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Vanguard research | Research brief | June 2022

Gender diversity and U.S. active equity fund performance

It is commonly understood that the investment organizations best positioned for success are those that exhibit strength in their philosophies and processes and whose portfolio teams emphasize both individual ability and diversity of thought. One aspect of diversity, the gender balance of an investment team, generally has gotten less attention as a potential driver of performance.

A recent Vanguard research study, *Diversity Matters: The Role of Gender Diversity on US Active Equity Fund Performance*, suggests gender diversity merits greater consideration by the asset management industry.[1] The research finds that U.S. active equity funds with gender-balanced investment teams tend to outperform those with teams that are all-male or all-female.

After controlling for fund characteristics and other diversity factors, such as quality of education, our analysis finds a correlation of mixed-gender investment teams with as much as a 38.9-basis-point improvement in fund performance over single-gender teams.[2] (A basis point is one-hundredth of a percentage point.)

The study advances work on the role of gender in investment management by other researchers, who have arrived at varied conclusions. Baer, Niessen-Ruenzi, and Ruenzi (2009) find that "informational diversity" (education and tenure) affects fund performance more than "social diversity" (gender and age). Others, including Atkinson, Boyce Baird, and Frye (2003), and Babalos, Caporale, and Philippas (2015), find no evidence of differentiated performance based on gender. Lu, Naik, and Teo (2021) find higher performance among hedge funds with gender-diverse management teams.

Looking beyond named portfolio managers

To test whether gender diversity could be an indicator of fund performance, we determined it was necessary to look beyond the typical diversity statistics reported by asset managers or available in fund prospectuses. Not all asset managers report diversity statistics, and prospectuses offer details on named portfolio managers only.

Our research started with an analysis of biographical data compiled by eVestment, LLC, a third-party provider of fund information used for manager selection and screening purposes. From a universe of about 3,600 U.S. active equity funds, we found sufficient biographical data for 33,600 individuals serving on the investment teams of 2,669 funds from January 2008 through September 2021. The individuals on the teams include not only named portfolio managers but all investment professionals who help shape investment decisions, such as research analysts, traders, and assistant portfolio managers.

1 Available at SSRN: https://ssrn.com/abstract=4081494.

2 Mixed-gender teams are any that include at least one male and one female.

Notably, women are significantly underrepresented on the investment teams compared with their share of the total population. According to the data, women made up only about 1 in every 7 investment professionals working on U.S. active equity funds from 2008 to 2021. Other recent research indicates that among named portfolio managers, only about 1 of every 10 is a woman.[3]

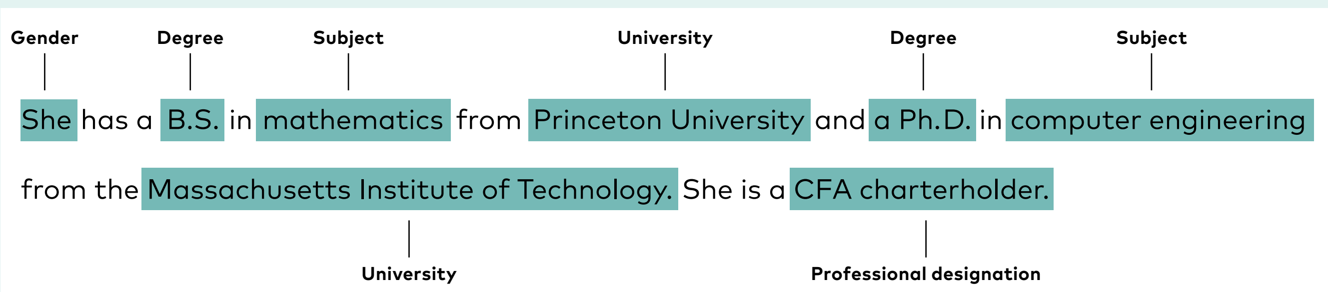
Measuring gender diversity

To measure the gender diversity of the investment teams, we used natural language processing (NLP), a form of machine learning applied to the analysis of text. Our NLP algorithms enabled us to extract specific insights from the text. For example, pronouns were an indicator of whether investment professionals were male or female.[4]

The algorithms also looked for indicators of education level, university (which in turn helps us identify individuals educated in other countries), professional designations, and subject matter expertise. Our regression analysis controlled for several other related factors including fund size, team size, firm size, number of holdings, and manager turnover.

Mining biographies for demographic information

Using natural language processing, algorithms search raw text for indicators of gender, educational background, and other traits, as shown in this illustration.



Source: Vanguard.

3 See Carr, Ellen, and Katrina Dudley, *Undiversified: The Big Gender Short in Investment Management* (New York: Columbia Business School Publishing, 2021). The authors cite multiple sources, including a 2015 Morningstar report, which estimated 9.41% of portfolio managers were female, and a 2019 Citywire report, which estimated 10.8%.

4 While the possibility of nonbinary gender was considered, there were no instances in the data where pronouns other than he/him/his or she/her/hers were used.

How performance varied by gender mix

As of November 2021, we found that more than half of all the investment teams in our analysis were all-male while only 2% were all-female. The remaining teams, about 41%, were mixed gender.

We took monthly snapshots of the characteristics of each fund team, then observed the fund's subsequent 12-month returns, cross-referenced by gender diversity and other characteristics such as education and international experience.

We considered educational diversity a reasonable proxy for diversity of thought because people who have studied different programs at different institutions will likely bring different knowledge and perspective to the team.

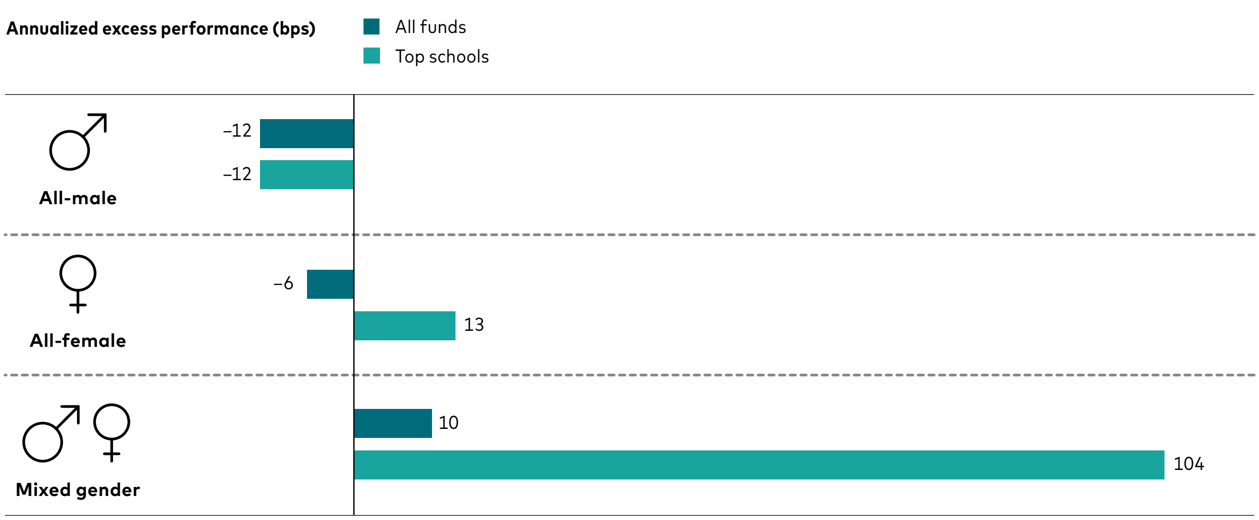
International experience gives us a loose proxy of cultural diversity. We do not expect that everybody who studies outside the U.S. identifies with a different culture—nor do we expect to ignore the cultural diversity that exists within the population educated solely in the U.S. However, international education does expose people to a broader set of cultures, which may further increase diversity of thought.

Based on returns, funds with gender-diverse teams tended to shine. Funds managed by single-gender teams underperformed their benchmarks by 12 basis points (bps) on average while funds managed by mixed-gender teams outperformed their benchmarks by an average of 10 bps.

All-male teams produced the weakest performance, and the small number of all-female teams also fell short of their benchmarks. Mixed-gender teams performed markedly better.

There was a notable increase for all-female teams whose investment professionals had mostly graduated from Ivy League universities.[5] A similar effect was not evident for all-male teams. Performance was strongest for mixed-gender teams with at least half of the team being graduates of top schools.

Mixed-gender teams outperform



Notes: Top schools are defined as teams with a majority of members graduating from Ivy League universities. Mixed-gender teams are any that include at least one male and one female.

Source: Vanguard.

5 We used Ivy League universities as a proxy for top schools because they are a clearly defined list of universities with high-performing graduates. We also ran the analysis with other measures of high-quality education and obtained similar results.

Through regression analysis, we calculated that investment teams that were 50% women and 50% men were associated with an average net increase of 23.5 bps in excess returns over all-male investment teams—after controlling for fund and investment characteristics.

When we also consider other dimensions of diversity and education quality, the role that gender diversity plays becomes even clearer. Altogether, we saw a 38.9-bp improvement in performance for funds with mixed-gender teams after controlling for fund and investment characteristics as well as education and other dimensions of diversity.

Implications for the investment industry

Our research indicates gender diversity has the potential to meaningfully impact fund performance. The best-performing teams in our study tended to have a significant representation of highly qualified individuals of different genders. In essence, maximizing gender diversity may offer investment performance benefits, even among otherwise well-qualified, well-trained, diversely experienced investment teams.

While we also see quality and diversity of education as strong indicators of fund outperformance, these factors alone cannot explain the unique benefit that gender diversity brings to a team. With women comprising only about 1 in 7 U.S. active equity investment professionals, the study serves as a reminder that gender-diverse teams can bring performance benefits that currently are unrealized. Our findings add perspective to industrywide discussions about the role of diversity in investment management.

We've already extended the research beyond U.S. equities and find similar results in actively managed global equities. Further research could show how this applies to other asset classes and whether the amount of alpha, or excess return, an investment team generates is a reflection to some degree of gender attitudes toward risk.

Other potential research topics using this methodology could include the role of seniority and its intersection with diversity on investment teams, the role of manager tenure, and the turnover (or lack thereof) of underrepresented groups on the team.

References

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ISGDIV 062022