KNIGHT DIVERSITY OF ASSET MANAGERS RESEARCH SERIES: OWNERSHIP AND TEAMS DIVERSITY METRICS

A study to assess the relationship between diversity of ownership and diversity of portfolio management teams in asset management firms

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Global Economics Group
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Executive Summary

Introduction

The Knight Foundation Diversity of Asset Management (KDAM) research series, which includes this report, coincides with a lively public discourse on racial, ethnic and gender inequality in this country. At the demand of stakeholders, institutional asset allocators now commonly evaluate firm diversity when selecting portfolio managers. Many philanthropies and universities are aligning their endowments with their values. This activity is accompanied by research that finds no statistically significant difference in risk-adjusted returns between diverse and non-diverse asset management firms, and mounting evidence that diverse companies have better business outcomes. For those with fiduciary duty, addressing inequality is not only about social justice but also about realizing the talent of underutilized women and minority groups.

Clear and reliable metrics are critical to understanding firm diversity and monitoring change over time. But data is far from complete. And there is no consensus on how to measure diversity in the first place: one may prefer to measure by ownership diversity, by decision maker diversity or by something else entirely. There are numerous valid possibilities.

Diversity of ownership is the most widely available metric in third-party data. The KDAM studies to date have focused on diversity of ownership, due in part to its virtues, as described in the next section, and its availability. Several foundations that participated in the KDAM studies and other interested parties have asked whether alternative metrics—namely, decision maker diversity—could or should be used instead. In response to such inquiries, this report takes a closer look at the ownership metric with respect to new data on decision maker diversity recently released by eVestment.

The new data provides the racial, ethnic and gender composition of portfolio management teams ("teams") for a sample of firms. We use the data to study (1) the statistical link between ownership and team diversity, (2) the relative diverse representation in ownership and on teams and (3) gender representation on teams.[1] The analysis considers a sample of 204 active, non-public U.S.-based firms, which manage 1,450 public equity, fixed income and hedge fund products from U.S.-based offices. The firms collectively hold $3 trillion in assets under management (AUM) and employ a total of 11,300 people.[2]

> **Portfolio management teams ("teams")**
>
> Teams within an asset management firm that consists of portfolio managers, analysts, economists and computer scientists who are responsible for research, analysis and decision making related to the investment of a fund. The metric does not include administrative staff or sales employees.

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1   The ownership data does not provide a gender breakdown for minorities.

2   Our analysis finds suggestions of selection bias where firms that responded to eVestment's voluntary ESG survey have higher diversity levels than firms that did not respond, on average. Nevertheless, there are valuable statistical relationships identified in the available data. We analyze the selection bias in depth later in the report and provide sensitivity analyses to our featured results, where applicable, given what we know about selection. For additional details, see Appendix A.

Analysis 1: There Is a Strong Positive Correlation Between the Ownership and Team Metrics

Statistical evaluation of the relationship between the ownership (equity %) and team (headcount %) metrics suggests that ownership diversity is indicative of team diversity. Figure 1 shows the average team diversity by ownership diversity. The positive relationship can be observed simply by looking at the data: Team diversity increases with ownership diversity.[3]

Figure 1. Average Team Diversity by Ownership Diversity
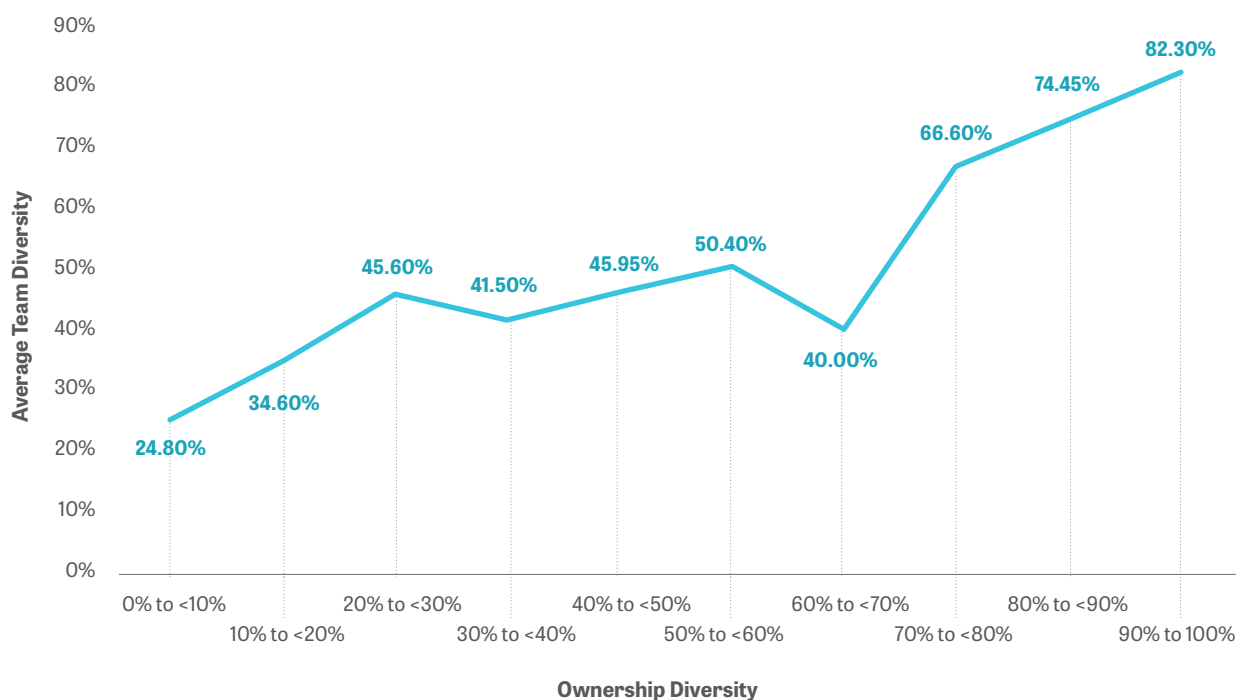
Key Findings

- There is a strong and statistically significant positive correlation between ownership diversity and team diversity. This means the higher the ownership diversity, the higher the team diversity, on average, and vice versa. This relationship holds even after controlling for firm size, the share of employees that are owners and the domiciled state.

- Diverse-owned[4] firms are at least 3x more likely to have a diverse team compared to non-diverse-owned firms.

- If an asset allocator hired a diverse-owned firm at random without knowing anything else about it, there is a 75% chance the firm has a diverse team.
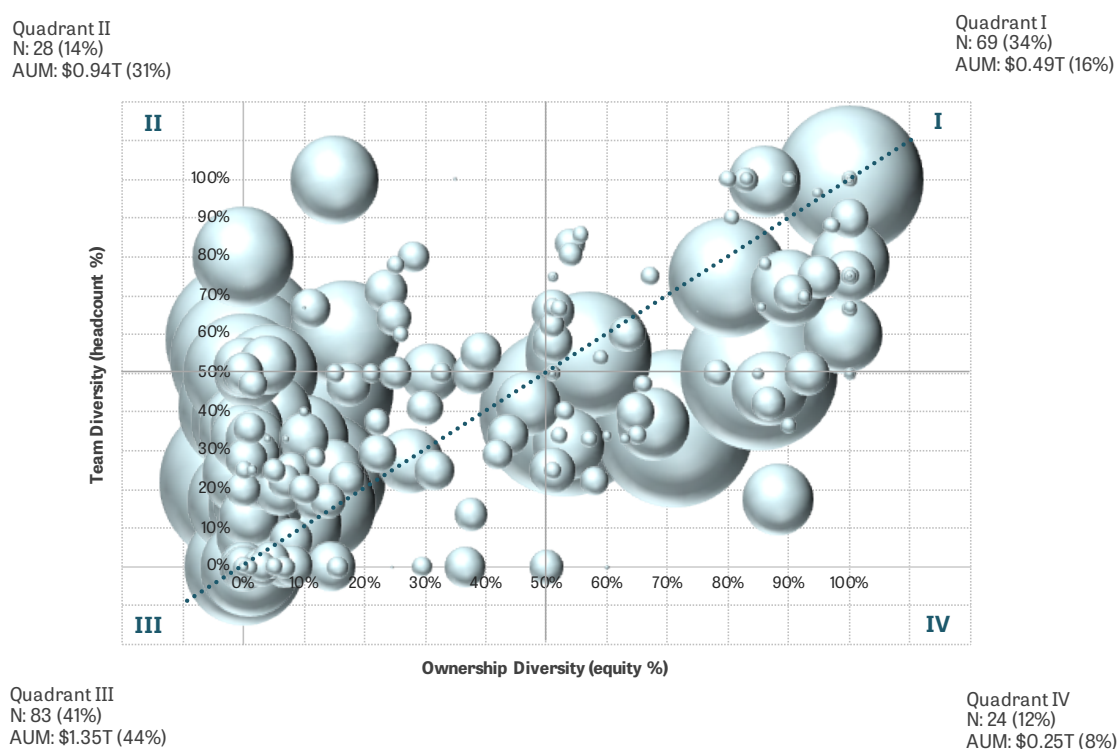
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3   This report does not provide an analysis of causality—that is, it does not evaluate whether and to what extent ownership diversity drives team diversity, or vice versa. We would need more data, collected over time, to meaningfully assess causality. We look forward to potentially expanding this analysis, or seeing others do so, as additional data is collected and becomes available.

4   A 50% or greater threshold is often used in diversity assessments, including previous KDAM studies. When this report refers to a firm as "diverse-owned" it means the firm has 50% or greater representation by women and/or minorities; "women-owned" means the firm has 50% or greater representation by women; "minority-owned" means the firm has 50% or greater representation by racial/ethnic minorities. Similarly, a "diverse team" means the team has 50% or greater representation by women and/or minorities.

Analysis 2: Diverse Representation Is Greater on Teams Than in Ownership, Overall

Holistic evaluation of the firms in the dataset uncovers overarching trends in diverse representation. Figure 2 shows a scatter plot of team and ownership diversity for the sample of 204 firms, with the bubble size corresponding to firm AUM. Diverse-owned firms are in Quadrants I and IV. Non-diverse-owned firms are in Quadrants II and III. Firms with diverse teams are in Quadrants I and II. The blue dashed line at 45-degrees indicates "team-ownership parity," where ownership diversity is equal to team diversity at any point along the line. Firms above the line have greater team diversity than ownership diversity; firms below the line have greater ownership diversity than team diversity.

Figure 2. Team vs. Ownership Diversity, Bubble Size Corresponds to Firm AUM

Quadrant II
N: 28 (14%)
AUM: $0.94T (31%)

Quadrant I
N: 69 (34%)
AUM: $0.49T (16%)

Quadrant III
N: 83 (41%)
AUM: $1.35T (44%)

Quadrant IV
N: 24 (12%)
AUM: $0.25T (8%)

Key Findings

- Diverse-owned firms are nearer to team-ownership parity compared to non-diverse-owned firms, with team diversity levels at or just below ownership diversity levels.

- Non-diverse-owned firms are consistently above the parity line, with relatively high team diversity and low ownership diversity. In addition, non-diverse-owned firms are larger than diverse-owned firms ($20.7 billion vs. $8 billion, on average) and therefore contribute substantially to the large imbalance between team and ownership representation across the firms in the sample when measured by AUM.

- Diverse representation is greater on teams than in ownership for all diverse groups, but the difference is most pronounced for the Asian minority group. At non-diverse-owned firms, for example, the Asian minority group manages seventeen times the amount of AUM it owns.[5]

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5   Based on an AUM attribution method. For example, a firm with $100 million AUM, 10% diverse ownership and 40% diverse team membership is attributed $10 million AUM to women and minority owners and $40 million AUM to women and minorities on teams.

Analysis 3: Women Are Vastly Underrepresented on Teams

Evaluation of team representation at the intersection of race/ethnicity and gender reveals stark gender disparity on teams (the ownership data does not provide a gender breakdown for minorities), even among this self-selecting group of highly diverse firms.[6] Figure 3 shows team gender representation, by race and ethnicity.[7]

Key Findings

- Women manage 23% of the AUM in the sample.

- The Asian minority group is nearest to gender parity (though still not particularly close to it): Asian women manage 34% of the $0.64 trillion in Asian-managed AUM.

- The Black minority group is furthest from gender parity: Black women manage 11% of the $0.08 trillion in Black-managed AUM.

Figure 3. Representation of Women on Teams, AUM Attribution Method
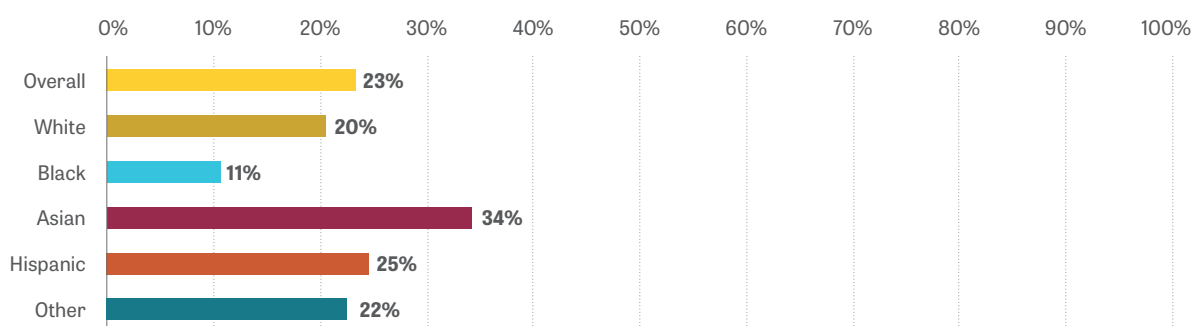
Concluding Remarks

Although further analysis is needed as diversity data becomes more complete, this report offers statistical evidence that ownership diversity has a strong positive correlation with team diversity at the firm level. Furthermore, it shows that, in terms of total AUM, diverse representation is greater on teams than in ownership. This differential is driven by (1) diverse representation on teams at large firms with zero or relatively low ownership diversity and (2) greater representation on teams of certain groups relative to others—namely, a high percentage of diverse team members come from the Asian minority group. Women of all races and ethnicities—and, in particular, Black women—are underrepresented relative to their respective proportion of the total U.S. population.

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6   The purpose of this report is to provide a comparison of the ownership and team metrics using the available data, not to size the market or to provide an industry-wide estimate of diverse representation.

7   Based on an AUM attribution method. A firm with $100 million AUM, 4% Asian male representation and 1% Asian female representation is attributed $4 million AUM to Asian men and $1 million to Asian women, resulting in 20% representation of women among the $5 million in Asian-managed AUM. The data does not provide a count of the number of people on teams.

Diversity of ownership is a valuable and accessible metric and its use to evaluate firm diversity is practical and informative. Team diversity is also valuable, but not widely available as of the date of this report and therefore less useful in widescale research, such as the KDAM studies.

Measurement under either metric points to the same conclusion, which is that inequality in asset management is vast. Minorities and women make up 70% of the U.S. working age population and 68% of its college graduates[8] yet recent [research](#) finds that diverse-owned firms hold only 1.4% of the total AUM in the U.S. asset management industry. Even a doubling of that estimate, for example, would not move the needle much in terms of improving industry-wide diverse representation.

We hope that this report prompts continued discussion and action on the important issue of inequality in the asset management industry. Importantly, we hope it encourages greater levels of data collection and increased transparency around diversity. We applaud eVestment for their leadership in making this data available. To solve a problem, we first need to measure and understand it.

The remainder of this report is organized as follows:

1. Overview of the Ownership and Team Metrics

2. The Statistical Relationship Between the Ownership and Team Metrics

3. Relative Representation of Diverse Groups in Ownership and on Teams

4. Gender Representation on Teams

5. Conclusion

6. Appendix A: Data, Definitions and Selection

7. Appendix B: Regression Models and Results

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8 United States Census Bureau's American Community Survey (ACS) Public Use Microdata Sample (PUMS) 5-Year Estimates, 2019.

Overview of the Ownership and Team Metrics

In January 2021, eVestment began collecting diversity data on portfolio management teams, adding another dimension to its ESG survey, which had already included questions on diversity of ownership.

The diversity of ownership metric provides the diversity profile of those who hold the firm equity, expressed as a percentage of economic ownership. The metric has many virtues, including that it is by far the most widely available metric in third-party datasets like eVestment. In addition, it (1) reflects the diversity of firm power, as owners have voting rights and the power to establish and cultivate firm ethos, determine how a firm recruits its talent and decide which projects or companies the firm does business with; and (2) reflects personal power, as owners of mutual funds or hedge funds are generally wealthy and have the power to decide which social issues to address, which politicians to stand behind, which philanthropies to support and which communities to invest in.

The diversity of portfolio management team metric provides the diversity profile of those who run the funds within a firm, expressed as a percentage of headcount. The team metric is less widely available to date than the ownership metric, but it has some important merits, including that it (1) covers more people than the ownership metric, in general, and is expressed in terms of headcount rather than equity concentration, (2) reflects the diversity of a firm's decision makers and (3) reflects the career opportunity a firm generates. Portfolio management is an important and coveted career in the financial industry. Teams consist of managers, analysts, economists and computer scientists, at various stages in their careers, who are responsible for research, analysis and decision making related to the investment of a fund. In addition to earning a lucrative income, team members stand to gain finance experience and access to a robust professional network, thereby enhancing their career prospects.

While both metrics are valuable, neither is a perfect measure of firm diversity. Neither metric on its own can capture firm philosophies or practices involving diversity, or all the possible ways that a firm can be considered "diverse" or not. No single metric can do that.

As of the date of this report, these two metrics are the most widely available in third-party data on asset management firms. Taken together, as shown in the analyses that follow, we use statistics to explore how the two metrics relate to each other, forming a more complete picture of diversity in asset management along these dimensions.

The Statistical Relationship
of the Ownership and Team Metrics

This report finds a strong positive relationship between the diversity of ownership and diversity of team metrics using various statistical tests. This means the higher the ownership diversity, the higher the team diversity, and vice versa. In this section, we (1) study the linear relationship by calculating correlations and various regression models and (2) use categorical analysis to evaluate the likelihood of a diverse-owned firm having a diverse team, using a threshold of 50% or greater diverse representation, which is a cutoff often used in diversity assessments, including previous KDAM studies.

Linear Relationship

We first study the linear relationship between ownership and teams. Correlation analysis finds a strong positive correlation between the two metrics overall, with a correlation coefficient (r) of 0.68 for Minorities and Women, as shown in row 1 of Figure 4.[9,10] In addition, we find a strong positive relationship between like pairs. For example, Black-ownership diversity is positively correlated with Black-team diversity, with a correlation coefficient of 0.83. The same is true for minorities, where r=0.73. Both measures are well above the relationship for white men (r=0.68) and even more so for white women (r=0.55).

Figure 4. Correlation Coefficients Between Like Pairs

Ownership-Team Pair	Correlation Coefficient (r)
Minorities and Women	0.68
Minorities	0.73
White Men	0.68
White Women	0.55
Black	0.83
Asian	0.62
Hispanic	0.72
Other	0.51

9

9   A correlation analysis produces a correlation coefficient, r, which describes the strength and direction of the linear relationship between two variables. The correlation coefficient ranges from -1.0 to +1.0, where +1.0 indicates a perfectly positive correlation between two variables (if one is up, the other is up); -1.0 indicates a perfectly negative correlation (if one is up, the other is down), and 0 indicates no correlation.

10 The coefficients are statistically significant at the 1% level using a two-tailed test.

Figure 5 provides a scatter plot of the 204 firms that report both ownership and diversity metrics, with a linear regression line fitted to the data.[11] The pattern in the data suggests a positive correlation between the two variables, consistent with what we observe in the correlation analysis for minorities and women. Notably, the plot shows that even firms at the lowest level of ownership diversity have team diversity of around 24%, on average (this is represented by the constant in the regression equation).

Figure 5. Team Diversity vs. Ownership Diversity
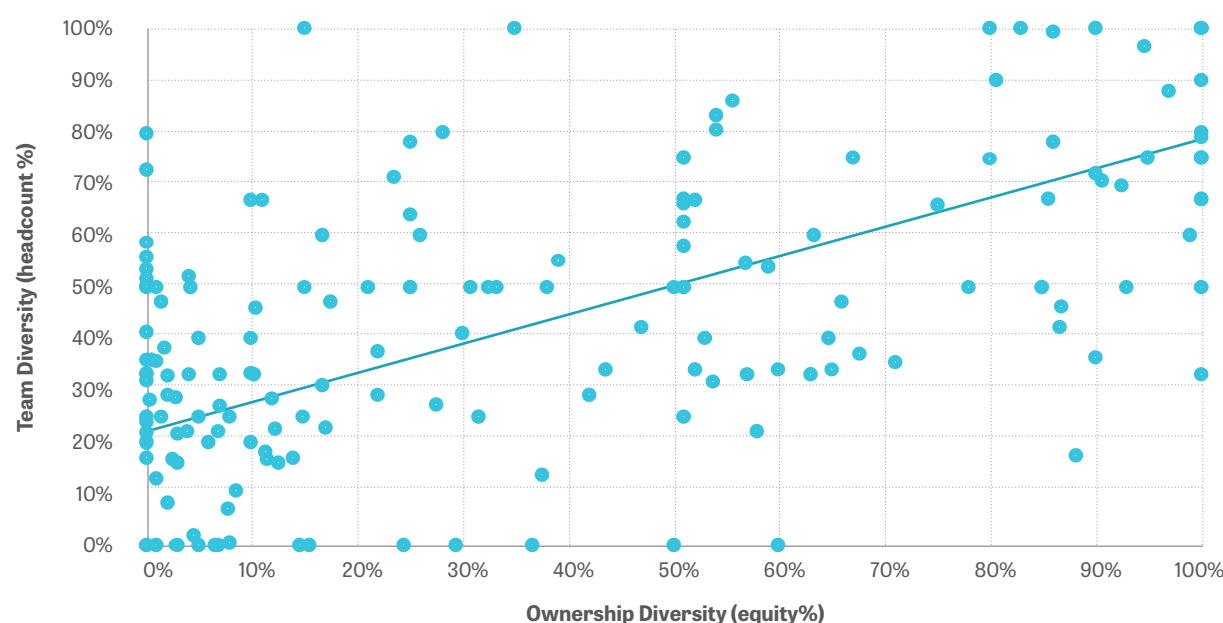
Regressing team diversity on ownership diversity suggests (1) a baseline team diversity level of 24% if firm ownership is equal to zero and (2) that for every one percentage point increase in ownership diversity, team diversity increases 0.55 percentage points above the baseline.[12,13] The regression line is described by the following equation:

$$Team\ Diversity = 24\% + 0.55 * OwnershipDiversity$$

This equation could be used to generally approximate team diversity. For example, if a firm of interest has 70% ownership diversity, the regression equation predicts that team diversity is equal to 0.24+.55*0.7, which is 62.5%. The regression suggests that a firm with 30% ownership diversity has team diversity of 40.5% (0.24+.55*0.3), and a firm with 0% ownership diversity has team diversity of 24% (0.24+.55*0).

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11 Team diversity for each firm is calculated as the AUM-weighted average of the components of team diversity across the firm's products. For additional information, see Appendix A.

12 The coefficients on the intercept and slope are statistically significant. The Adjusted R2 is 0.46, which indicates the explanatory power of the regression. Put simply, ownership diversity explains about 46% of the variation in team diversity. For additional information on the regression statistics, see Appendix B.

13 As a supplemental analysis to the simple model, this report considers all 1,096 firms in the data, with imputed diversity values of 0% where diversity data is missing, to provide a lower bound estimate of diverse representation within each metric. Under this method, regressing team diversity on ownership diversity suggests (1) a baseline team diversity level of 6%, if firm ownership is equal to zero, and (2) that for every one percentage point increase in ownership diversity, team diversity increases 0.39 percentage points above the baseline.

This report considers more complex versions of the simple model in which (a) more variables are controlled for and (b) data on firms with missing ownership diversity is used to help estimate the effect of the controls and to examine team diversity. The strong positive relationship observed in the basic linear model holds in the more complex models, even after including control variables for firm size as measured by AUM, the share of employees that are owners and the domiciled state.[14]

Note that the selection analysis described in Appendix A suggests that firms that did not report to the eVestment survey tend to have relatively low levels of ownership and team diversity compared to firms that did report, indicating differences in the available sample compared with the sample of firms with missing data. However, the regression results from the available data will not be biased if the relationship between team diversity, ownership diversity and other controls are the same between the two samples. A test of selection bias provides evidence against selection bias impacting the regression application, suggesting that these relationships are the same as those found for the sample.[15]

Categorical Analysis Using a Threshold of 50% or Greater Diversity

In addition to the regression analyses described above, we evaluate the data using a threshold of 50% or greater diverse representation to categorize diverse from non-diverse firms and teams. The analysis finds that diverse-owned firms are nearly 3x as likely to have diverse teams than firms that are not diverse-owned.[16]

More specifically, as shown in Figure 6, we find that 69 of the 93 diverse-owned firms (or 74.2%) have diverse teams compared with only 28 of 111 (25.2%) for firms that are not diverse-owned (74.2%/25.2% is approximately 3).[17] The figures imply that if an asset allocator hired a diverse-owned firm at random and knew nothing else about the firm, there is a 74.2% chance that firm has a diverse team.

Figure 6. Portion of Firms with Diverse Teams, by Ownership Diversity
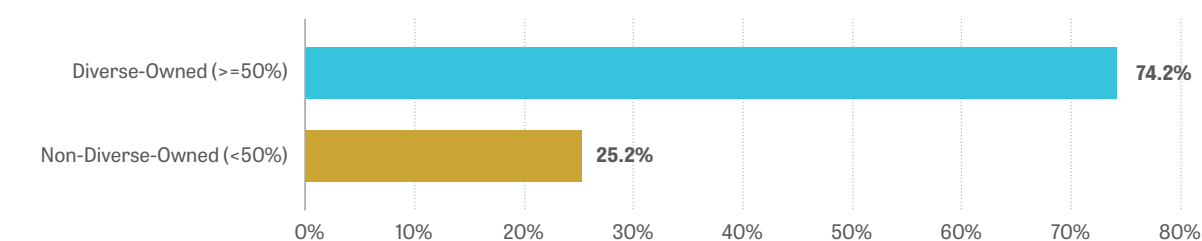
14 For additional information on the regressions, see Appendix B. From the full model described in Appendix B, we can also approximate the diversity of ownership for firms where the data is missing by noting that the effect of missing that data equals the effect of having ownership diversity that is statistically indistinguishable from 0%.

15 Appendix B uses Heckman's selection correction, which finds that the correction does not materially change the estimated coefficients, and that the null hypothesis of no bias from selection cannot be rejected. Note that the test has low power, however, in the sense that it will fail to detect selection bias unless the bias is sufficiently large; therefore, this result should be interpreted with caution.

16 Based on an analysis of the available data, firms are approximately 3x as likely to have diverse teams compared to firms that are not diverse-owned. In supplemental analysis that considers all 1,096 firms in the data, with imputed diversity values of 0% where diversity data is missing to provide a lower bound estimate of diverse representation within each metric, we find that diverse-owned firms are up to 7x more likely to have a diverse-owned team than non-diverse-owned firms.

17 This difference is statistically significant at a 1% level based on a chi-squared test. We ran two sensitivity analyses and found that the general pattern of results and findings of statistical significance hold. For these sensitivity analyses: (1) we remove firms that are 100% employee-run (of 188 firms, we find that 63 of the 85 diverse-owned firms [or 74%] have diverse portfolio management teams compared with only 26 of 103 [25%] for firms that are not diverse-owned) and (2) we exclude firms where the share of employees that are owners is more than half of total employees (of 146 firms, we find that 54 of the 70 diverse-owned firms [or 77%] have diverse portfolio management teams compared with only 21 of 76 [28%] for firms that are not diverse-owned).

Relative Representation of Diverse Groups in Ownership and Teams

In addition to studying the statistical relationship between ownership and team diversity at the firm level, we holistically evaluate the firms in the dataset and uncover overarching trends in diverse representation.[18] This section focuses on diverse representation in terms of AUM. AUM provides a measure of firm size and acts as a substitute for personnel count as such data is unavailable at the product level.

There are large disparities in diverse representation between the two metrics, overall and within minority groups. Teams are more diverse than ownership, on average, overall and for non-diverse-owned firms. Diverse team representation is predominately driven by greater relative representation from the Asian minority group. Diverse ownership representation is predominately driven by greater relative representation from white women.

Figure 7 shows a scatter plot of team and ownership diversity for the sample of 204 firms, with the bubble size corresponding to firm AUM. Diverse-owned firms (i.e., those with 50% or greater women and/or minority ownership) are in Quadrants I and IV. Non-diverse-owned firms are in Quadrants II and III. Firms with diverse teams (i.e., those with 50% or greater women and/or minority representation on teams) are in Quadrants I and II. The blue dashed line line at 45-degrees indicates "team-ownership parity," where ownership diversity is equal to team diversity at any point along the line.

Diverse-owned firms (light blue oval, generally) are nearer to team-ownership parity compared to non-diverse-owned firms, with team diversity levels at or just below ownership diversity levels. Non-diverse-owned firms (yellow oval, generally) are consistently above the parity line, with relatively high team diversity and low ownership diversity. Notably, non-diverse-owned firms are larger than diverse-owned firms ($20.7 billion vs. $8 billion, on average) and therefore contribute substantially to the large imbalance between team and ownership representation across the firms in the sample.

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18 It bears repeating that our analysis suggests that firms with low diversity are less likely to respond to the eVestment survey (see Appendix A). Yet vast disparities exist even for the sample of highly diverse self-selecting firms we can analyze directly. The purpose of this report is to provide a comparison of the ownership and team metrics using the available data, not to size the market or to provide an industry-wide estimate of diverse representation.

Figure 7. Team vs. Ownership Diversity, Bubble Size Corresponds to Firm AUM

Quadrant II
N: 28 (14%)
AUM: $0.94T (31%)

Quadrant I
N: 69 (34%)
AUM: $0.49T (16%)

Quadrant III
N: 83 (41%)
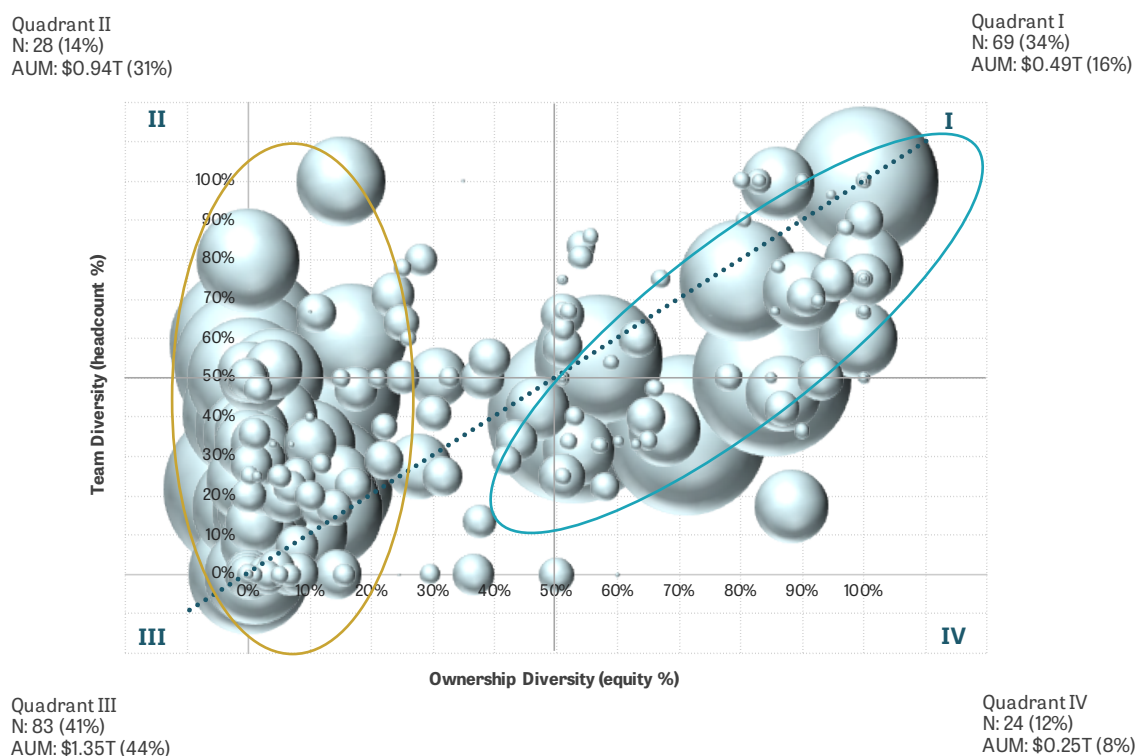AUM: $1.35T (44%)

Quadrant IV
N: 24 (12%)
AUM: $0.25T (8%)

Figure 8 recasts the data shown in Figure 7 in a comparative bar chart using an AUM attribution method. The attribution is done as follows. For example, a firm with $100 million AUM, 10% diverse ownership, and 40% diverse team membership, is attributed $10 million AUM to women and minority owners and $40 million AUM to women and minorities on teams. Under this method, women and minorities "own" $0.68 trillion but "manage" about twice that amount, $1.34 trillion, which this report refers to as a 2x team-ownership disparity ratio ($1.34/$0.68).[19]

Figure 8. Distribution of AUM in Ownership and on Teams, AUM Attribution Method
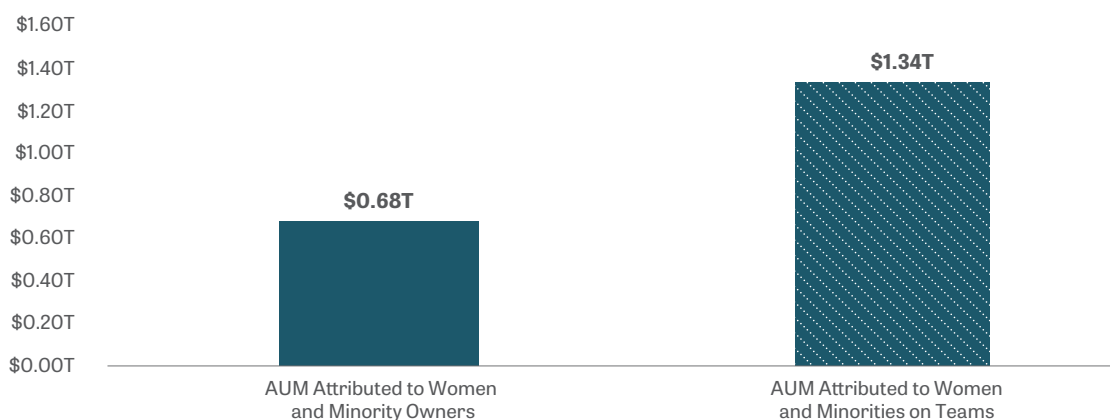
19 A supplemental analysis that considers all 1,096 firms in the data with imputed diversity values of 0% where diversity data is missing to provide a lower bound estimate of diverse representation within each metric suggests a 5.5x team-ownership disparity ratio.

Figure 9 shows the same data, labeled by whether a firm is diverse-owned (i.e., 50% or greater women and/ or minority ownership). Notably, two-thirds, or $0.90 trillion, of the $1.34 trillion attributed to women and minorities on teams occurs at non-diverse-owned firms. The ratio between the lower ranks (teams) and the ownership level is 8x for non-diverse-owned firms ($0.90 trillion/$0.11 trillion) and 0.8x for diverse-owned firms ($0.44 trillion/$0.57 trillion).

Figure 9. Distribution of AUM in Ownership and on Teams, AUM Attribution Methods, by Firm Ownership Diversity
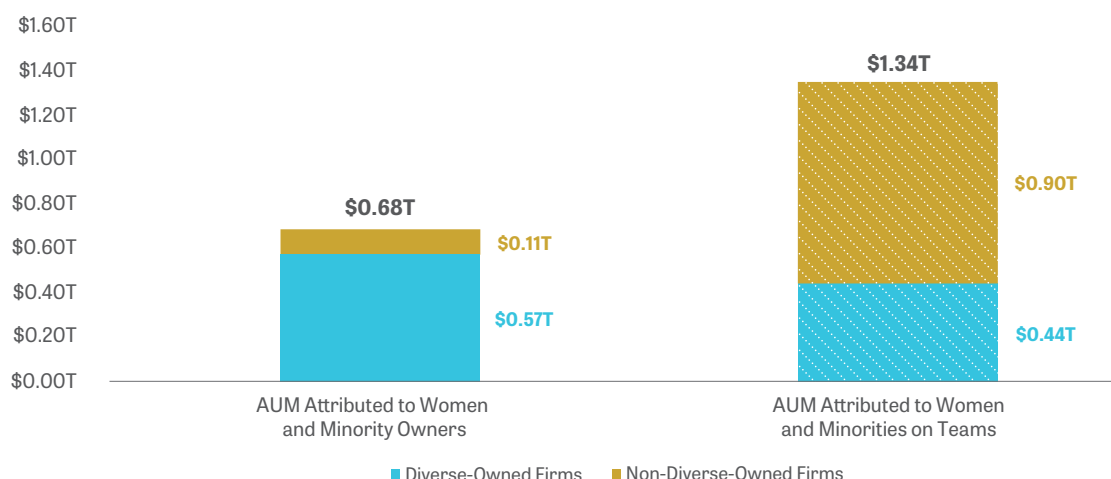

Figure 10 shows the same data, labeled by diverse group. Diverse representation is greater on teams than in ownership for all diverse groups, but the difference is most pronounced for the Asian minority group, and to a lesser extent in absolute terms the Hispanic minority group. The team-ownership disparity ratio is 4.3x for the Asian group ($0.64 trillion/$0.15 trillion) and 4.2x for the Hispanic group ($0.14 trillion/$0.03 trillion). Of the $1.34 trillion attributed to women and minorities on teams, about half is attributed to the Asian group ($0.64 trillion/$1.34 trillion). Of the $0.68 trillion attributed to women and minorities in ownership, about 60% is attributed to white women.

Figure 10. Distribution of AUM in Ownership and on Teams, AUM Attribution Method, by Diverse Group
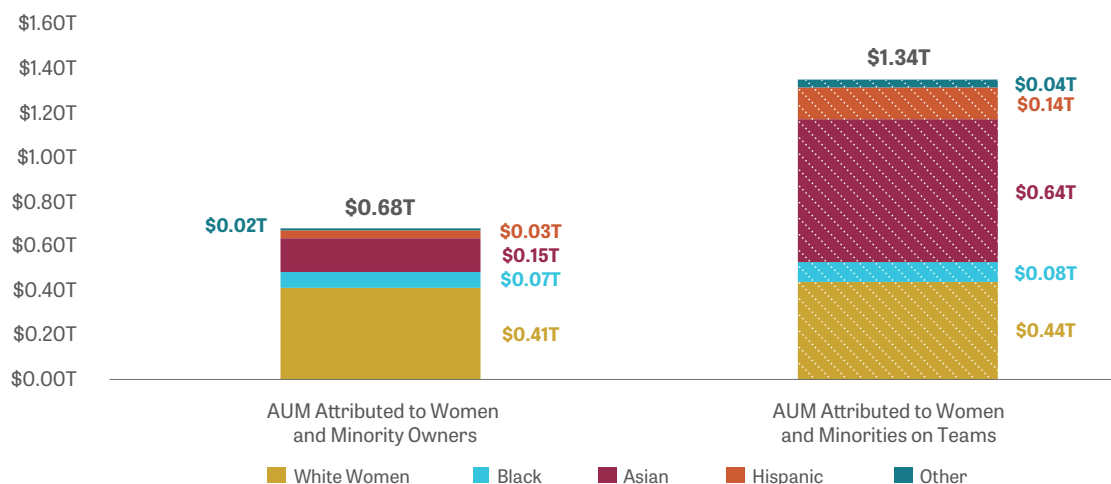
Figure 11 shows the same comparative bar charts for diverse-owned firms only. The ratio between the lower ranks (teams) and the ownership level is 0.8x for diverse-owned firms ($0.44 trillion/$0.57 trillion). The team-ownership disparity ratio is 1.5x for the Asian group ($0.18 trillion/$0.12 trillion) and 2.2x for the Hispanic group ($0.07 trillion /$0.03 trillion). Of the $0.44 trillion attributed to women and minorities on teams, about 40% is attributed to the Asian group ($0.18 trillion/$0.44 trillion). Of the $0.57 trillion attributed to women and minorities in ownership, about 60% is attributed to white women.

Figure 11. Distribution of AUM in Ownership and on Teams, AUM Attribution Method, by Diverse Group: Diverse-Owned Firms
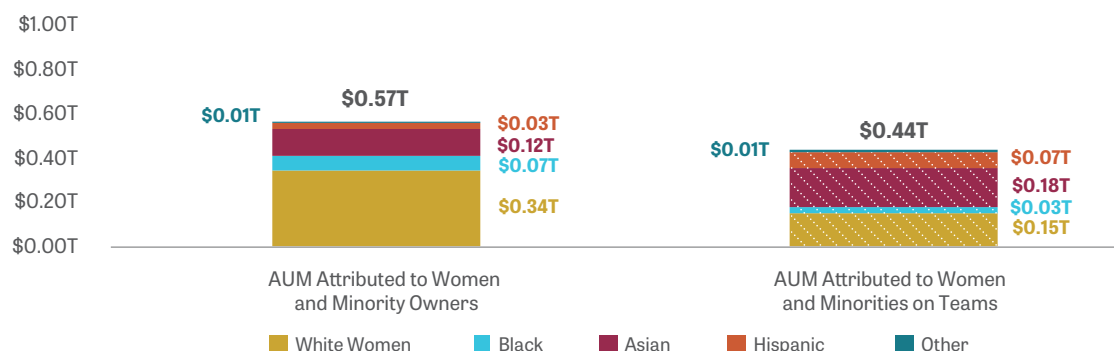

Figure 12 shows the same comparative bar charts for non-diverse-owned firms only (i.e., those with less than 50% diverse ownership). The ratio between the lower ranks (teams) and the ownership level is 8x for non-diverse-owned firms ($0.90 trillion/$0.11 trillion). For the Asian group, the ratio is 17x. For the Hispanic group, it is 35x. Of the $0.90 trillion attributed to women and minorities on teams, about half is attributed to the Asian group ($0.46 trillion/$0.90 trillion). Of the $0.11 trillion attributed to women and minorities in ownership, about 60% is attributed to white women.

Figure 12. Distribution of AUM in Ownership and on Teams, AUM Attribution Method, by Diverse Group: Non-Diverse-Owned Firms
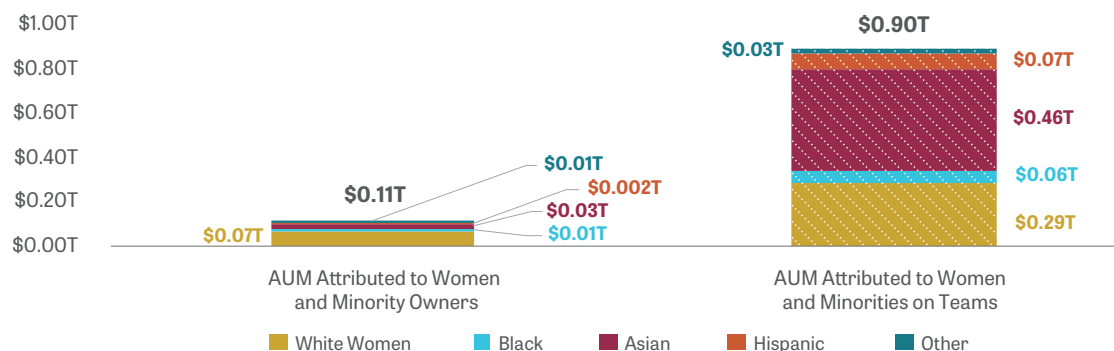
These results beg the question of whether greater diverse representation on teams than in ownership represents (a) systemic barriers to ownership for diverse groups, (b) movement toward greater diversity in asset management, where the team differential is a leading indicator for future diverse ownership as diverse team members experience career growth or (c) a mix of each, to varying degrees depending on the firm.

Gender Representation on Teams

Evaluation of team representation at the intersection of race/ethnicity and gender reveals stark gender disparity on teams (the ownership data does not provide a gender breakdown for minorities), even among this self-selecting group of highly diverse firms.[20] As above, this section focuses on diverse representation in terms of AUM, which acts as a substitute for personnel count, as such data is unavailable at the product level. Figure 13 shows team gender representation by race and ethnicity using an AUM attribution method. The attribution is done as follows. For example, a firm with $100 million AUM, 4% Asian male representation, and 1% Asian female representation is attributed $4 million AUM to Asian men and $1 million to Asian women, resulting in 20% representation of women among the $5 million in Asian-managed AUM. Key findings include:

- Women manage 23% of the AUM in the sample.

- The Asian minority group is nearest to gender parity (though still not particularly close to it): Asian women manage 34% of the $0.64 trillion in Asian-managed AUM.

- The Black minority group is furthest from gender parity: Black women manage 11% of the $0.08 trillion in Black-managed AUM.

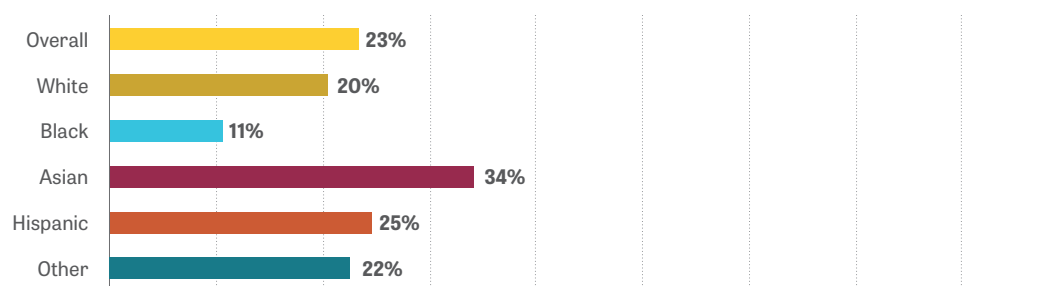**Figure 13.** Representation of Women on Teams, AUM Attribution Method

Figure 14 shows the representation of women on teams by firm ownership diversity under the AUM attribution method. Interestingly, the team gender disparity is the largest among firms that are minority-owned (i.e., firms with 50% or greater minority representation[21]), which account for 28% of the 204-firm sample. Women manage 11% of the AUM at minority-owned firms compared to 23% overall.

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20 The purpose of this report is to provide a comparison of the ownership and team metrics using the available data, not to size the market or to provide an industry-wide estimate of diverse representation.

21 A 50% or greater threshold is often used in diversity assessments, including previous KDAM studies. When this report refers to a firm as "diverse-owned" it means the firm has 50% or greater representation by women and/or minorities; "women-owned" means the firm has 50% or greater representation by women; "minority-owned" means the firm has 50% or greater representation by racial/ethnic minorities. Similarly, a "diverse team" means the team has 50% or greater representation by women and/or minorities.

Figure 14. Representation of Women on Teams, AUM Attribution Method, by Firm Ownership Diversity

Category	Percentage
Overall	23%
Diverse-Owned	30%
Non-Diverse-Owned	21%
Women-Owned	46%
Minority-Owned	11%
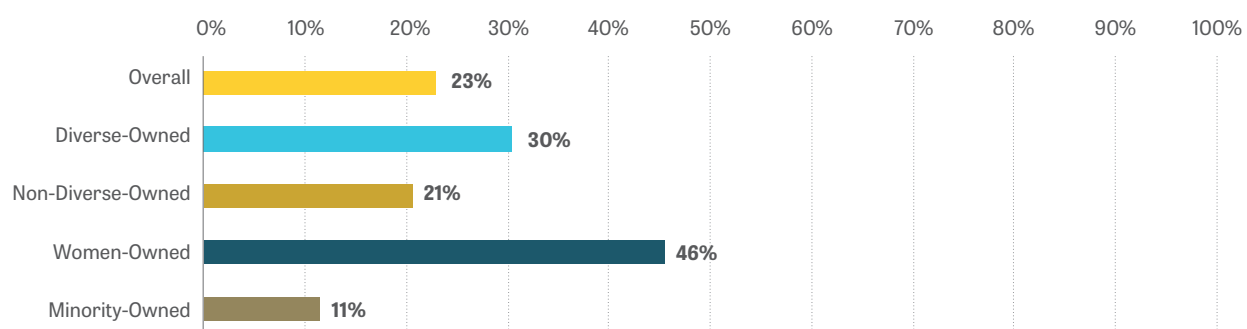
Conclusion

Diversity of ownership is the most widely available diversity metric in third-party data, and to date has been used in KDAM studies. Using newly released eVestment data on the racial, ethnic and gender composition of portfolio management teams, available for a sample of firms, we study the relationship between diversity of firms' ownership and diversity of the teams those firms employ.

 Key findings include:

1. There is a strong positive relationship between ownership diversity and team diversity.

2. Diverse representation is greater on teams than in ownership.

3. Women are vastly underrepresented on teams, within and across racial and ethnic groups.

In addition, over one-third of the firms in eVestment's voluntary ESG survey that were eligible for this study (i.e., non-public, U.S.-based firms with U.S.-based fund offices) did not provide data on either ownership or team diversity. More information is needed to understand why some firms completed the survey and others did not. Our analysis in Appendix A suggests firms that did not respond to the survey have lower diversity levels than those that responded.

We hope this report prompts continued discussion and action on the important issue of inequality in the asset management industry. Importantly, we hope it encourages greater levels of data collection and increased transparency around diversity. We applaud eVestment for their leadership in making this data available. To solve a problem, we first need to measure and understand it.

Appendix A: Data, Definitions and Selection

Data Source and Treatment

The diversity data is compiled from eVestment, a NASDAQ company that provides an industry dataset commonly used in academic research and in practice.[22] The eVestment data consists of firms investing in public market securities, such as stocks and bonds, through a variety of products like mutual funds and separately managed accounts. It also includes hedge funds.

This report is based on data as of November 18, 2021. eVestment data is self-reported and the data becomes more complete over time. The Q1 2021 data as of November 18, 2021, is slightly more complete than the data for Q2 2021 or Q3 2021. The firms that report in Q1 2021 and in later quarters report very similar responses to the Q1 2021 diversity survey, so the results in this study would not materially change if a more recent quarter had been used. Note, the survey is reset each quarter and does not automatically repopulate.

If firm and product AUM is missing for Q1 2021, we gather that data from adjacent quarters, whenever possible, and rely upon external research. For firm-level analyses for firms with multiple products and different team diversity measures, product-level team diversity is calculated as the product AUM-weighted average across all firm products.

Diversity Definitions

Our focus on firms and fund offices based in the United States is necessary to apply a clear definition of diversity—that is, we classify "minority" as it is typically defined from the perspective of the United States. "Minority" owners include racial and ethnic minorities. We use the term "diverse-owned" to refer to the broader group of women- and minority-owned firms.

eVestment provides a percentage breakdown of firm ownership by race and ethnicity—i.e., white, Hispanic, Black, Asian, and other (which includes Native American and others). For the white racial group, it also provides the breakdown by male and female. eVestment reports team diversity for a finer breakdown of race and ethnicity—i.e., in addition to the groupings for white, Hispanic, Black, Asian, and other, it also provides a distinct category for "Indigenous/Tribal People (domicile-specific)" and "Middle Eastern or North African." For the purposes of this analysis, to make the team groupings comparable to the ownership groupings, we group the latter two categories into the other category. eVestment also provides a distinct category for nonbinary gender, but since the values for that category are zero for the firms analyzed in this report, we only report results by male and female genders.

For certain categorical analyses in this study, we consider a firm to be women- or minority-owned if it has at least 50% diverse ownership; we consider a product to have a diverse team if it has at least 50% diverse portfolio management team representation.

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Diversity Data Completeness and Survey Selection

The full dataset includes a sample of 1,096 active, non-public, U.S.-based firms that manage 8,318 public equity, fixed income and hedge fund products. The sample excludes firms not traditionally held, such as Vanguard. The firms collectively hold $37.3 trillion in assets under management (AUM) and employ more than 59,000 people. Of this, 692 firms, which hold $14.1 trillion in AUM, voluntarily completed eVestment's ESG survey on ownership and/or team diversity; 204 firms, which hold $3 trillion in AUM, provided survey data for both metrics. Notably, 404 firms in the sample (37%) with $23.1 trillion in AUM (62%) did not provide data for either metric. Table A.1 provides a summary of the firms in the data by diversity metric reporting status.

Table A.1. Summary Firm Data by Level of Diversity Data Completeness

Ownership Diversity	Team Diversity	Number of Firms	%	Total Employees	%	Total AUM	%	Number of Products	%
Missing	Missing	404	37%	23,461	40%	$23,143,897	62%	3,038	40%
Available	Missing	381	35%	8,846	15%	$4,128,156	11%	1,986	26%
Missing	Available	107	10%	15,459	26%	$6,966,019	19%	1,080	14%
Available	Available	204	19%	11,300	19%	$3,041,209	8%	1,449	19%
Total		**1,096**	**100%**	**59,066**	**100%**	**$37,279,281**	**100%**	**7,553**	**100%**

Reporting to industry databases requires resources, so one potential source of bias from the selection procedure could be that larger, established firms are more likely to have a staff member available to respond to survey requests and report statistics to outlets such as eVestment. Another source of bias could be that firms with high diversity scores may be more willing to share that information while firms with lower diversity scores may be less inclined to do so. More information is needed to understand why some firms completed the survey and others did not. Our analysis finds suggestions of bias from the selection procedure, where reporting firms have higher levels of diversity than the average non-reporting firm.

First, the data shows that firms with missing diversity data are very different from firms that report it. Table A.2 compares the mean values for various statistics based on whether ownership and/or team diversity is reported. Relative to firms with missing ownership diversity, firms that report both measures of diversity are smaller, younger and have more team diversity. Relative to firms with available ownership diversity but missing team diversity, firms that report both measures are larger, younger and have more ownership diversity.

Table A.2. Summary Statistics Based on Whether Ownership and Team Diversity is Reported

	(1)	(2)	(3)	(4)
Ownership Diversity Data	Available	Available	Missing	Missing
Team Diversity Data	Available	Missing	Available	Missing
Number of Firms	204	381	107	404
Ownership Diversity	41.5%	19.6%	NA	NA
Team Diversity	46.7%	NA	27.5%	NA
Year Founded	1997.5	1994.7	1986.8	1997.1
% of Firm Owned by Employees	79.9%	78.5%	63.7%	74.0%
Share of Employees that are PMs	24.7%	28.5%	26.1%	28.6%
Total Product AUM	**$14.3 billion**	**$7.0 billion**	**$54.0 billion**	**$60.2 billion**

Second, the data suggests that team diversity for firms with missing ownership diversity data follows the same distributional pattern as team diversity for non-diverse-owned firms. Figure A.3 shows the distribution of team diversity for (1) diverse-owned firms, (2) firms with missing ownership diversity and (3) non-diverse-owned firms.[23]
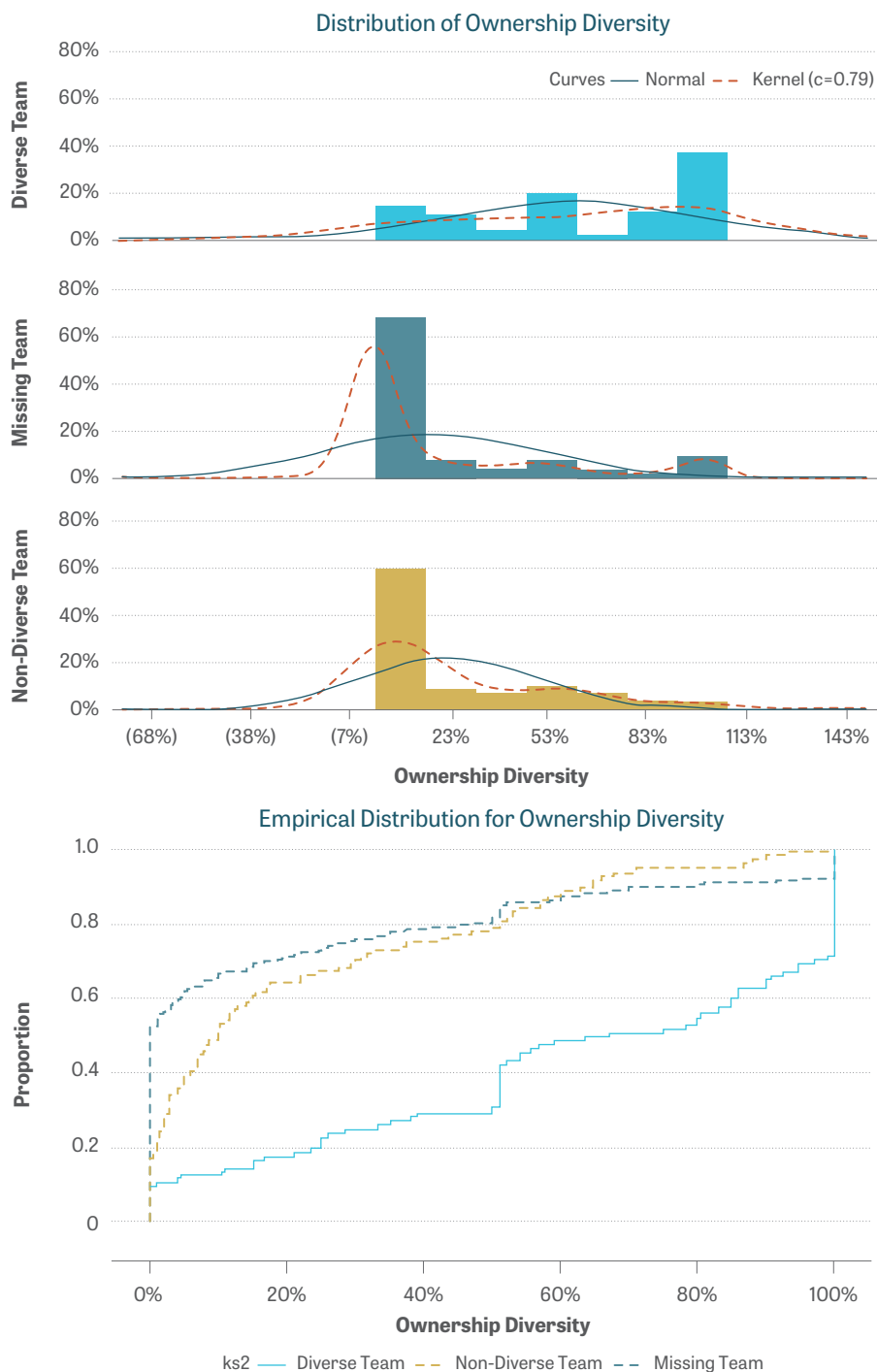
Figure A.3. Distributions of Team Diversity, by Ownership Diversity Status

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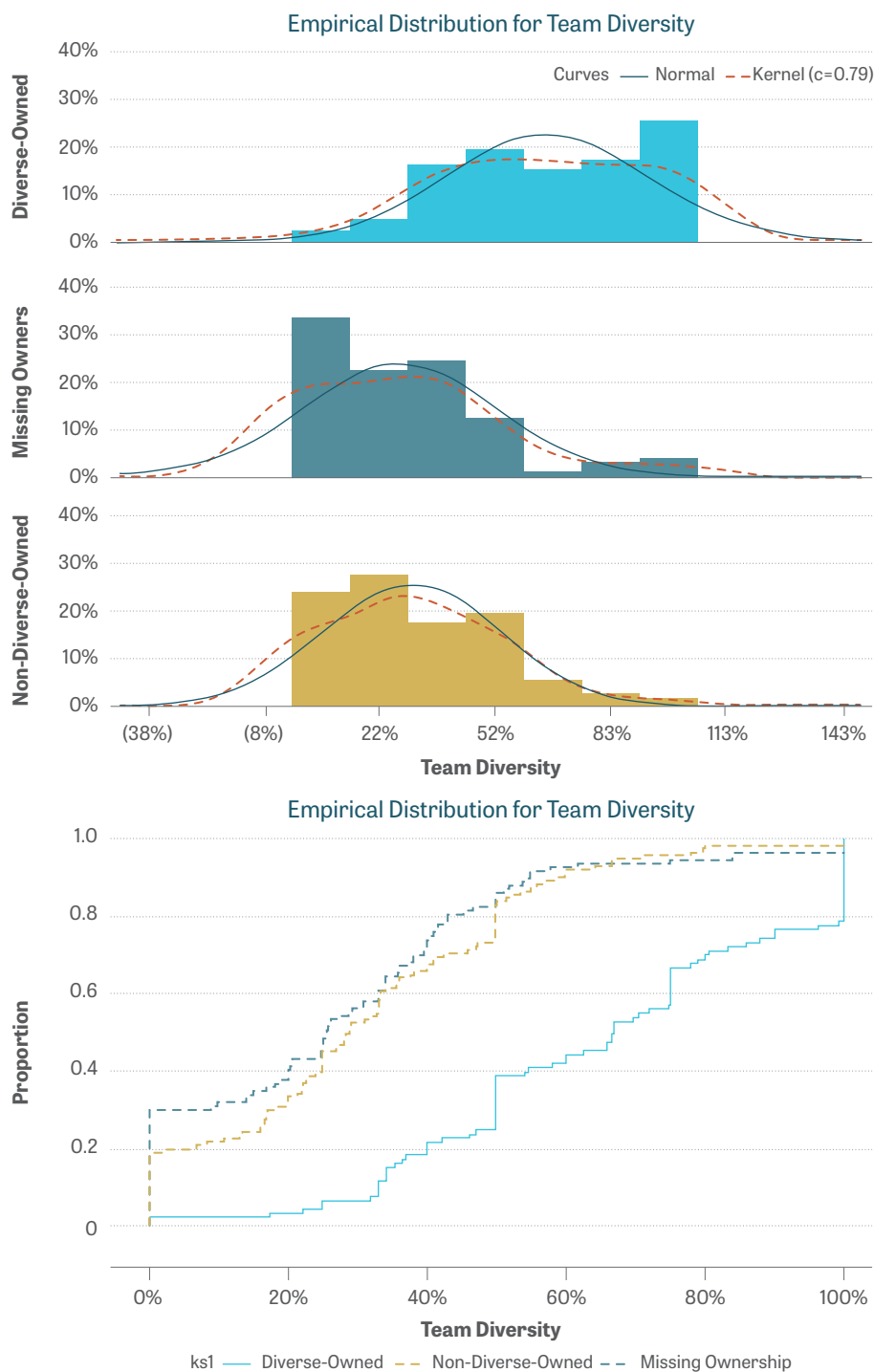
23 Note that under a Kolmogorov-Smirnov Two-Sample Test (Asymptotic), the null cannot be rejected the with Pr > KSa of 0.5975, indicating that the two samples follow the same distribution.

Likewise, the data suggests that ownership diversity for firms with missing team diversity data follows a similar distributional pattern as ownership diversity for firms with non-diverse teams. Figure A.4 shows the distribution of ownership diversity for (1) diverse teams, (2) missing team diversity and (3) non-diverse-owned teams.[24]

Figure A.4. Distributions of Ownership Diversity, by Team Diversity Status

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24 Note that under a Kolmogorov-Smirnov Two-Sample Test (Asymptotic), the null is rejected the with Pr > KSa of <0.001, indicating that the two samples do not come from the same distribution. However, the analysis shows that missing team diversity and non-diverse teams are more similar to each other than either is to the ownership distribution of diverse teams.

Third, from the information reported in Appendix B, we can also approximate the diversity of ownership for firms where the data is missing by noting that the effect of missing that data equals the effect of having an ownership diversity of -2.2% (-1.1%/49%), which is statistically indistinguishable from 0%. This is substantially below the average diversity of ownership for firms that reported both diversity of ownership and diversity of team (41.5%), supporting the conjecture that firms not reporting diversity data are less diverse.

Note that, even if the sample with available data is substantially different from the sample with missing data, the regression results will not be biased if the relationship between team diversity, ownership diversity and other controls are the same between the two samples. Appendix B reports a test of selection bias,[25] which provides evidence against selection bias impacting the regression application, suggesting that these relationships are the same as those found for the sample. However, the test for selection bias has low power, in the sense that it will fail to detect selection bias unless the bias is sufficiently large. Therefore, this result should be interpreted with caution.

The above statistical analysis helps to understand the diverse representation of firms that responded to the survey compared to firms that did not. Where applicable, we run a second version of our featured analyses on all 1,096 firms in the data after imputing diversity values where diversity data is missing, as provided in the footnotes to the results in the body of the report. The selection analysis suggests that firms that did not report to the survey tend to have relatively low levels of ownership and team diversity. Thus, the imputation method uses ownership and team diversity data when it is provided and assumes a value of 0% diversity when data is not provided, which results in a lower bound estimate of diverse representation within each metric.

Disclaimer

Global Economics Group does not take a position on what an appropriate level of diverse investment should be. The analysis described in this report simply provides a descriptive analysis of the contents of the eVestment dataset used in the analysis.

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25 Appendix B uses Heckman's selection correction, which finds that the correction does not materially change the estimated coefficients, and that the null hypothesis of no bias from selection cannot be rejected.

Appendix B: Regression Models and Results

This report considers more complex versions of the simple model provided in Figure 7. Table B.1 reports results of various versions of the regression of team diversity on ownership diversity.

- Model (1) is the simple regression using the sample with no missing diversity data and no additional covariate.

- Model (2) is the same regression, but it includes observations with missing ownership diversity data. A dummy variable indicates whether the observation has missing ownership diversity data, and the ownership diversity was set to zero for those observations.

- Model (3) adds a large number of additional controls to model (2). Note that some observations with missing values for the additional controls are dropped.

- Model (4) restricts the set of controls to those that have explanatory power once ownership diversity is controlled for. Note that there is strong correlation between AUM, the number of products and the number of employees, all of which measure the size of the firm. In principle, any one of these three variables could have been used in model (4). The choice to use total employees was driven by the fact that its statistical significance was more robust than the others over a range of alternative specifications.

- Model (5) adds Heckman's selection correction to model (4). It includes observations with missing ownership and/or team diversity. The selection equation (not shown) uses all of the controls present in model (3), which is a superset of the controls appearing in model (4) and in the team diversity equation in model (5).

For models (2) to (5), it is possible to start with the effect of having missing ownership data on the predicted level of team diversity, and to calculate the level of ownership diversity that would have an equivalent effect. This provides an estimate of ownership diversity for firms that are missing the data, which is shown in Table B.1. It ranges from -6.4% to 6.5%, depending on the specification, and is never statistically significantly different from 0.

Table B.1. Regression Results of Various Versions of the Regression of Team Diversity on Ownership Diversity

	(1) Simple model	(2) Including observations with missing ownership diversity	(3) All covariates	(4) Covariates with explanatory power	(5) Heckman Selection Correction
Sample	Available ownership and team diversity	Available team diversity	Available team diversity	Available team diversity	Full sample
Dependent variable	% Diverse team	% Diverse team	% Diverse team	% Diverse team	% Diverse team
Constant	0.240** (0.023)	0.240** (0.023)	-0.884 (1.843)	0.230** (0.034)	0.331** (0.058)
% Diverse ownership	0.547** (0.040)	0.547** (0.040)	0.451** (0.054)	0.489** (0.049)	0.416** (0.057)

	(1) Simple model	(2) Including observations with missing ownership diversity	(3) All covariates	(4) Covariates with explanatory power	(5) Heckman Selection Correction
Missing ownership diversity	-	0.035 (0.033)	-0.029 (0.038)	-0.011 (0.037)	-0.014 (0.036)
Share of employees that are owners	-	-	0.00376** (0.00138)	0.00286** (0.00105)	0.00240 (0.00170)
Number of employees	-	-	0.0002277** (0.0000775)	0.000123** (0.0000185)	0.0001019** (0.000022)
State = California	-	-	0.0365 (0.0465)	0.0457 (0.0440)	0.0484 (0.0442)
State = Colorado	-	-	0.1521 (0.1925)	0.2151 (0.1748)	0.2411 (0.1716)
State = Connecticut	-	-	0.0221 (0.0579)	0.0093 (0.0516)	-0.0043 (0.0542)
State = Florida	-	-	0.0266 (0.0860)	0.0011 (0.0827)	0.0261 (0.0816)
State = Georgia	-	-	-0.2055** (0.0451)	-0.2117** (0.0411)	-0.1849** (0.0492)
State = Illinois	-	-	0.0240 (0.0767)	0.0069 (0.0781)	0.0238 (0.0767)
State = Massachusetts	-	-	0.0103 (0.0621)	0.0270 (0.0611)	0.0384 (0.0592)
State = Minnesota	-	-	-0.1716* (0.0676)	-0.1958** (0.0636)	-0.2024** (0.0624)
State = New Jersey	-	-	0.0500 (0.0633)	0.0986 (0.0890)	0.0964 (0.0783)
State = New York	-	-	0.1105 (0.0600)	0.0895 (0.0571)	0.0955 (0.0560)
State = Ohio	-	-	-0.1902** (0.0435)	-0.2124** (0.0396)	-0.1987** (0.0477)
State = Pennsylvania	-	-	-0.1431 (0.0847)	-0.1261 (0.0766)	-0.1027 (0.0747)
State = Texas	-	-	-0.0286 (0.0695)	-0.0016 (0.0612)	0.0003 (0.0624)
State = Virginia	-	-	-.0529 (0.0977)	-0.0549 (0.0915)	-0.0418 (0.0921)
Year firm founded	-	-	0.00053 (0.00092)	-	-
Total product AUM	-	-	-1.06e-7 (1.3e-7)	-	-
Number of products	-	-	-0.00111 (0.00201)	-	-
% of firm owned by employees	-	-	0.00168 (0.04950)	-	-
Share of employees that are PMs	-	-	0.0509 (0.1049)	-	-
Legal structure = "#N/A"	-	-	0.2583* (0.1076)	-	-

	(1) Simple model	(2) Including observations with missing ownership diversity	(3) All covariates	(4) Covariates with explanatory power	(5) Heckman Selection Correction
Legal structure = "---"	-	-	0.0149 (0.0727)	-	-
Legal structure = Other	-	-	0.0673 (0.0991)	-	-
Legal structure = Partnership	-	-	0.0385 (0.1072)	-	-
Legal structure = Private LLC	-	-	0.0410 (0.0502)	-	-
Legal structure = Private LLP	-	-	0.2141 (0.1205)	-	-
Legal structure = Private limited partnership	-	-	0.1281 (0.0673)	-	-
Legal structure = Private S-type corporation	-	-	0.0016 (0.0620)	-	-
Heckman's Lambda	-	-	-	-	-0.106 (0.040)
R2	0.462	0.399	0.513	0.477	-
Implied average % ownership diversity for firms with missing ownership diversity	-	0.065 (0.59)	-0.064 (0.087)	-0.022 (0.077)	-0.033 (0.089)

Notes: Heteroskedasticity-robust standard errors reported in parentheses; *Significant at the 5% level; **Significant at the 1% level; the Heckman selection correction is estimated using maximum likelihood, but the coefficients are similar if the two-step method is used instead.

Table B.2 shows the estimated effect of each control variable on team diversity based on the preferred version of the model, which is model (4) in Table B.1. The regression is described by the following equation:

$$Team\ Diversity = 0.23 + 0.49 * OwnershipDiversity$$
$$-0.011 * MissingOwnershipDiversity + 0.003 * EmployeeOwnerShare$$
$$+0.0001 * NumberOfEmployees + \sum \beta_{-State} * I_{-State}.$$

Regressing team diversity on ownership diversity suggests that (1) a baseline team diversity level of 23%, for a firms with zero ownership diversity, zero employee owners, zero AUM, and a domiciled state of "other" and (2) for every one percentage point increase in ownership diversity, team diversity increases by 0.49 percentage points above the baseline. Additionally, a firm for which we do not have ownership diversity data (but is otherwise a baseline firm) has 1.1 percentage point lower team diversity relative to the baseline firm with zero ownership diversity. Thus, the team diversity of a firm that does not report ownership diversity is approximately that of an equivalent firm with no ownership diversity. For every percentage point increase in the share of employees that are owners, there is a 0.003 percentage point increase in team diversity. For each additional employee, there is a 0.0001 percentage point increase in team diversity.

Table B.2. Model Results and Coefficient Interpretation

	Effect on Team Diversity
Constant	23% for a firm with zero ownership diversity, zero employee owners, zero AUM and a domiciled state of "other"
Ownership diversity	+0.49 percentage points per 1 percentage point increase in ownership diversity
Missing ownership diversity	-1.1 percentage points relative to zero ownership diversity
Share of employees that are owners	+0.003 percentage points per 1 percentage point increase in the share of employees that are owners
Number of employees	+0.0001 percentage points per additional employee
Domiciled state	Included in the estimation, but not shown in this table

Note: The model includes domiciled state effects for all states with observations for at least 25 firms in the full dataset: California, Colorado, Connecticut, Florida, Georgia, Illinois, Massachusetts, Minnesota, New Jersey, New York, Ohio, Pennsylvania, Texas, and Virginia. All other states are classified as "other."

From the information in the Table B.2, we can also approximate the diversity of ownership for firms where the data is missing by noting that the effect of missing that data equals the effect of having an ownership diversity of -2.2% (-1.1%/49%), which is statistically indistinguishable from 0%. In other words, a firm that does not report ownership diversity has on average the same level of team diversity as an otherwise equivalent firm with 0% ownership diversity. This result is substantially below the average ownership diversity for firms that reported both metrics, 41.5%, supporting the conjecture that firms not reporting diversity data are less diverse.