeds the number of participants (n = 180).

Procedure. Like in the preliminary study, we invited asset allocators to voluntarily participate in a 10-min study. First, they read a page of information about the study, detailing the research team's plans to compare participants' evaluation of a fund manager one pager against that of an algorithm. The survey was programmed to assign participants to 1 of 4 conditions: weaker-quality, White-male–led team (n = 43), weaker-quality, Black-male–led team (n = 42), stronger-quality, White-male–led team (n = 47), and stronger-quality, Black-male–led team (n = 48). After asset allocators read the study instructions, they were shown the one pager they'd been assigned and had 1 min to study it before completing any further questions. After 1 min had passed, the screen advanced to the next page, which again contained an image of the one pager along with a set of rating measures for asset allocators to complete.

These measures were similar to those in the preliminary study, with some modifications. They included overall performance ratings of the team (3 items: track record, domain expertise, ability to execute on strategy; 1 = far below average, 5 = far above average; $\alpha = 0.78$), evaluations of investment skills (10 items, e.g., ability to find an invest in consistent winners, being prepared to lead deals, failing to return invested capital to limited partners; 1 = extremely unlikely, 5 = extremely likely; $\alpha = 0.78$), how well competence-related adjectives described the team (5 items: capable, competent, confident, intelligent, and skillful; 1 = not well at all, 5 = extremely well; $\alpha = 0.90$), and how well social fit-related adjectives described the team (4 items: likeable, similar to other general partners I know, trustworthy, and well connected; 1 = not well at all, 5 = extremely well; $\alpha = 0.77$). Participants also predicted how much money the team would raise ($0 to 300 M). Finally, participants indicated the likelihood that they would take a meeting with the team, begin due diligence with the team, and invest in the team (0 to 100%).

As in the preliminary study, participants completed a page of demographic measures at the end of the survey.

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