



## **The Boutique Premium**

The Boutique Advantage In Generating Alpha



**AMG**

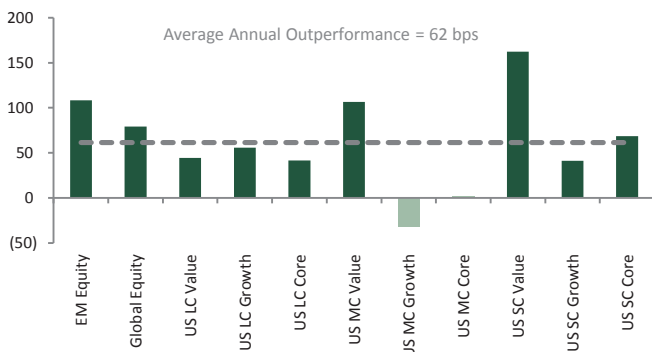
# Executive Summary

## Boutique active investment managers have outperformed both non-boutique peers and indices over the last 20 years

While the debate over the value of active investment management has intensified in recent years, the outperformance of boutique managers has been overlooked. In an update of our proprietary study covering nearly 5,000 Institutional equity strategies from 3/31/98 to 3/31/18, AMG has examined the performance of boutiques. Since our initial analysis in 2015, our study again demonstrates that:

- ▶ Boutiques significantly outperformed non-boutiques in institutional equity categories

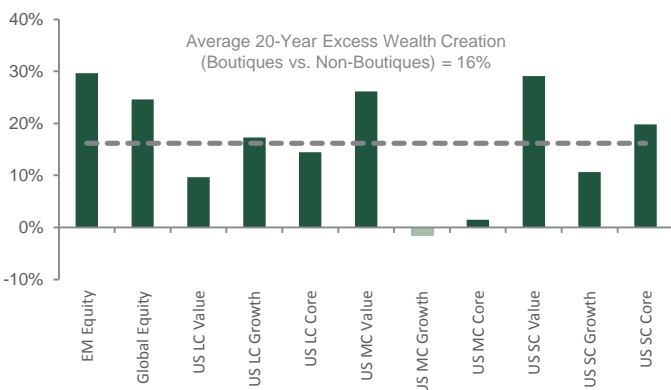
**Figure 1: Boutique Outperformance vs. Non-Boutiques:** Boutiques Outperformed by an Average Annual 62 bps



Source: MercerInsight® database utilized for return data.

- ▶ Investing exclusively with boutiques would have created 16% greater wealth over 20 years

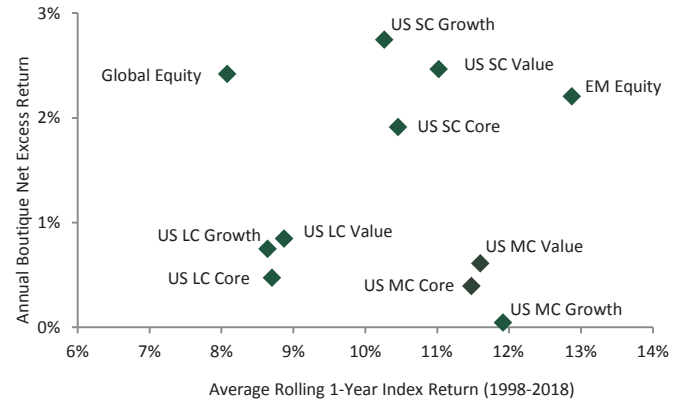
**Figure 2: Boutique Wealth Creation:** Investing Exclusively With Boutiques Would Have Created 16% Greater Wealth



Source: MercerInsight® database utilized for return data.

- ▶ Boutiques also generated substantial net excess returns versus indices

**Figure 3: Boutique Excess Returns:** Boutiques Delivered 135 bps Average Annual Net Excess Returns vs. Indices



Source: AMG proprietary analysis and classification of firms and strategies. Firms represented include AMG Affiliates. MercerInsight MPA™ database utilized for return data. AMG estimated net returns by taking one-year rolling gross returns for institutional strategies from 3/31/1998 to 3/31/2018 less estimated average boutique fee rates based on available data for each product category.

## The Boutique Advantage

Sophisticated investors around the world are increasingly recognizing the ability of focused boutique active investment managers to outperform both non-boutique peers and indices. We believe that several core characteristics of boutiques position them to consistently outperform in return-seeking asset classes (active equities and alternatives), including:

- ▶ Principals have significant direct equity ownership, ensuring alignment of interests with clients
- ▶ Presence of a multi-generational management team, fully engaged across the business
- ▶ Entrepreneurial culture with partnership orientation, which attracts talented investors
- ▶ Investment-centric organizational alignment, including careful management of capacity
- ▶ Principals are committed to building an enduring franchise, embedding an appropriately long-term orientation



# Seven Key Insights

(detailed analysis beginning on page 6)

1. Boutiques broadly outperformed non-boutiques
2. Top-performing boutiques added more value for clients than bottom-performing boutiques detracted
3. Boutiques created significant value versus indices
4. Top-performing boutiques generated exceptional excess returns versus indices
5. Boutique strategies, on average, had a high frequency of outperforming indices
6. Individual boutique strategies outperformed indices more often than not
7. Boutique outperformance versus indices was persistent

# Methodology

## Primary Data Sources

The MercerInsight® global database was the primary source utilized for return data in our analysis, given its deep pool of performance data for institutional equity strategies offered by investment managers around the world.

Classification of individual investment managers (and their corresponding investment strategies in the MercerInsight® database) as either “boutiques” or “non-boutiques” was based entirely on AMG’s proprietary analysis, utilizing the SEC database and individual manager disclosures for background information on ownership structure, scope of business, and level of assets under management (“AUM”).

## Scope and Process of Analysis

Our analysis incorporated more than 1,300 individual investment management firms around the world and nearly 5,000 institutional equity strategies comprising approximately \$7 trillion in AUM. We analyzed rolling one-year returns for the trailing 20-year period ending 3/31/18, across 11 different investment product categories, on a strategy- by-strategy basis. More specific details regarding the data set behind our analysis are as follows:

- ▶ **11 investment product categories:** our analysis spanned the 11 broadest institutional equity product categories, as defined by Mercer:
  - ▶ Emerging Markets Equity
  - ▶ Global Equity
  - ▶ U.S. Large Cap Value Equity
  - ▶ U.S. Large Cap Growth Equity
  - ▶ U.S. Large Cap Core Equity
  - ▶ U.S. Mid Cap Value Equity
  - ▶ U.S. Mid Cap Growth Equity
  - ▶ U.S. Mid Cap Core Equity
  - ▶ U.S. Small Cap Value Equity
  - ▶ U.S. Small Cap Growth Equity
  - ▶ U.S. Small Cap Core Equity

- ▶ **Return-focused:** returns were the primary measure of boutique manager value creation utilized in our analysis. Gross returns, a primary metric reported by investment managers within the MercerInsight® database, were utilized for comparing boutique returns relative to non-boutique returns, given the minimal disparity of fee rates between boutique and non-boutique strategies. Meanwhile, we estimated net excess returns versus indices – incorporating boutiques’ available published or “rack” fee rates entered by investment managers in MercerInsight® – in order to approximate net value creation for investors.
- ▶ **Trailing 20-year time horizon:** our analysis is based on rolling one-year returns over trailing 20 years ending 3/31/18 (i.e., 20 individual measurements of 12 month periods ending 3/31 in each year 1999-2018). The rolling one-year focus ultimately yielded a larger sample size than rolling three- or five- year returns.
- ▶ **Equal-weighted basis:** importantly, our analysis represents a measure of performance by strategy, instead of performance by manager. In order to avoid bias to any one investment strategy, each individual strategy was given an equal weighting when aggregating results for each product category. Duplicate strategies (typically sub-advisory) were excluded from our analysis in order to avoid excessive weighting to any single strategy by double counting, although this had minimal impact on the results given the small number of duplicates broadly observed.
- ▶ **Accounting for survivorship bias:** our analysis captured each individual strategy reporting gross returns to MercerInsight® in all 11 product categories at any point during the trailing 20-year period, including deleted strategies (strategies and/or managers no longer in existence, or no longer providing data to Mercer). Thus, we minimize the impact of survivorship bias.

## Classification of Boutique And Non-Boutique Investment Managers

Our proprietary classification of over 1,300 individual investment managers and their corresponding investment strategies in the MercerInsight® database as either “boutiques” or “non-boutiques” (Figure 4) was an integral component of the analysis. Boutiques ultimately accounted for 66% of the investment managers, but just 44% of the investment strategies captured in our data set.

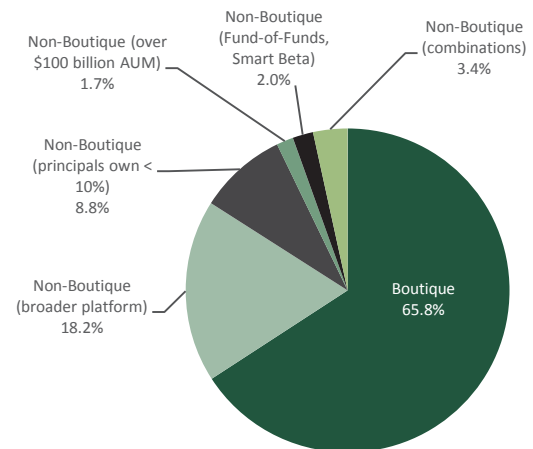
Investment managers – and their corresponding strategies – were classified as boutiques in our analysis only if they fit each of the following four specific criteria:

- 1) Significant principal ownership:** determined by whether principals held a significant amount of equity in their own firm, defined as a minimum of 10%. The 10% threshold was set to both exclude firms whose principals have received small amounts of equity as part of their annual compensation and to align with a cut-off point in the SEC database (individuals or entities with ownership below 10% appear as either “NA” or “A” in the SEC database). However, principals at the vast majority of boutique investment managers held a significant minority, majority, or 100% of their firms’ equity.
- 2) Investment management is sole business:** investment managers exclusively focused on investing were the only firms eligible to be classified as boutiques in our analysis. This effectively excluded managers that were part of broader financial services platforms, including banks, life insurers, and wealth managers providing a broad suite of advice-based services.

- 3) Manage less than \$100 billion in AUM:** investment managers with over \$100 billion in AUM were excluded from being classified as boutiques. While some investment managers with over \$100 billion in AUM could certainly be considered boutiques, the purpose of this criterion was to increase the objectivity of the analysis while simultaneously eliminating certain firms that have accumulated large levels of AUM by offering a wide variety of products across various asset classes, styles, and geographic regions.
- 4) Not exclusively smart beta or fund-of-funds:** managers exclusively offering smart beta or fund-of-funds platforms were removed from consideration as boutiques. Instead, the firms classified as boutiques in our analysis included active managers with teams focused on adding value through distinct investment philosophies and highly focused investment processes.

**Figure 4: Classification of Investment Managers:**

66% Boutiques, 34% Non-Boutiques



Source: AMG proprietary classification of investment managers in the MercerInsight® database.

# Seven Key Insights: Strong Evidence That Boutiques Have Added Value

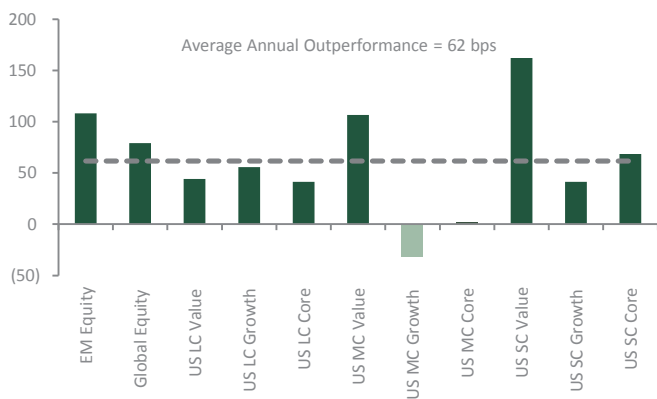
## Have Boutiques Added Value For Clients?

Our analysis of institutional equity strategy returns for the trailing 20-year period provides strong evidence that active boutique investment managers generated significant value for clients, both relative to non-boutique managers and to indices. The data also demonstrates that top-performing boutique strategies created tremendous value for clients; that the majority of boutique strategies outperformed indices on a net basis; and that boutique outperformance was persistent. Seven key insights from our analysis are outlined below.

### 1. Boutiques broadly outperformed non-boutiques

Over the past 20 years, the average boutique strategy outperformed the average non-boutique strategy in 10 out of 11 product categories examined, by an annual average 62 bps across all categories (Figure 7). Boutique outperformance was most significant in U.S. Small Cap Value Equity (+162 bps) and Emerging Markets Equity (+108 bps annually) strategies.

**Figure 7: Boutique Outperformance vs. Non-Boutiques:** Boutiques Outperformed by Average Annual 62 bps

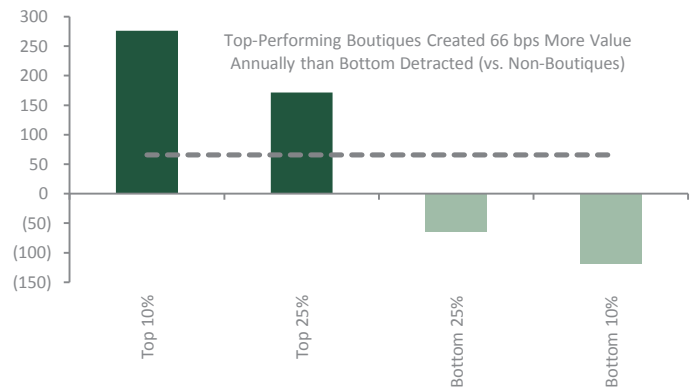


Source: AMG proprietary analysis and classification of firms and strategies. MercerInsight® database utilized for return data. Firms represented include AMG Affiliates. Analysis based on rolling one-year gross returns for institutional strategies during trailing 20-year period ending 3/31/18.

### 2. Top-performing boutiques added more value for clients than bottom-performing boutiques detracted

Our analysis demonstrates that top-decile and top-quartile boutique strategies outperformed their non-boutique counterparts by a wide margin (average annual 276 bps and 171 bps, respectively). However, just as notable was the fact that bottom-quartile and bottom-decile boutique strategies lagged their non-boutique counterparts by a much narrower margin (-65 bps and -119 bps, respectively). This suggests that any outsized boutique risk-taking didn't necessarily result in excessive downside for bottom performers relative to non-boutique bottom performers.

**Figure 8: Top-Performing Boutiques vs. Non-Boutiques:** Top Performers Added 66 bps More Value Annually (vs. Non-Boutiques) Than Bottom Performers Detracted

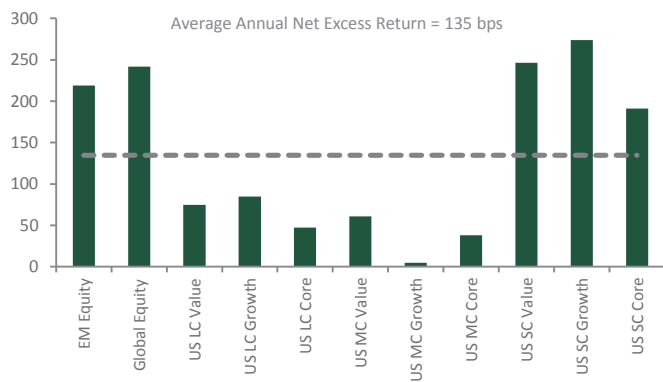


Source: AMG proprietary analysis and classification of firms and strategies. Firms represented include AMG Affiliates. MercerInsight® database utilized for return data. Analysis based on rolling one-year gross returns for institutional strategies during trailing 20-year period ending 3/31/18. Top and bottom performers incorporate investment strategies in the 10th, 25th, 75th, and 90th percentile on an annual basis.

### 3. Boutiques created significant value versus indices

In sharp contrast to industry reports finding that a significant majority of active managers have underperformed benchmarks, our analysis determined that boutique institutional equity strategies delivered significant net excess returns relative to indices over the trailing 20-year period. Across the 11 product categories examined, boutique net returns outpaced primary indices by an average annual 135 bps. In fact, the average boutique strategy outperformed its primary index net of fees—in 11 out of 11 product categories.

**Figure 9: Boutique Excess Returns: Boutiques Generated 135 bps of Annual Net Excess Returns vs. Indices**

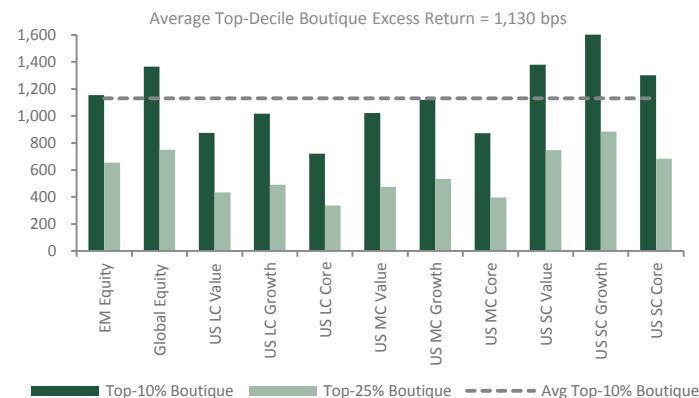


Source: AMG proprietary analysis and classification of firms and strategies. Firms represented include AMG Affiliates. MercerInsight® database utilized for return data. Net returns estimated by taking one-year rolling gross returns for institutional strategies during trailing 20-year period ending 3/31/18 less estimated average boutique fee rates based on available data for each product category. Primary indices include MSCI EM, MSCI World, Russell 1000 Value, Russell 1000 Growth, S&P 500, Russell Midcap Value, Russell Midcap Growth, Russell Midcap, Russell 2000 Value, Russell 2000 Growth, Russell 2000.

#### 4. Top-performing boutiques generated exceptional excess returns versus indices

Our analysis also demonstrates that the top-performing boutique strategies added tremendous value relative to indices net of fees. Top-decile boutique strategies added an average annual 1,130 bps versus primary indices, while top-quartile boutiques added an average annual 581 bps (Figure 10). Similar to our analysis of average boutique outperformance, top-decile boutique outperformance was most pronounced in Emerging Markets Equity, Global Equity, and U.S. Small Cap Equity. Meanwhile, despite more modest levels of outperformance for average boutique strategies in the U.S. Large Cap Equity and U.S. Mid Cap Equity categories, the top performers generated significant excess returns.

**Figure 10: Top-Performing Boutiques vs. Indices: Top-Decile Boutiques Beat Indices by an Average Annual 1,130 bps**

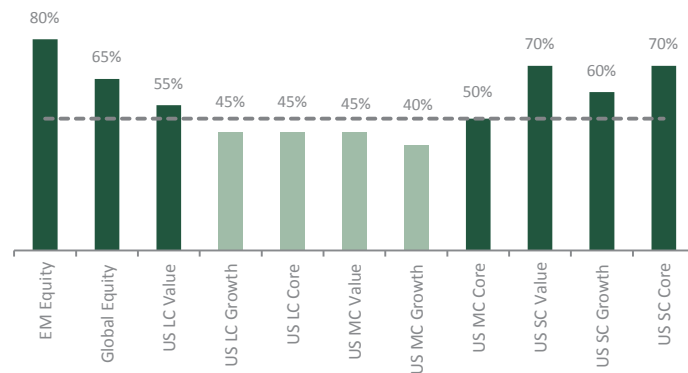


Source: AMG proprietary analysis and classification of firms and strategies. Firms represented include AMG Affiliates. MercerInsight® database utilized for return data. Net returns estimated by taking one-year rolling gross returns for institutional strategies during trailing 20-year period ending 3/31/18 less estimated average boutique fee rates based on available data for each product category; top performers include boutique strategies in the top 10% and top 25%. Primary indices include MSCI EM, MSCI World, Russell 1000 Value, Russell 1000 Growth, S&P 500, Russell Midcap Value, Russell Midcap Growth, Russell Midcap, Russell 2000 Value, Russell 2000 Growth, Russell 2000.

#### 5. Boutique strategies, on average, had a high frequency of outperforming indices

Across all product categories examined, the average boutique strategy outpaced its primary index 57% of the time over the trailing 20-year period net of fees. In addition, the average boutique strategy beat its primary index in at least half of the 20 one-year rolling periods in 7 out of 11 product categories.

**Figure 11: Boutique Outperformance Frequency: Average Boutique Strategy Beat Index 57% of the Time**

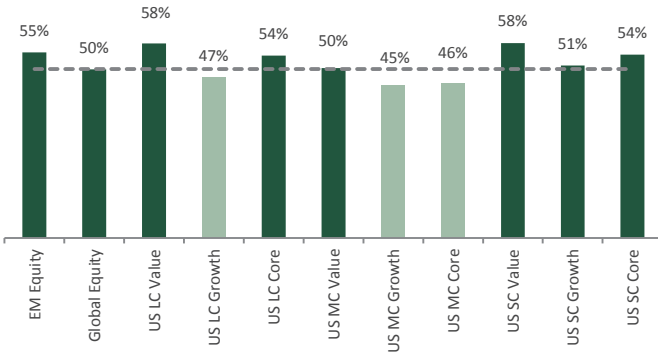


Source: AMG proprietary analysis and classification of firms and strategies. Firms represented include AMG Affiliates. MercerInsight® database utilized for return data. Net returns estimated by taking one-year rolling gross returns for institutional strategies during trailing 20-year period ending 3/31/18 less estimated average boutique fee rates based on available data for each product category. Primary indices include MSCI EM, MSCI World, Russell 1000 Value, Russell 1000 Growth, S&P 500, Russell Midcap Value, Russell Midcap Growth, Russell Midcap, Russell 2000 Value, Russell 2000 Growth, Russell 2000.

## 6. Individual boutique strategies outperformed indices more often than not

We also found that at least half of the boutique strategies in our data sample beat their primary indices net of fees in 8 out of 11 product categories (Figure 12). The proportion of boutiques outperforming indices was particularly high in the Emerging Markets Equity, and U.S. Small Cap Equity categories. Across all 11 product categories, on average, approximately 52% of boutique strategies beat their primary indices net of fees. This highlights the power of boutiques in creating substantial value, despite recent industry reports suggesting that a significant majority of active managers have underperformed indices.

**Figure 12: Proportion of Boutiques Beating Indices:**  
At least 50% Beat Indices in 8 out of 11 Product Categories

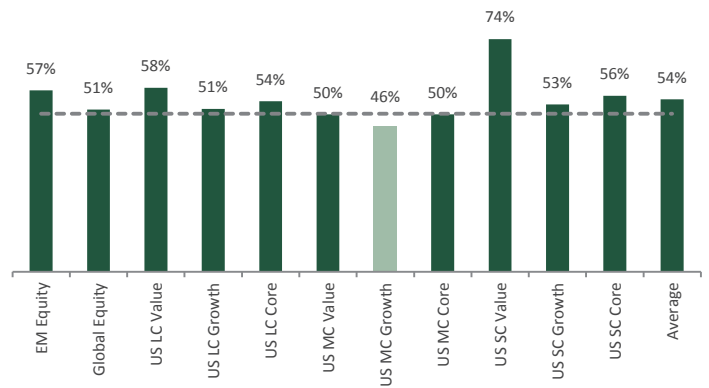


Source: AMG proprietary analysis and classification of firms and strategies. Firms represented include AMG Affiliates. MercerInsight® database utilized for return data. Net returns estimated by taking one-year rolling gross returns for institutional strategies during trailing 20-year period ending 3/31/18 less estimated average boutique fee rates based on available data for each product category. Primary indices include MSCI EM, MSCI World, Russell 1000 Value, Russell 1000 Growth, S&P 500, Russell Midcap Value, Russell Midcap Growth, Russell Midcap, Russell 2000 Value, Russell 2000 Growth, Russell 2000.

## 7. Boutique outperformance versus indices was persistent

For the purpose of measuring the persistency of boutique net excess returns, we examined the percentage of boutiques beating the index in a year following one in which they outperformed. The results reflect favorably on boutique managers, as their strategies beat indices 54% of the time in years following one in which they outperformed (Figure 13). Further, boutique outperformance persistency was at least 50% in 10 out of 11 product categories.

**Figure 13: Boutique Outperformance Persistency:** Beat Indices 54% of the Time after Outperforming Previous Year



Source: AMG proprietary analysis and classification of firms and strategies. Firms represented include AMG Affiliates. MercerInsight® database utilized for return data. Boutique persistency measured as percentage of boutiques beating their primary index (net of estimated fees) in successive years (after they had beaten the index in the previous year). Primary indices include MSCI EM, MSCI World, Russell 1000 Value, Russell 1000 Growth, S&P 500, Russell Midcap Value, Russell Midcap Growth, Russell Midcap, Russell 2000 Value, Russell 2000 Growth, Russell 2000.



## Our Conclusion:

### *Core Boutique Characteristics Position Them Well To Add Value for Clients*

#### Analysis Reflects Favorably On Boutique Investment Managers

While a considerable amount of research has focused on the perennial active versus passive debate, our analysis focuses on an important industry subset – active boutique investment managers. Our analysis again illustrates that boutiques have outperformed non-boutique peers and delivered, on average, significant net excess returns versus indices over the long term. It also indicates that top boutiques generate significant alpha and that the strongest boutique outperformance came in the Emerging Markets Equity, and U.S. Small Cap Equity categories.

#### The Boutique Advantage

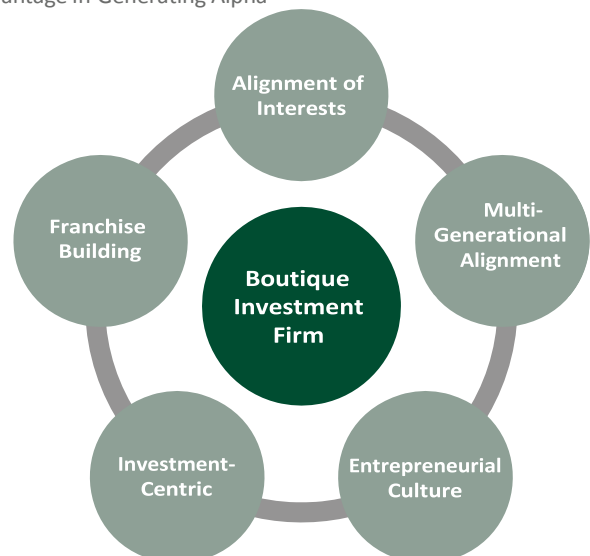
Sophisticated investors around the world are increasingly recognizing the ability of focused boutique active investment managers to outperform both non-boutique peers and indices. Many of these investors follow a barbell strategy, in which they complement their core passive exposures with allocations to active equity and alternative strategies managed by boutiques. We believe core characteristics that position boutiques well to consistently outperform in return-seeking asset classes include:

- ▶ **Alignment of interests:** direct equity ownership ensures that key principals have a vested interest in the long-term success of a boutique. Many of the most talented investment professionals in the world are drawn to the boutique structure, where the incentive system allows them to own the results of their investment performance.
- ▶ **Multi-generational management:** the presence of a multi-generational management team, including a succession plan, is another core element of a boutique. This ensures that key principals will continue to remain motivated and highly involved in business development.

**Entrepreneurial culture with a partnership orientation:** key partners manage the daily operations of a boutique and are actively involved in business planning and building an enduring franchise. We believe talented investors are more likely to be drawn to boutiques that offer an entrepreneurial culture and allow them to have a direct impact on the future success of their business.

- ▶ **Investment-centric organizational alignment:** a boutique has an investment-centric organizational alignment, typically geared to a distinct investment philosophy (e.g., value-oriented with strong focus on purchasing securities below their intrinsic value) with a highly focused investment process (e.g., bottom-up stock picking). These investment considerations have primacy at a boutique, which we believe is more likely to manage towards optimal risk-adjusted returns, often setting capacity limits to remain nimble in its investment approach.
- ▶ **Commitment to building an enduring franchise:** key principals of the most successful boutique firms are committed to the long-term growth and success of the firm; in AMG's experience, this quality is often signaled by principals' willingness to sign multi-year employment agreements. A stable, long-term environment is ideal for generating investment success, and a group of principals bound together by long-term equity is well positioned to deliver this success.

**Figure 14: Boutique Model:** Core Characteristics Giving Boutiques an Advantage in Generating Alpha



Source: AMG

# Appendix

**Figure 15: Boutique Strategies vs. Non-Boutique Strategies: Average Annual Outperformance**

	Average Annual Value Creation vs. Comparable Non-Boutique (bps)						Percentage of Years Outperforming	
	Top 10% Boutique	Top 25% Boutique	Average Boutique	Median Boutique	Bottom 25% Boutique	Bottom 10% Boutique	Average Boutique > Non-Boutique	Median Boutique > Non-Boutique
Emerging Markets Equity	302	252	108	135	(63)	(167)	75%	70%
Global Equity	344	279	79	115	(64)	(134)	60%	60%
U.S. Large Cap Value Equity	268	120	44	27	(50)	(133)	65%	55%
U.S. Large Cap Growth Equity	253	147	56	(3)	(64)	(116)	55%	35%
U.S. Large Cap Core Equity	115	105	41	37	(11)	(42)	60%	65%
U.S. Mid Cap Value Equity	365	217	106	47	(18)	(47)	55%	55%
U.S. Mid Cap Growth Equity	236	10	(32)	(42)	(156)	(134)	40%	25%
U.S. Mid Cap Core Equity	10	47	2	1	(62)	(2)	55%	50%
U.S. Small Cap Value Equity	574	325	162	169	(25)	(173)	70%	58%
U.S. Small Cap Growth Equity	217	148	41	(5)	(91)	(177)	40%	60%
U.S. Small Cap Core Equity	356	236	68	42	(112)	(190)	70%	60%
<b>Mean</b>	<b>276</b>	<b>171</b>	<b>62</b>	<b>48</b>	<b>(65)</b>	<b>(119)</b>	<b>59%</b>	<b>54%</b>
<b>Median</b>	<b>268</b>	<b>148</b>	<b>56</b>	<b>37</b>	<b>(63)</b>	<b>(134)</b>	<b>60%</b>	<b>58%</b>

Source: AMG proprietary analysis and classification of firms and strategies. Firms represented include AMG Affiliates. MercerInsight® database utilized for return data. Analysis based on rolling one-year gross returns for institutional equity strategies during trailing 20-year period ending 3/31/18.

**Figure 16: Boutique Strategies vs. Indices: Average Annual Net Excess Returns**

	Average Annual Net Value Creation vs. Primary Index (bps)						Other Statistics	
	Top 10% Boutique	Top 25% Boutique	Average Boutique	Median Boutique	Bottom 25% Boutique	Bottom 10% Boutique	Frequency of Avg. Boutique > Index	% of Boutiques Beating Index
Emerging Markets Equity	1,156	657	220	135	(311)	(693)	80%	57%
Global Equity	1,366	749	242	156	(382)	(800)	65%	54%
U.S. Large Cap Value Equity	876	434	75	31	(324)	(706)	55%	50%
U.S. Large Cap Growth Equity	1,017	491	85	(5)	(412)	(766)	45%	47%
U.S. Large Cap Core Equity	721	336	47	3	(285)	(611)	45%	53%
U.S. Mid Cap Value Equity	1,022	474	61	(28)	(392)	(765)	45%	51%
U.S. Mid Cap Growth Equity	1,118	535	5	(13)	(616)	(1,056)	40%	46%
U.S. Mid Cap Core Equity	875	398	39	(1)	(414)	(689)	50%	48%
U.S. Small Cap Value Equity	1,379	747	246	169	(325)	(833)	70%	58%
U.S. Small Cap Growth Equity	1,602	886	274	179	(449)	1,602	60%	52%
U.S. Small Cap Core Equity	1,301	684	191	104	(373)	(792)	70%	55%
<b>Mean</b>	<b>1,130</b>	<b>581</b>	<b>135</b>	<b>66</b>	<b>(389)</b>	<b>(555)</b>	<b>57%</b>	<b>52%</b>
<b>Median</b>	<b>1,118</b>	<b>535</b>	<b>85</b>	<b>31</b>	<b>(382)</b>	<b>(765)</b>	<b>55%</b>	<b>52%</b>

Source: AMG proprietary analysis and classification of firms and strategies. Firms represented include AMG Affiliates. MercerInsight® database utilized for return data. Net returns estimated by taking one-year rolling gross returns for institutional equity strategies during trailing 20-year period ending 3/31/18 less estimated average boutique fee rates based on available data for each product category. Primary indices include MSCI EM, MSCI World, Russell 1000 Value, Russell 1000 Growth, S&P 500, Russell Midcap Value, Russell Midcap Growth, Russell Midcap, Russell 2000 Value, Russell 2000 Growth, Russell 2000.

## Important Information

This material has been prepared by Affiliated Managers Group, Inc. ("AMG") and is provided for informational purposes only. This material is only directed at persons who may lawfully receive it, and you should satisfy yourself that you are lawfully permitted to receive this material. AMG is in the business of making investments in boutique investment management firms, and is not in the business of providing investment advice. This material is not intended to be relied upon as a forecast or research and is not a recommendation, offer or solicitation to buy or sell any securities or to adopt any investment strategy, nor is it investment advice. The views and opinions expressed in this material are those of AMG, are as of the date hereof and are subject to change based on market and other conditions and factors. AMG makes no representation or warranty as to the accuracy of the data, forward-looking statements or other information in this material and shall have no liability for any decisions or actions based on this material. AMG does not undertake, and is under no obligation, to update or keep current the information or opinions contained in this material. The information and opinions contained in this material are derived from proprietary and nonproprietary sources considered by AMG to be reliable but may not necessarily be all-inclusive and are not guaranteed as to accuracy. Past performance is not a reliable indicator of future performance. In addition, forecasts, projections, or other forward-looking statements or information, whether by AMG or third parties, are similarly not guarantees of future performance, are inherently uncertain, are based on assumptions at the time of the statement that are difficult to predict, and involve a number of risks and uncertainties. Actual outcomes and results may differ materially from what is expressed in those statements. Any changes to assumptions that have been made in preparing this material could have a material impact on the performance presented herein. No part of this material may be reproduced in any form, or referred to in any other publication, without our express written permission.

MercerInsight provides information about investment managers and their products together with analytical functionality and is not intended to constitute advice, a recommendation, or an offer to buy or sell a specific fund or investment. Through MercerInsight, Mercer is not acting and has no intention of acting as a broker, dealer or other intermediary in connection with the purchase or sale of any fund, investment or other financial instrument. The information is not intended as a specific recommendation of any particular investment manager.

Nothing contained within MercerInsight is intended to convey any guarantees as to the future investment performance of managers or products. In addition, past performance cannot be relied upon as a guide to future performance. The value of your investments can go down as well as up, and you may not get back the amount you have invested. Investments denominated in a foreign currency will fluctuate with the value of the currency. Certain investments, such as securities issued by small capitalization, foreign and emerging market issuers, real property, and illiquid, leveraged or high-yield funds, carry additional risks that should be considered before choosing an investment manager or making an investment decision.

Mercerinsight data has been prepared based upon sources, information and systems believed to be reliable and accurate. Mercer, its affiliates, and its service providers make no representations, and disclaim all express, implied and statutory warranties of any kind to you or any third party, including, but not limited to, representations and implied warranties of quality, accuracy, timeliness, completeness, merchantability, fitness for a particular purpose, non-infringement of third party rights, or ability to achieve a particular result. Mercer does not warrant the use of Mercerinsight in any specific situation or for any specific application or that the data will be error free. Mercer, its affiliates and its service providers assume no responsibility for the consequences of any errors or omissions. You, and not Mercer, assume the entire liability and responsibility for data or assumptions entered into any parts of the software that have the functionality to receive user data and for any presentations or conclusions drawn from such data or assumptions or analysis results.

Portions of this material are copyright MSCI. Unpublished. All Rights Reserved. This information may only be used for your internal use, may not be reproduced or re disseminated in any form and may not be used to create any financial instruments or products or any indices. This information is provided on an "as is" basis and the user of this information assumes the entire risk of any use it may make or permit to be made of this information.

Neither MSCI, any of its affiliates or any other person involved in or related to compiling, computing or creating this information makes any express or implied warranties or representations with respect to such information or the results to be obtained by the use thereof, and MSCI, its affiliates and each such other person hereby expressly disclaim all warranties (including, without limitation, all warranties of originality, accuracy, completeness, timeliness, non-infringement, merchantability and fitness for a particular purpose) with respect to this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any other person involved in or related to compiling, computing or creating this information have any liability for any direct, indirect, special, incidental, punitive, consequential or any other damages (including, without limitation, lost profits) even if notified of, or if it might otherwise have anticipated, the possibility of such damages. MSCI is a registered trademark of MSCI, Inc.

Russell Investment Group is the source and owner of certain of the data contained or reflected in this material and all trademarks and copyrights related thereto. The material may contain confidential information and unauthorized use, disclosure, copying, dissemination or redistribution is strictly prohibited. This is a user presentation of the data. Russell Investment Group is not responsible for the formatting or configuration of this material or for any inaccuracy in presentation thereof. Russell indices are trademarks/service marks of the Russell Investment Group.

Standard & Poor's information contained in this document is subject to change without notice. Standard & Poor's cannot guarantee the accuracy, adequacy or completeness of the information and is not responsible for any errors or omissions or for results obtained from use of such information. Standard & Poor's makes no warranties or merchantability or fitness for a particular purpose. In no event shall Standard & Poor's be liable for direct, indirect or incidental, special or consequential damages from the information here regardless of whether such damages were foreseen or unforeseen.

This document may be distributed in Europe by Affiliated Managers Group Limited which is authorised and regulated by the U.K. Financial Conduct Authority ("FCA"). When distributed by Affiliated Managers Group Limited, this material is directed only at persons (Relevant Persons) who are classified as Eligible Counterparties or Professional Clients under the rules of the FCA.

This document may be distributed in Switzerland by Affiliated Managers Group (Switzerland) AG (Company No. CHE-273.971.053) which is licensed by the Swiss Financial Market Supervisory Authority as a Fund Distributor. When distributed by Affiliated Managers Group (Switzerland) AG this material is directed only at Qualified Investors (as defined in the Swiss Collective Investment Schemes Act).

This document may be distributed in the Middle East by Affiliated Managers Group Limited which is regulated by the Dubai Financial Services Authority as a Representative Office.

This document may be distributed in Australia and New Zealand by Affiliated Managers Group (Pty) Limited (ABN 68 123 448 984; ARN 315813; AFSL No. 443903) which is licensed and regulated by the Australian Securities & Investments Commission. When distributed by Affiliated Managers Group (Pty) Limited this material is directed only at persons who are classified as Wholesale Clients (as defined in the Corporations Act 2001).

This document may be distributed in Asia by Affiliated Managers Group (Hong Kong) Limited which is licensed and regulated by the Securities and Futures Commission of Hong Kong for Type 1 (dealing in securities). When distributed by Affiliated Managers Group (Hong Kong) Limited this material is directed only at persons who are classified as Professional Investors as defined in the Securities and Futures Ordinance.

This document may also be distributed by AMG Funds LLC ("AMG Funds"), which is the U.S. retail distribution arm of AMG. AMG Funds is registered as an investment adviser with the Securities and Exchange Commission and as a Commodity Pool Operator with the Commodities Futures Trading Commission, and is a member of the National Futures Association.

