

1Q21

TOPICS OF
INTEREST

Verus⁷⁷⁷®

Is there alpha available from emerging and diverse managers?

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Introduction

While discussion on the alpha-generating ability of emerging and diverse managers has been part of institutional conversation for decades, the use of emerging and diverse managers has become a mainstay of industry conferences and in many Board meetings more recently. This paper explores the alpha-generating ability of emerging and diverse firms across asset classes and structures. Verus has prioritized manager research on emerging and diverse firms for several years now and believes in the importance of harnessing alpha wherever possible. Despite the meaningful dollars in absolute terms in institutional plans and designated programs, Verus recognizes that emerging and diverse managers remain underutilized areas from which to find talent.

Emerging and diverse managers and associated manager programs comprise meaningful assets under management in the institutional marketplace. As of January 2021, there was \$23 billion in emerging and diverse manager public fund programs in the U.S. which comprised 425 total mandates. Of these, there were 46 total participating plans with 146 total unique managers as of this date. These assets can further be subdivided into emerging and diverse direct programs (73 mandates with \$10 billion) and manager-of-manager programs (352 mandates with \$13 billion). Emerging and diverse manager programs have evolved from primarily U.S. equity mandates through manager-of-manager programs at the industry's infancy in the 1980s and early 1990s to a notable expansion in direct programs across asset classes in recent years.

However, assets allocated to emerging and diverse firms are still very small as a percentage of overall institutional assets. Emerging managers with total assets of \$3 billion or less in eVestment Alliance as of 9/30/20 comprised 39 percent of the total manager universe in number but only about one percent in terms of assets under management. Dozens of industry studies have been published since emerging and diverse programs have been in place. More recent industry studies have tended to disaggregate diverse statistics in their results. Diverse-owned asset management firms managed only 1.3% of the \$69 trillion asset management industry as noted in the 2019 comprehensive study commissioned by the John S. and James L. Knight Foundation. For the most part, the results of emerging and diverse research studies show that these areas offer at least an equivalent level of alpha potential as larger and non-diverse firms. However, the percentage of assets managed for institutions has remained stubbornly low.

Performance analysis

Verus ran internal return analysis across traditional asset classes over rolling time periods to attempt to ascertain the alpha-generating potential of emerging and diverse managers. We used rolling time periods to minimize time period dependency. The minimum observations in a data set for inclusion was 20 for greater statistical significance. Where possible, we included inactive products in universes to reduce survivorship bias. For public markets, emerging was defined as less than or equal to \$3 billion in total firm assets with an additional product cut off of \$250 million specific to small cap. Absolute return emerging funds were defined as less than \$1 billion in total assets. Diverse firms across universes that we analyzed internally were defined as firms with greater than or equal to 33% owned by minorities and/or women. Using these criteria, we then reviewed the emerging and diverse manager universe data to gauge alpha compared to their respective style groups.

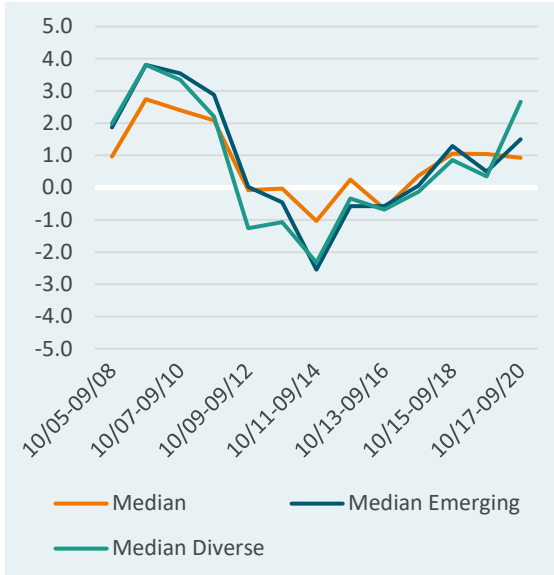
The results are shown in the graphs below with underlying data provided in Appendix 1. Generally speaking, our analysis reaffirmed what many other industry studies have determined: that there is no evidence that investing in emerging and diverse firms results in noticeably different alpha expectations from those generated from investing with larger and non-diverse firms. This makes it clear to us that the search for alpha, especially in a low expected return environment, should include active due diligence on emerging and diverse firms.

US EQUITY

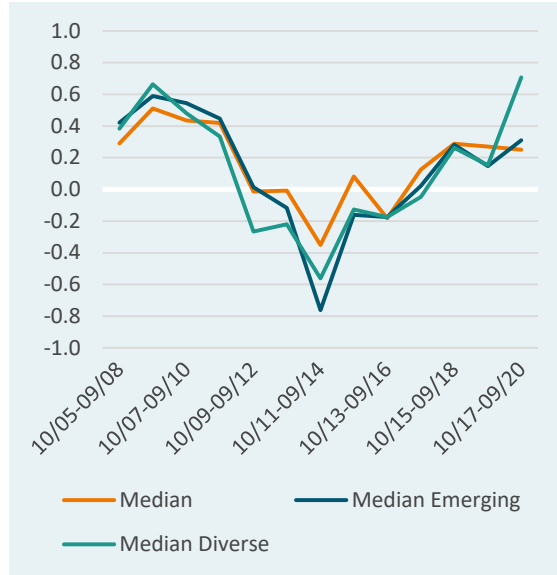
Active management in US large cap equity has been challenging in recent years. A comparison of emerging and diverse US large cap managers reflects this trend. Looking at rolling 3-year excess returns, one can see that the passive alternative has been a difficult hurdle in multiple time periods. Negative risk-adjusted returns, as shown by information ratios, reflect this trend as well. However, it is important to note that there are competitive active managers within these universes even though median results have been subpar.

An interesting finding in our US large equity analysis is that the number of active managers in the universes has dropped fairly dramatically over the last decade as alpha has been fleeting and assets have flowed to passive mandates.

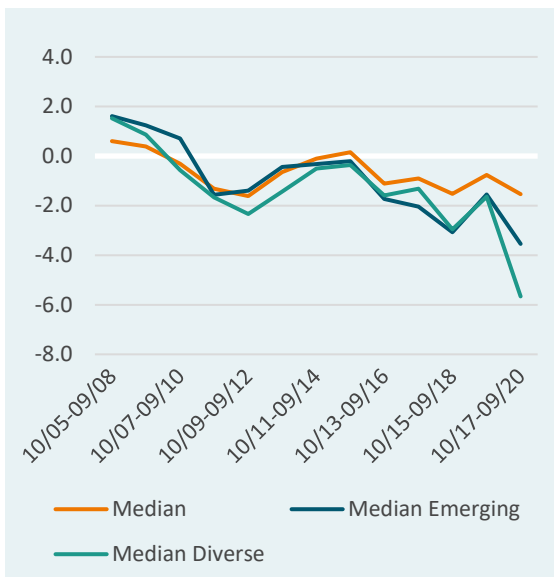
LARGE VALUE-ROLLING EXCESS RETURNS V RUSSELL 1000 VALUE



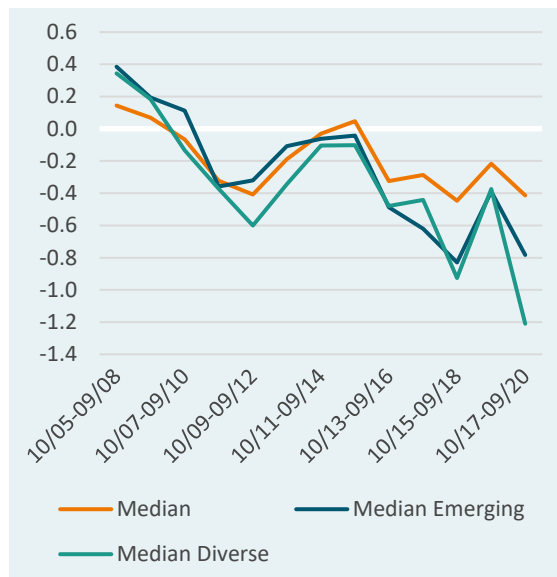
LARGE VALUE-ROLLING INFORMATION RATIOS V RUSSELL 1000 VALUE



LARGE GROWTH-ROLLING EXCESS RETURNS V RUSSELL 1000 GROWTH



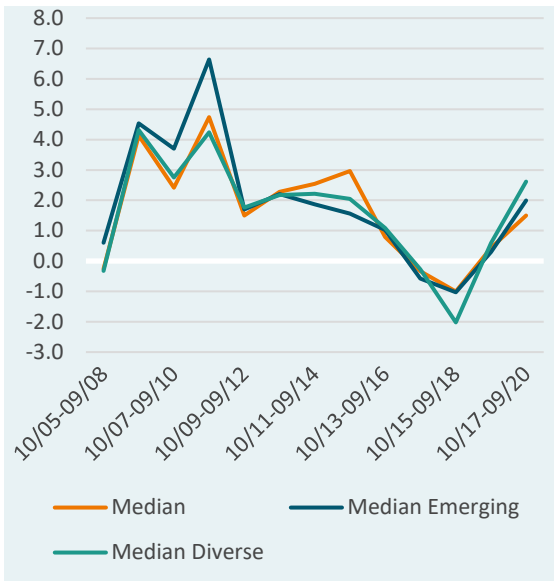
LARGE GROWTH-ROLLING INFORMATION RATIOS V RUSSELL 1000 GROWTH



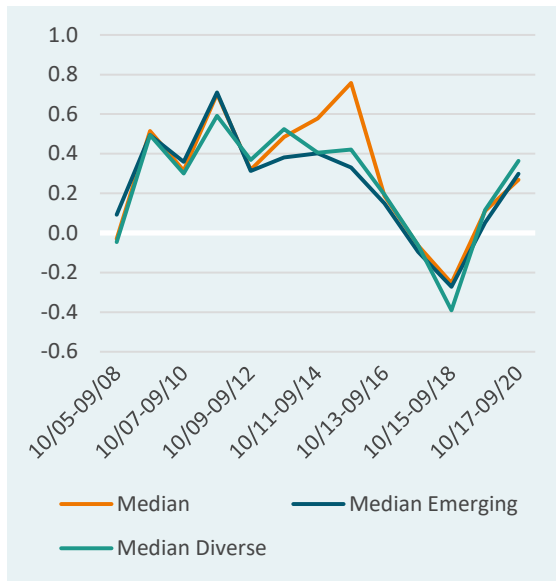
Small cap is a more inefficient asset class, and active management has generally outperformed the passive alternative. Within small cap value, results were comparable over

time, whereas within small cap growth, the diverse subset outperformed the emerging subset over most rolling periods. Risk-adjusted returns, as measured by information ratios, were similar across style subsets. All in all, our analysis indicates that alpha may be able to be accessed through investing in competitive emerging and diverse managers.

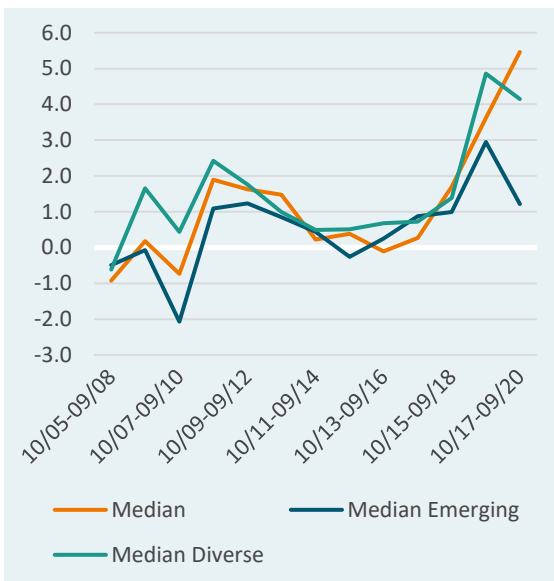
SMALL VALUE-ROLLING EXCESS RETURNS V RUSSELL 2000 VALUE



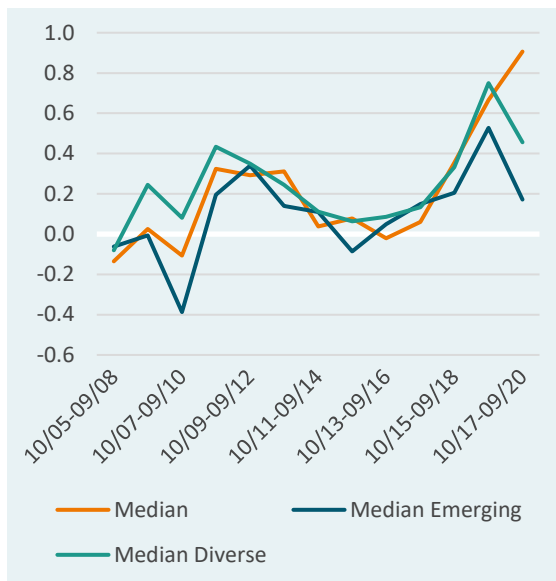
SMALL VALUE-ROLLING INFORMATION RATIOS V RUSSELL 2000 VALUE



SMALL GROWTH-ROLLING EXCESS RETURNS V RUSSELL 2000 GROWTH



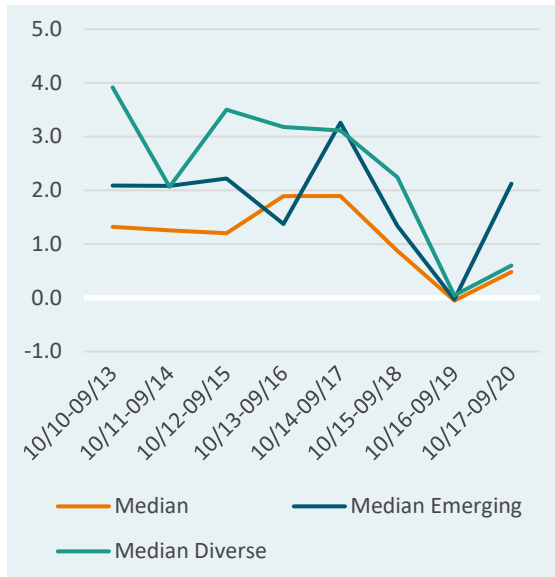
SMALL GROWTH-ROLLING INFORMATION RATIOS V RUSSELL 2000 GROWTH



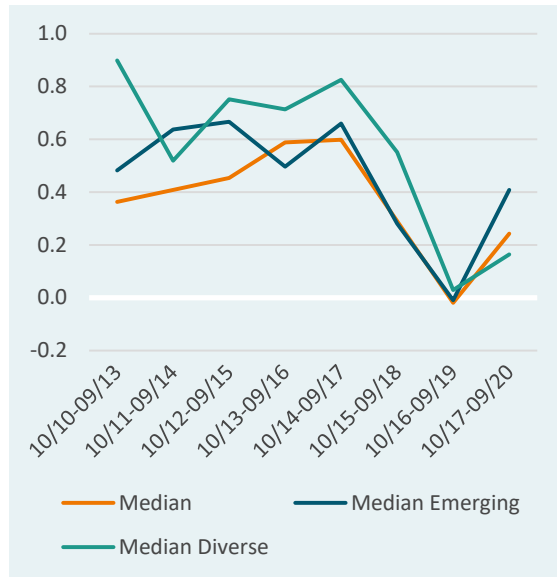
INTERNATIONAL EQUITY

International equity is another asset class that is more inefficient and where Verus believes it is easier for active managers to generate alpha. Both emerging and diverse EAFE (developed) and ACWI ex-US (developed plus emerging markets) manager subgroups had strong performance over most rolling three-year periods, and risk-adjusted returns were also strong.

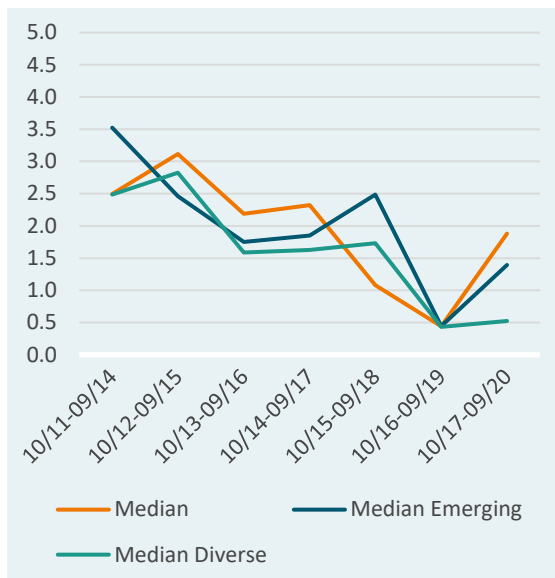
DEVELOPED INTL-ROLLING EXCESS RETURNS V EAFE



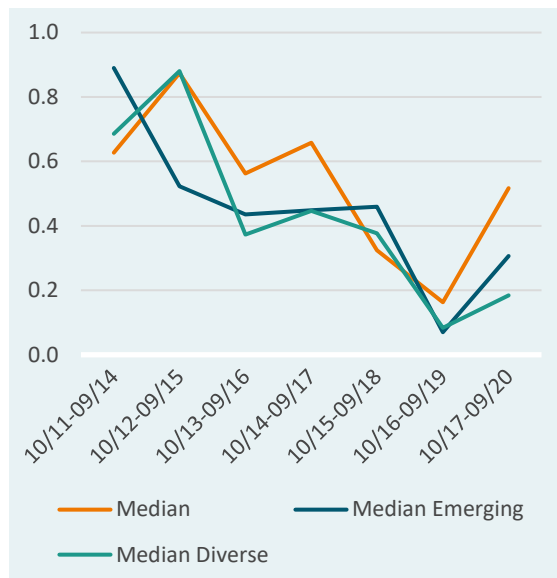
DEVELOPED INTL-ROLLING INFORMATION RATIOS V EAFE



DEVELOPED+EM-ROLLING EXCESS RETURNS V ACWI EX-US



DEVELOPED+EM-ROLLING INFORMATION RATIOS V ACWI EX-US

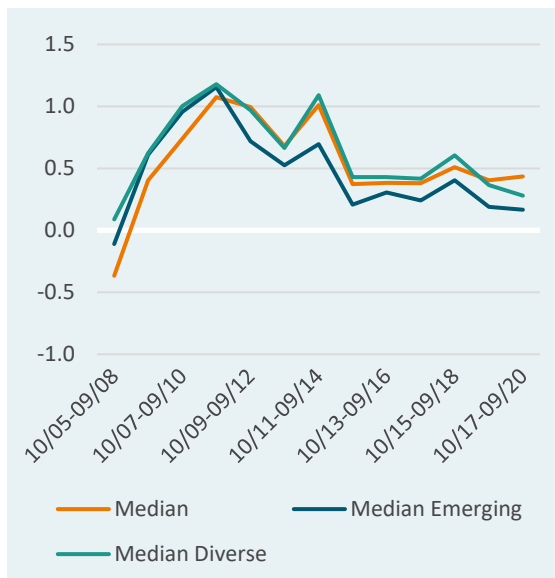


The universe of emerging and diverse managers in these strategies has grown over the years, and, not surprisingly, plan sponsors have increased their allocations to emerging and diverse programs in this asset class.

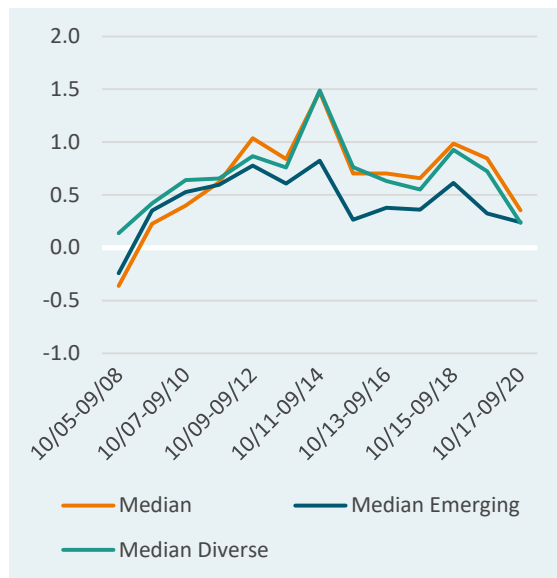
FIXED INCOME

Analysis on the core bond manager universe and its emerging and diverse subsets showed excess returns to be fairly similar across the three core bond universes over time. However, the data suggest a slight advantage for diverse firms over emerging (smaller) firms looking at historical rolling three-year periods.

CORE BOND-ROLLING EXCESS RETURNS V BB AGG



CORE BOND-ROLLING INFORMATION RATIOS V BB AGG



ADDITIONAL ASSET CLASSES

Emerging and diverse firms manage strategies across asset class styles, market capitalizations, sectors and countries. A number of these universe subsets lacked enough observations for statistically significant analysis for the purposes of this study. Our broad review did show, however, that there are competitive managers, both emerging and diverse, across asset classes. For example, while private markets databases do not adequately allow for performance comparison between emerging and diverse managers and the broader universe, we found one well researched study of Vintage 2004-2016 Private Equity funds which found: (a) “no evidence of differential performance on average” between diverse managers and the broader universe, and (b) a number of top-performing diverse-owned funds (33% of women-owned funds and 20% of minority-owned funds) that were ranked in the top quartile. Appendix 1 includes additional asset class statistics for Emerging Markets Equity and Absolute Return which had sufficient observations for inclusion in our internal analysis.

Size analysis

Dedicated emerging and diverse manager programs typically use a \$2 billion maximum firm size cut off in the public markets and, in addition, contain graduation policies that can result in termination solely due to a manager's asset growth. A subset of emerging and diverse programs for public markets mandates have a slightly higher \$3 billion firm asset maximum at purchase. Statutes are another defining element of programs with Illinois having the highest maximum asset cut off at purchase of \$10 billion under management. Verus' size analysis included a comparison of all public markets' universes included in our study. (Absolute return was excluded from this analysis due to the broad heterogeneity of the universe.)

Total AUM Size Ranges as of 9/30/20 (\$MM)	Lg Value universe: Total firm AUM	Lg Value Emerging Mgrs: Total firm AUM	Lg Value Diverse Mgrs: Total firm AUM	Lg Growth universe: Total firm AUM	Lg Growth Emerging Mgrs: Total firm AUM	Lg Growth Diverse Mgrs: Total firm AUM	Sm Value universe: Total firm AUM	Sm Value Emerging Mgrs: Total firm AUM	Sm Value Diverse Mgrs: Total firm AUM	Sm Growth universe: Total firm AUM	Sm Growth Emerging Mgrs: Total firm AUM	Sm Growth Diverse Mgrs: Total firm AUM
25th percentile	\$68,528	\$1,678	\$3,399	\$96,674	\$1,799	\$7,235	\$61,714	\$1,112	\$2,922	\$90,855	\$1,602	\$4,136
Median	\$9,882	\$884	\$746	\$11,829	\$1,243	\$2,654	\$7,219	\$508	\$914	\$9,804	\$639	\$1,472
75th percentile	\$2,329	\$307	\$157	\$2,393	\$570	\$599	\$1,026	\$147	\$448	\$1,951	\$154	\$251

Total AUM Size Ranges as of 9/30/20 (\$MM)	Intl Developed (EAFE) universe: Total firm AUM	EAFE Emerging Mgrs: Total firm AUM	EAFE Diverse Mgrs: Total firm AUM	Intl Developed plus Emerging (ACWI ex-US) universe: Total firm AUM	ACWI ex-US Emerging Mgrs: Total firm AUM	ACWI ex-US Diverse Mgrs: Total firm AUM	Emerging Mkts Equity universe: Total firm AUM	Emerging Mkts Equity Emerging Mgrs: Total firm AUM	Emerging Mkts Equity Diverse Mgrs: Total firm AUM	Core Bond universe: Total firm AUM	Core Bond Emerging Mgrs: Total firm AUM	Core Bond Diverse Mgrs: Total firm AUM
25th percentile	\$120,491	\$1,759	\$5,707	\$131,396	\$1,759	\$13,442	\$132,662	\$1,678	\$14,371	\$170,232	\$2,159	\$14,557
Median	\$21,020	\$746	\$1,364	\$22,283	\$746	\$1,796	\$31,783	\$777	\$2,477	\$22,089	\$1,243	\$5,201
75th percentile	\$4,162	\$365	\$381	\$2,939	\$365	\$337	\$5,502	\$434	\$557	\$7,165	\$783	\$2,232

A few data points were notable. First, the data aligns with industry findings that diverse firms manage magnitudes less, on average, than non-diverse firms. Second, in most universes the diverse subsets had higher median and upper quartile assets under management than their corresponding emerging universes. The median size of the diverse core bond universe was notably higher than that of the emerging universe in our analysis and contains diverse managers that have grown over time, some exponentially. These findings are noteworthy because the typical maximum purchase size for emerging and diverse programs (\$2 billion) appears to be very low compared to the smaller end of the universes we measured. In many of the universes, assets at the 75th percentile of the broad universe would be considered too big for inclusion in emerging and diverse programs. The analysis points to the importance of reviewing program Investment Policy Statements regularly and raising asset levels as appropriate so as not to be unusually restrictive.

Other considerations

Verus has integrated our emerging and diverse manager research into our broader firm research process and, unless designated by the client, we consider emerging and diverse firms as part and parcel of our due diligence process as opposed to a separate endeavor.

This is critical in our effort to find alpha-generating managers that can add value to client portfolios. Casting a wider net and looking for alpha proactively becomes even more important in a low return environment. Verus' manager due diligence process is consistently applied using a "vowel" approach – looking for alignment, edge, consistent implementation, optimal risk management and understandable performance in its manager selection. Specific to our emerging and diverse research, we are working towards finding managers to approve for institutional use across all asset classes using this research methodology.

Size and flexibility at generally lower asset levels is an often-quoted attribute of emerging and diverse managers as well as employee ownership providing "skin in the game" and direct financial incentives. These are intuitive value add propositions. (Of course, these positive traits must be vetted alongside the potential negatives of business risk and key man risk as part of the due diligence process.) Other alpha-generating dynamics of emerging and diverse managers are less tangible but still quite relevant. Verus believes in the positive impact of diverse teams whereby cognitive diversity can lead to better decision-making through considering different perspectives. Our due diligence on emerging and diverse managers has expanded to consider diverse teams, and we are working with eVestment Alliance to expand their data on product teams from a diversity standpoint. We believe that enhanced outcomes can result from a combination of considering diversity at the firm and team levels in addition to the benefits of cognitive diversity.

Conclusion

Verus' findings align with most industry studies on emerging and diverse firms and generally support the idea that the alpha generating ability of emerging and diverse managers is at least no different from that of other managers in the universe, and may provide a broadening of the opportunity set of skilled managers available for selection. This, therefore, suggests that efforts to include underrepresented managers in searches may be in the interest of the investor and warrants due diligence in the broader search for alpha. A number of plans have recognized this fact and have maintained and evolved their emerging and diverse programs and, more recently, have made sincere attempts at expanding usage across the broader portfolio. A subset of diverse managers has been rightly recognized with subsequent asset growth as these managers has performed for their clients. Verus, as part of its ongoing pursuit of alpha for clients, will continue to expand its emerging and diverse manager roster in order to increase exposure to an underutilized talent source.

Appendix 1-Verus asset class data (source: eVestment Alliance)

LV Excess Returns	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	1.0	2.7	2.4	2.1	-0.1	0.0	-1.0	0.3	-0.7	0.4	1.1	1.0	0.9
Median Emerging	1.9	3.8	3.5	2.9	0.0	-0.5	-2.5	-0.6	-0.6	0.1	1.3	0.5	1.5
Median Diverse	2.0	3.8	3.3	2.2	-1.3	-1.1	-2.3	-0.3	-0.7	-0.1	0.9	0.3	2.7

LV Information Ratios	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	0.3	0.5	0.4	0.4	0.0	0.0	-0.4	0.1	-0.2	0.1	0.3	0.3	0.2
Median Emerging	0.4	0.6	0.5	0.4	0.0	-0.1	-0.8	-0.2	-0.2	0.0	0.3	0.1	0.3
Median Diverse	0.4	0.7	0.5	0.3	-0.3	-0.2	-0.6	-0.1	-0.2	0.0	0.3	0.2	0.7

LG Excess Returns	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	0.6	0.4	-0.3	-1.3	-1.6	-0.7	-0.1	0.2	-1.1	-0.9	-1.5	-0.8	-1.5
Median Emerging	1.6	1.2	0.7	-1.6	-1.4	-0.4	-0.3	-0.2	-1.7	-2.0	-3.1	-1.6	-3.5
Median Diverse	1.5	0.9	-0.6	-1.7	-2.3	-1.4	-0.5	-0.4	-1.6	-1.3	-3.0	-1.6	-5.7

LG Information Ratios	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	0.1	0.1	-0.1	-0.3	-0.4	-0.2	0.0	0.0	-0.3	-0.3	-0.4	-0.2	-0.4
Median Emerging	0.4	0.2	0.1	-0.4	-0.3	-0.1	-0.1	0.0	-0.5	-0.6	-0.8	-0.4	-0.8
Median Diverse	0.3	0.2	-0.1	-0.4	-0.6	-0.3	-0.1	-0.1	-0.5	-0.4	-0.9	-0.4	-1.2

SV Excess Returns	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	-0.3	4.1	2.4	4.7	1.5	2.3	2.5	3.0	0.8	-0.3	-1.0	0.4	1.5
Median Emerging	0.6	4.5	3.7	6.6	1.7	2.2	1.9	1.6	1.0	-0.6	-1.0	0.3	2.0
Median Diverse	-0.3	4.3	2.7	4.2	1.8	2.2	2.2	2.0	1.1	-0.3	-2.0	0.6	2.6

SV Information Ratios	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	0.0	0.5	0.3	0.7	0.3	0.5	0.6	0.8	0.2	-0.1	-0.3	0.1	0.3
Median Emerging	0.1	0.5	0.4	0.7	0.3	0.4	0.4	0.3	0.1	-0.1	-0.3	0.1	0.3
Median Diverse	0.0	0.5	0.3	0.6	0.4	0.5	0.4	0.4	0.2	-0.1	-0.4	0.1	0.4

SG Excess Returns	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	-0.9	0.2	-0.7	1.9	1.6	1.5	0.2	0.4	-0.1	0.3	1.7	3.6	5.5
Median Emerging	-0.5	-0.1	-2.1	1.1	1.2	0.8	0.4	-0.3	0.3	0.9	1.0	2.9	1.2
Median Diverse	-0.6	1.7	0.4	2.4	1.8	1.0	0.5	0.5	0.7	0.7	1.4	4.9	4.1

SG Information Ratios	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	-0.1	0.0	-0.1	0.3	0.3	0.3	0.0	0.1	0.0	0.1	0.4	0.7	0.9
Median Emerging	-0.1	0.0	-0.4	0.2	0.3	0.1	0.1	-0.1	0.0	0.1	0.2	0.5	0.2
Median Diverse	-0.1	0.2	0.1	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.3	0.7	0.5

EAFE Excess Returns	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	1.3	1.3	1.2	1.9	1.9	0.9	-0.1	0.5
Median Emerging	2.1	2.1	2.2	1.4	3.3	1.3	0.0	2.1
Median Diverse	3.9	2.1	3.5	3.2	3.1	2.2	0.0	0.6

EAFE Information Ratios	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	0.4	0.4	0.5	0.6	0.6	0.3	0.0	0.2
Median Emerging	0.5	0.6	0.7	0.5	0.7	0.3	0.0	0.4
Median Diverse	0.9	0.5	0.8	0.7	0.8	0.6	0.0	0.2

ACWI ex-US Excess Returns	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	2.5	3.1	2.2	2.3	1.1	0.4	1.9
Median Emerging	3.5	2.5	1.8	1.9	2.5	0.4	1.4
Median Diverse	2.5	2.8	1.6	1.6	1.7	0.4	0.5

ACWI ex-US Information Ratios	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	0.6	0.9	0.6	0.7	0.3	0.2	0.5
Median Emerging	0.9	0.5	0.4	0.4	0.5	0.1	0.3
Median Diverse	0.7	0.9	0.4	0.4	0.4	0.1	0.2

Core Bond Excess Returns	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	-0.4	0.4	0.7	1.1	1.0	0.7	1.0	0.4	0.4	0.4	0.5	0.4	0.4
Median Emerging	-0.1	0.6	1.0	1.2	0.7	0.5	0.7	0.2	0.3	0.2	0.4	0.2	0.2
Median Diverse	0.1	0.6	1.0	1.2	1.0	0.7	1.1	0.4	0.4	0.4	0.6	0.4	0.3

Core Bond Information Ratios	10/05-09/08	10/06-09/09	10/07-09/10	10/08-09/11	10/09-09/12	10/10-09/13	10/11-09/14	10/12-09/15	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	-0.4	0.2	0.4	0.6	1.0	0.8	1.5	0.7	0.7	0.7	1.0	0.8	0.4
Median Emerging	-0.2	0.4	0.5	0.6	0.8	0.6	0.8	0.3	0.4	0.4	0.6	0.3	0.2
Median Diverse	0.1	0.4	0.6	0.7	0.9	0.8	1.5	0.8	0.6	0.5	0.9	0.7	0.2

EME Excess Returns	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	1.5	1.0	-0.2	0.1	0.0
Median Emerging	3.0	1.3	-2.0	0.0	0.2
Median Diverse	1.2	0.1	-1.6	-0.4	0.0

EME Information Ratios	10/13-09/16	10/14-09/17	10/15-09/18	10/16-09/19	10/17-09/20
Median	0.4	0.2	-0.1	0.0	0.0
Median Emerging	0.5	0.2	-0.3	0.0	0.0
Median Diverse	0.3	0.0	-0.4	-0.1	0.0

AR Returns	10/05- 09/08	10/06- 09/09	10/07- 09/10	10/08- 09/11	10/09- 09/12	10/10- 09/13	10/11- 09/14	10/12- 09/15	10/13- 09/16	10/14- 09/17	10/15- 09/18	10/16- 09/19	10/17- 09/20
Median	5.3	5.3	2.8	4.8	4.6	4.8	6.9	4.6	3.1	3.6	5.0	3.9	2.8
Median Emerging	6.1	6.3	4.4	6.8	6.2	6.5	9.3	5.8	4.4	4.9	6.4	5.1	3.4
Median Diverse	4.9	5.9	5.1	5.6	4.5	4.3	6.6	5.1	3.5	3.7	4.3	4.5	3.3

AR Sharpe Ratios	10/05- 09/08	10/06- 09/09	10/07- 09/10	10/08- 09/11	10/09- 09/12	10/10- 09/13	10/11- 09/14	10/12- 09/15	10/13- 09/16	10/14- 09/17	10/15- 09/18	10/16- 09/19	10/17- 09/20
Median	0.2	0.2	0.1	0.4	0.5	0.6	1.0	0.7	0.4	0.4	0.6	0.3	0.1
Median Emerging	0.2	0.3	0.2	0.5	0.6	0.7	1.1	0.7	0.5	0.6	0.7	0.4	0.2
Median Diverse	0.1	0.2	0.3	0.5	0.5	0.7	1.0	0.7	0.5	0.5	0.7	0.3	0.2

Notes & Disclosures

1. *Emerging Manager Monthly, January 2021*
2. *A sampling of recent studies includes Prudential Strategic Investment Research Group: Emerging Manager Investment Program June 2015, Preqin Hedge Fund Spotlight June 2017, Knight Foundation: Diversifying Investments: Study of Ownership Diversity and Performance in the Asset Management Industry January 2019, and 2019 NAIC Examining the Results.*
3. *Note that true statistical significance requires analysis of a broad set of observations over very long time periods.*
4. *Josh Lerner, Ann Leamon, Meagan Madden, and Jake Ledbetter, **Diverse Asset Management Project Firm Assessment** (Bella Research Group, May 2017). An extended study of this analysis published in January 2019 found weak statistical significance that minority ownership increased a fund's Kaplan-Schoar PME by 0.137x, while no convincing evidence was found regarding women-ownership impacts on PE returns. Reviewing a larger number of funds, the latter study found that 29% of women-owned and 34% of minority-owned funds ranked in the top quartile.*
5. *Note that Verus' emerging and diverse research includes due diligence on a broad array of strategies across asset classes and styles and is not limited to those with more observations.*
6. *The 2019 Knight Foundation study stated that the average AUM for all investment firms was \$37.3 billion versus \$3.9 billion for women-owned firms and \$2.1 billion for minority-owned firms.*
7. *AB IQ Horses, Not Camels-Diversity and Group Decision-Making May 2019.*
8. *This conclusion is in line with the broader work that Verus has produced in this space suggesting that diversity of thought may be helpful in the investment process. It is important to note that this paper is consistent with that work: this paper identifies the fact that emerging and diverse ownership has no clear evidence of producing disadvantage in the investment process, while that other work applies to a broader set of managers – those with diverse thought as part of their process, which is likely to include a wide array of managers in addition to some of the managers identified here.*

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