

Global Fund Performance Monitor

Active outperformance

Strong start to the year for Active funds globally

After a difficult 2023, 56% of Active funds outperformed benchmark in January by a median 0.17%. Value funds performed best versus benchmark with 66% outperforming by a median 0.57%, while 54% of Growth funds outperformed benchmark by a median 0.12%. In contrast, Yield funds had a difficult January with only 43% of these funds outperforming with a median relative return of -0.20%. This month, we highlight which of Value and Growth funds' largest overweight positions are "in vogue" as measured by our "Triple Momentum Rank" (which combines earnings, price, and news momentum).

Value funds' overweights in vogue, and not in vogue

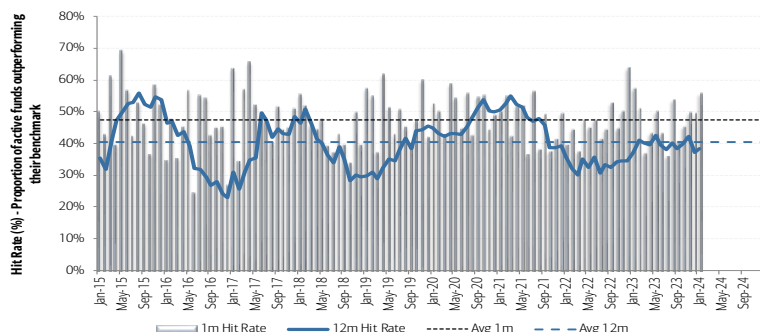
Among Value funds' largest overweight positions versus benchmark, the stocks which are currently in vogue (in the top decile by our Triple Momentum Rank) include Insight Enter, Vipshop-ADR, Centene Corp, Shriram Finance and Primerica Inc. In contrast, Value funds' largest overweights with low Triple Momentum Ranks (indicating weak trends in earnings, price, and news) include CNH Industrial, Humana, Columbia Bank, Mohawk Ind and Huntsman.

Growth funds' overweights and Triple Momentum

Among Growth funds' largest overweight positions versus benchmark, the stocks in the top decile by Triple Momentum include NU, Intermediate Capital, Guidewire Software, Convatec Group and Bank Rakyat. In contrast, Growth funds' largest overweights with low Triple Momentum Ranks include RS Group, Cognex Corp, Inspire Medical and Royal Unibrew.

Chart 1: Proportion of Active Funds outperforming benchmark

Last month, the proportion of Active Funds outperforming benchmark was above long-term average



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

05 February 2024

Quant Strategy
Global

Nigel Tupper >>
Quant Strategist
Merrill Lynch (Australia)
+61 2 9226 5735
nigel.tupper@bofa.com

Amar Vashi >>
Quant Strategist
Merrill Lynch (Australia)
amar.vashi@bofa.com

Sumuhan Shanmugalingam >>
Quant Strategist
Merrill Lynch (Australia)
sumuhan.shanmugalingam@bofa.com

- [Funds by Regions](#)
- [Funds by Investment Style](#)
- [Funds by Active/Passive](#)
- [Funds by Active Share Ratio](#)
- [Funds by FUM](#)
- [Funds by Market Cap of Stocks](#)
- [Funds by Portfolio Size](#)
- [Funds by Turnover](#)
- [Relative Returns](#)
- [Hit Rate](#)

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 68 to 70.

12655143

Timestamp: 04 February 2024 11:37PM EST

Contents

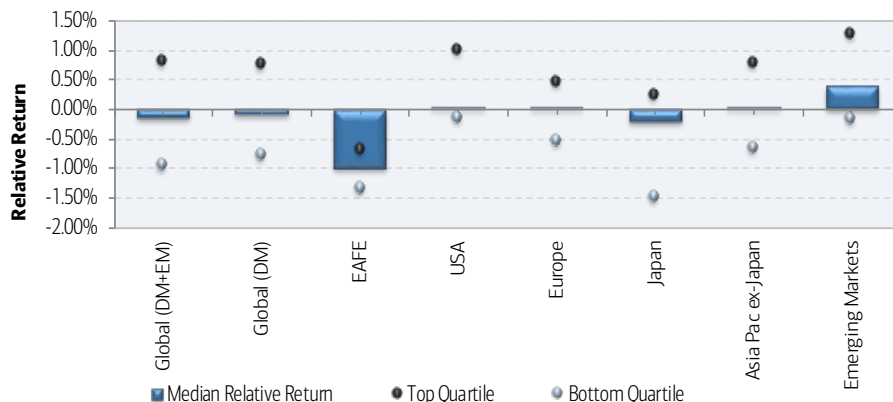
Funds by Region	4
Funds by Region: GLOBAL (DM + EM)	5
Funds by Region: GLOBAL (Developed Markets)	6
Funds by Region: EAFE (DM ex-US)	7
Funds by Region: USA	8
Funds by Region: EUROPE	9
Funds by Region: JAPAN	10
Funds by Region: ASIA PAC ex-JAPAN	11
Funds by Region: EMERGING MARKETS	12
Funds by Investment Style	13
Funds by Investment Style: VALUE	14
Funds by Investment Style: GROWTH	15
Funds by Investment Style: GARP	16
Funds by Investment Style: YIELD	17
Funds by Investment Style: INDEX funds	18
Funds by Active/Passive	19
ACTIVE funds	20
PASSIVE funds	21
Funds by Active Share Ratio (ASR)	22
Funds by ASR between 1% - 20%	23
Funds by ASR between 21% - 40%	24
Funds by ASR between 41% - 60%	25
Funds by ASR between 61% - 80%	26
Funds by ASR between 81% - 100%	27
Funds by Funds Under Management (FUM) (\$US)	28
Funds by FUM between \$1 - \$750m	29
Funds by FUM between \$750m - \$1bn	30
Funds by FUM between \$1bn - 1.5bn	31
Funds by FUM between \$1.5bn - \$2.0bn	32
Funds by FUM between \$2bn - \$5bn	33
Funds by FUM between \$5.0bn - \$10bn	34
Funds by FUM > \$10bn	35
Funds by Market Cap of Stocks	36
Funds by Market Cap: LARGE CAP	37
Funds by Market Cap: MULTI CAP	38
Funds by Market Cap: MID CAP	39
Funds by Market Cap: SMALL CAP	40

Funds by Portfolio Size (# stocks)	41
Funds by Portfolio Size (< 35 stocks)	42
Funds by Portfolio Size (36-75 stocks)	43
Funds by Portfolio Size (76-100 stocks)	44
Funds by Portfolio Size (101-200 stocks)	45
Funds by Portfolio Size (201-400 stocks)	46
Funds by Portfolio Size (401-700 stocks)	47
Funds by Portfolio Size (> 700 stocks)	48
Funds by Turnover	49
Funds by Turnover: HIGH	50
Funds by Turnover: MEDIUM	51
Funds by Turnover: LOW	52
Funds by Turnover: VERY LOW	53
Summary Table: Median Relative Returns	54
Summary Table: Proportion of Funds Outperforming	63
Summary Table: Spread of returns	64
Methodology	65
Global Quant Publications	67

Funds by Region

Chart 2: Relative returns of Funds by Region: Last month

The narrowest margin between the top and bottom quartile was for EAFE funds

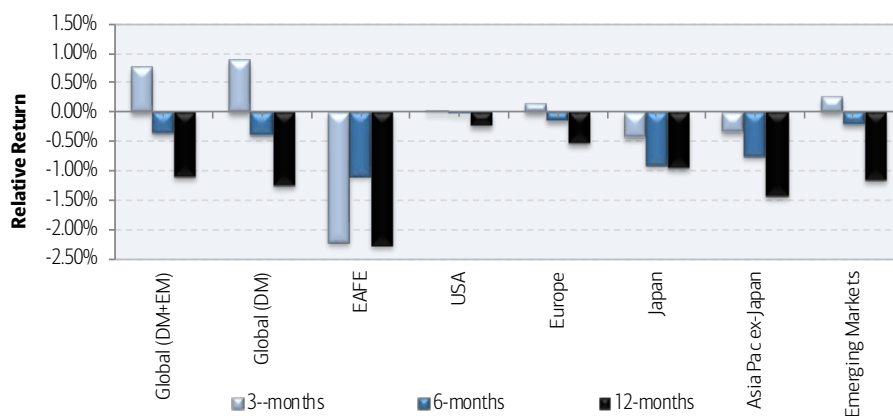


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 3: Relative returns of Funds by Region: Periodic returns

USA funds have performed best in the last 6m



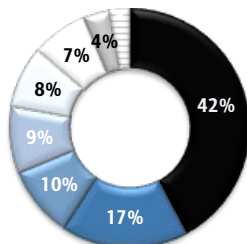
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 4: Percentage of Funds by Region

USA funds constitutes 42% of this fund group

- USA (907, \$7,940 bn)
- Europe (365, \$535 bn)
- Global (DM) (206, \$680 bn)
- Asia Pac ex-Japan (195, \$369 bn)
- Global (DM+EM) (181, \$1,425 bn)
- Emerging Markets (160, \$464 bn)
- Japan (78, \$301 bn)
- EAFE (56, \$641 bn)



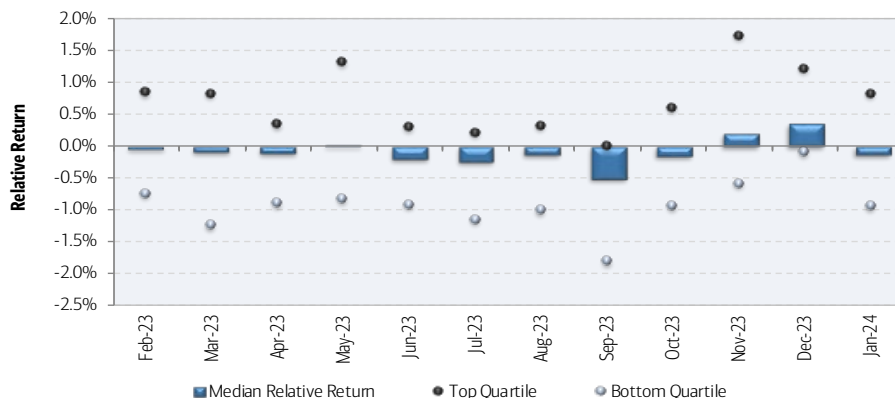
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Funds by Region: GLOBAL (DM + EM)

Chart 5: Relative returns of Global DM+EM funds - Last 12 months

Global (DM+EM) funds have underperformed by -0.14% last month

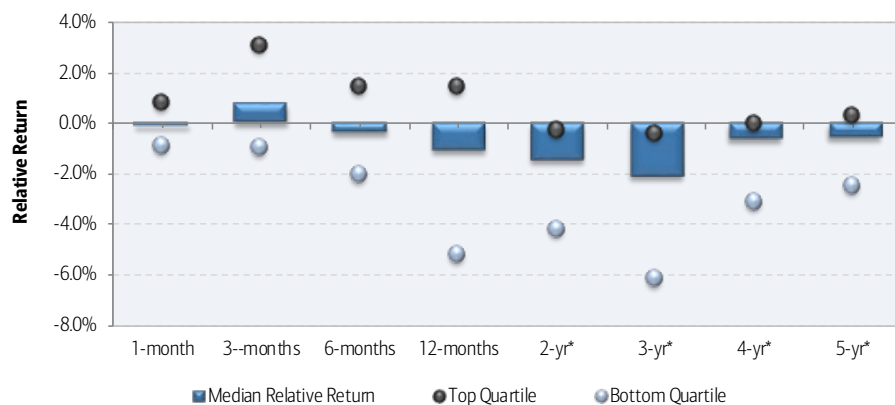


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 6: Relative returns of Global DM+EM funds : Periodic returns

Global (DM+EM) have outperformed by 0.77% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 1: Relative returns of Global DM+EM funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.14%	0.82%	-0.95%
3--months	0.77%	3.06%	-1.00%
6-months	-0.36%	1.43%	-2.04%
12-months	-1.11%	1.42%	-5.26%
2-yr*	-1.46%	-0.30%	-4.21%
3-yr*	-2.09%	-0.44%	-6.18%
4-yr*	-0.65%	-0.03%	-3.12%
5-yr*	-0.59%	0.26%	-2.50%

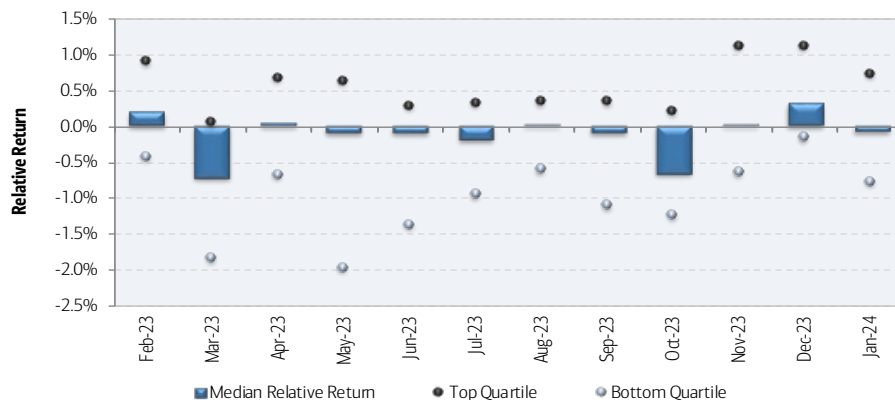
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Region: GLOBAL (Developed Markets)

Chart 7: Relative returns of Global DM funds - Last 12 months

Global (DM) funds have underperformed by -0.07% last month

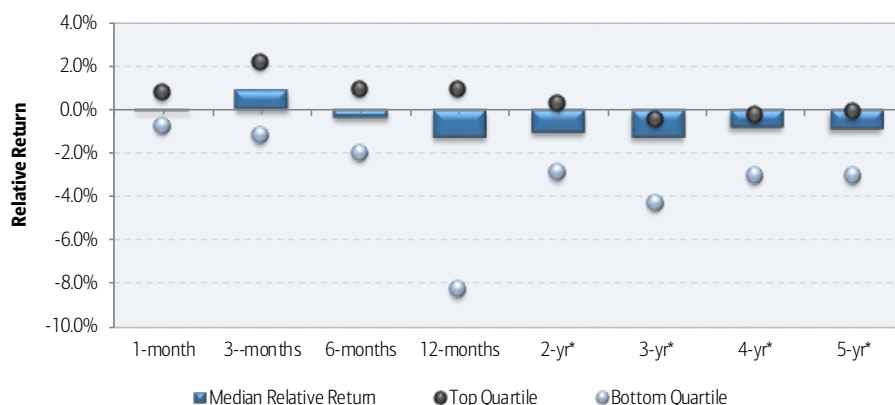


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 8: Relative returns of Global DM funds : Periodic returns

Global (DM) have outperformed by 0.89% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 2: Relative returns of Global DM funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.07%	0.74%	-0.78%
3--months	0.89%	2.20%	-1.21%
6-months	-0.38%	0.95%	-2.06%
12-months	-1.24%	0.95%	-8.33%
2-yr*	-1.01%	0.26%	-2.96%
3-yr*	-1.26%	-0.46%	-4.31%
4-yr*	-0.85%	-0.28%	-3.12%
5-yr*	-0.91%	-0.14%	-3.07%

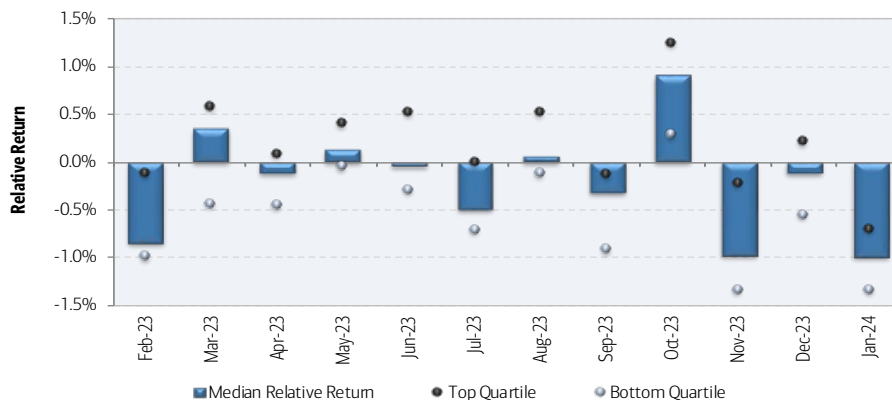
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Region: EAFE (DM ex-US)

Chart 9: Relative returns of EAFE funds - Last 12 months

EAFE funds have underperformed by -0.99% last month

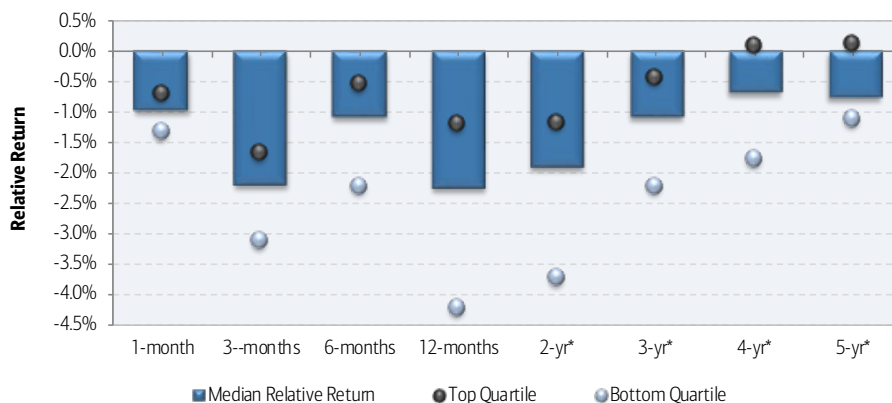


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 10: Relative returns of EAFE funds : Periodic returns

EAFE have underperformed by -0.70% in the last 4-yr*



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 3: Relative returns of EAFE funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.99%	-0.70%	-1.34%
3--months	-2.20%	-1.69%	-3.13%
6-months	-1.09%	-0.54%	-2.24%
12-months	-2.26%	-1.21%	-4.26%
2-yr*	-1.91%	-1.20%	-3.75%
3-yr*	-1.09%	-0.43%	-2.25%
4-yr*	-0.70%	0.08%	-1.79%
5-yr*	-0.76%	0.10%	-1.13%

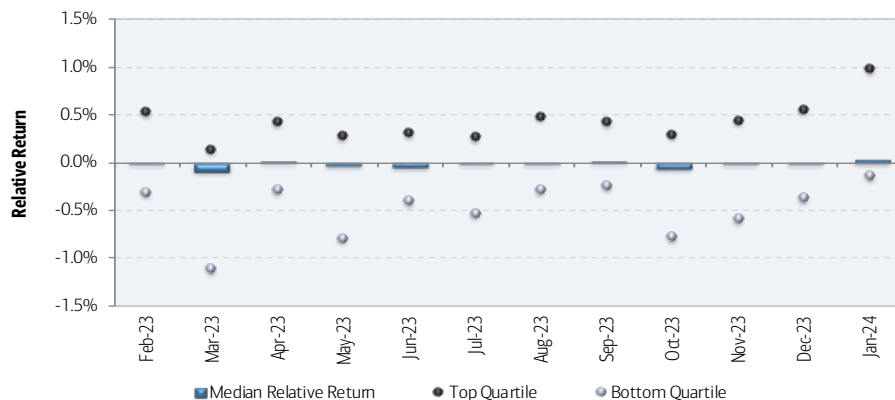
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Region: USA

Chart 11: Relative returns of USA funds - Last 12 months

USA funds have outperformed by 0.03% last month

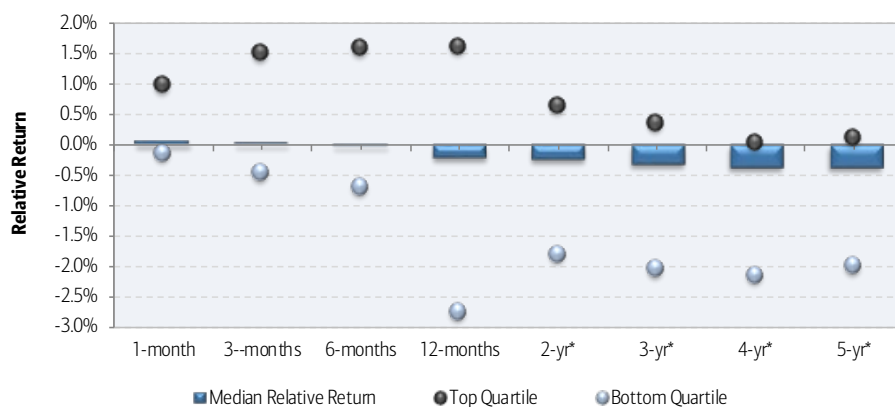


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 12: Relative returns of USA funds : Periodic returns

USA have outperformed by 0.03% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 4: Relative returns of USA funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.03%	0.97%	-0.16%
3-months	0.00%	1.50%	-0.48%
6-months	-0.02%	1.57%	-0.70%
12-months	-0.23%	1.60%	-2.78%
2-yr*	-0.26%	0.63%	-1.84%
3-yr*	-0.33%	0.33%	-2.07%
4-yr*	-0.38%	0.03%	-2.17%
5-yr*	-0.38%	0.10%	-2.00%

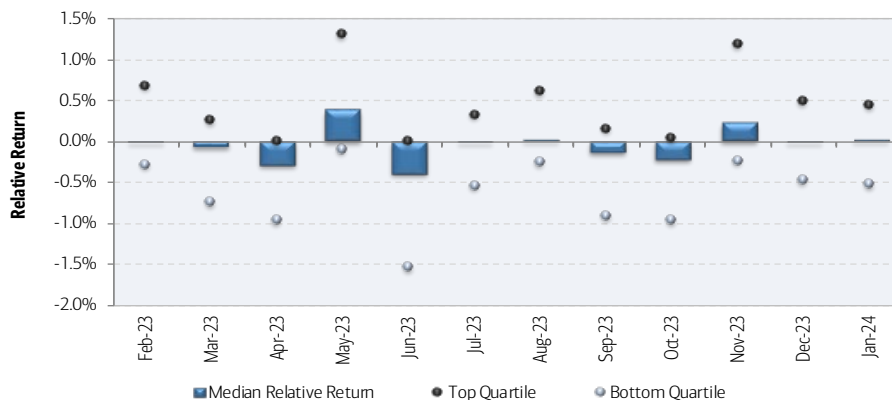
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Region: EUROPE

Chart 13: Relative returns of EUROPE funds - Last 12 months

Europe funds have outperformed by 0.02% last month

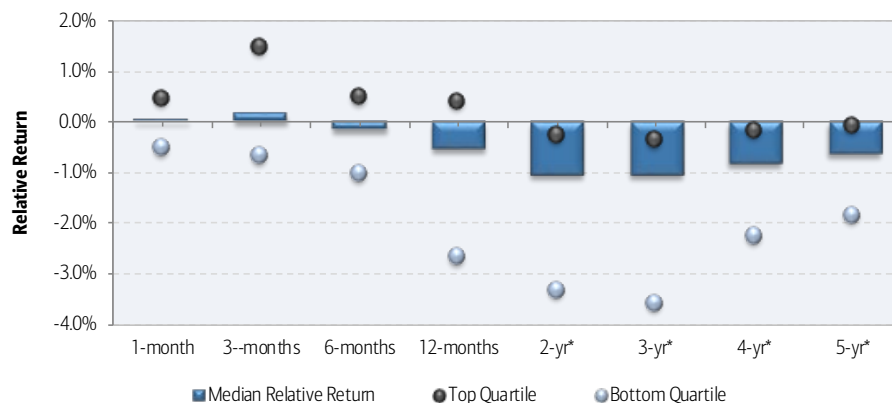


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 14: Relative returns of EUROPE funds : Periodic returns

Europe have outperformed by 0.15% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 5: Relative returns of EUROPE funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.02%	0.44%	-0.54%
3--months	0.15%	1.47%	-0.69%
6-months	-0.17%	0.50%	-1.04%
12-months	-0.54%	0.40%	-2.69%
2-yr*	-1.05%	-0.26%	-3.35%
3-yr*	-1.06%	-0.36%	-3.60%
4-yr*	-0.82%	-0.17%	-2.26%
5-yr*	-0.64%	-0.08%	-1.87%

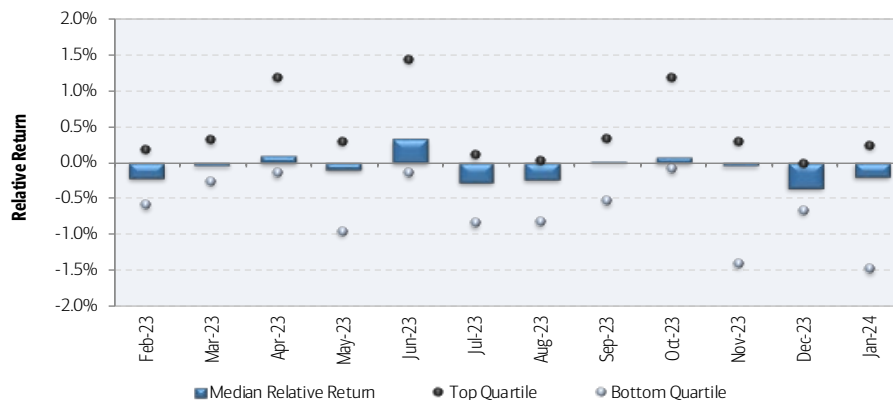
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Region: JAPAN

Chart 15: Relative returns of JAPAN funds - Last 12 months

Japan funds have underperformed by -0.19% last month

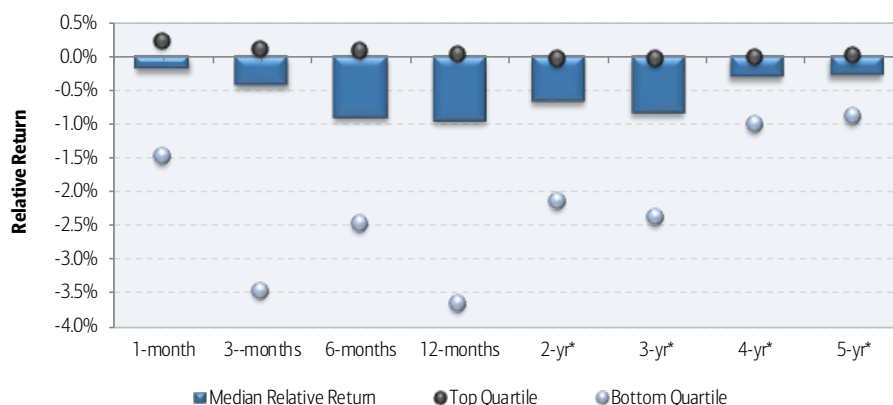


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 16: Relative returns of JAPAN funds : Periodic returns

Japan have underperformed by -0.19% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 6: Relative returns of JAPAN funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.19%	0.23%	-1.50%
3--months	-0.43%	0.11%	-3.48%
6-months	-0.91%	0.07%	-2.49%
12-months	-0.95%	0.03%	-3.68%
2-yr*	-0.68%	-0.05%	-2.16%
3-yr*	-0.83%	-0.03%	-2.40%
4-yr*	-0.32%	-0.03%	-1.02%
5-yr*	-0.28%	0.01%	-0.89%

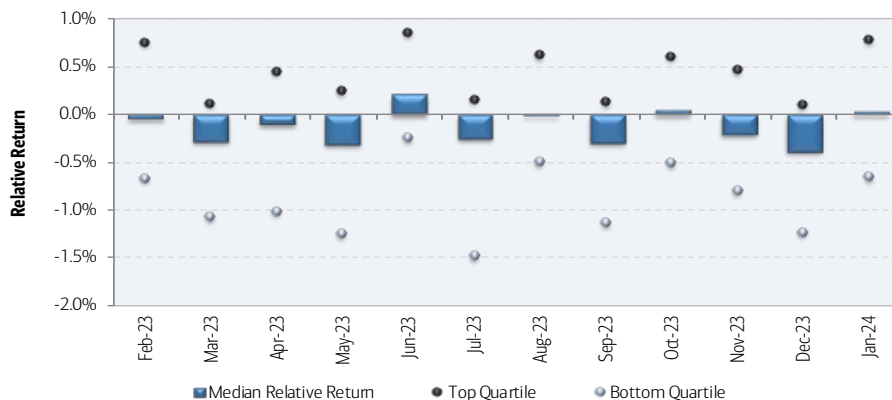
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Region: ASIA PAC ex-JAPAN

Chart 17: Relative returns of ASIA PAC ex-JAPAN funds - Last 12 months

APxJ funds have outperformed by 0.03% last month

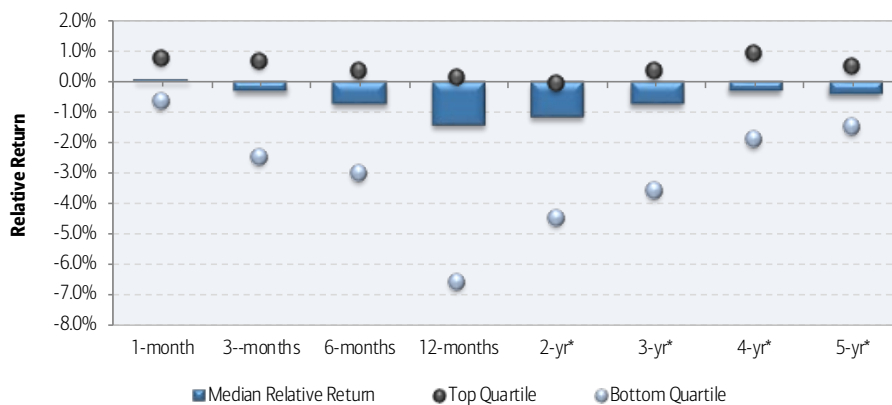


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 18: Relative returns of ASIA PAC ex-JAPAN funds : Periodic returns

APxJ have outperformed by 0.03% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 7: Relative returns of ASIA PAC ex-JAPAN funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.03%	0.77%	-0.66%
3--months	-0.35%	0.67%	-2.51%
6-months	-0.76%	0.31%	-3.06%
12-months	-1.45%	0.10%	-6.67%
2-yr*	-1.20%	-0.09%	-4.53%
3-yr*	-0.74%	0.30%	-3.63%
4-yr*	-0.34%	0.91%	-1.96%
5-yr*	-0.46%	0.47%	-1.53%

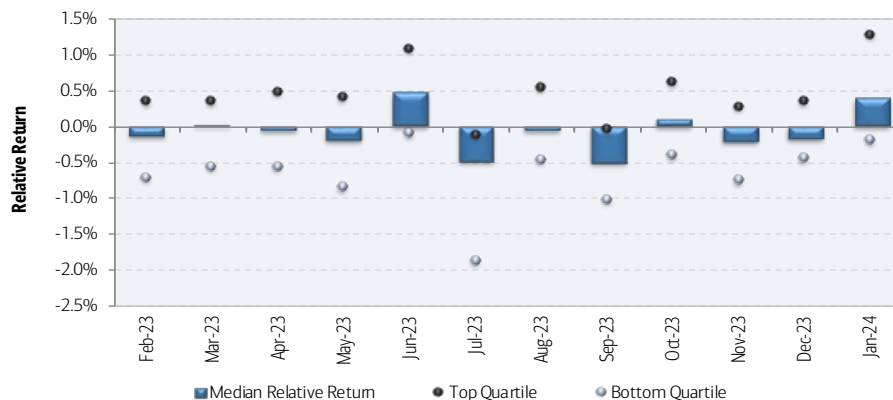
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Region: EMERGING MARKETS

Chart 19: Relative returns of EMERGING MARKETS funds - Last 12 months

EM funds have outperformed by 0.39% last month

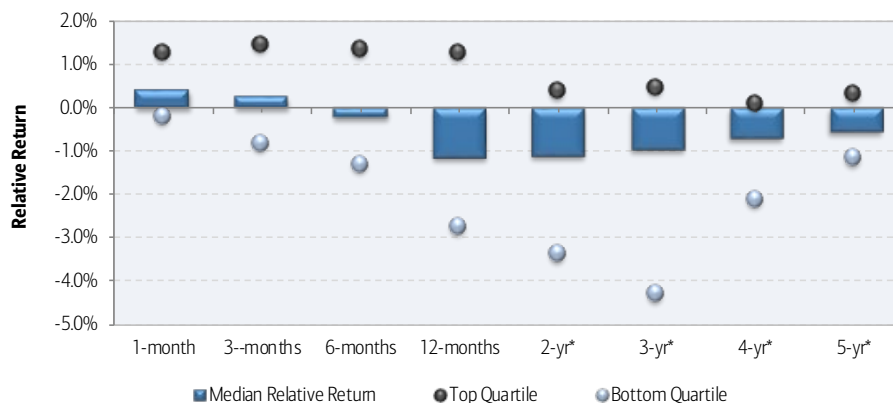


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 20: Relative returns of EMERGING MARKETS funds : Periodic returns

EM have outperformed by 0.39% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 8: Relative returns of EMERGING MARKETS funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.39%	1.26%	-0.19%
3--months	0.26%	1.44%	-0.83%
6-months	-0.21%	1.36%	-1.32%
12-months	-1.17%	1.25%	-2.74%
2-yr*	-1.11%	0.38%	-3.39%
3-yr*	-0.97%	0.46%	-4.31%
4-yr*	-0.71%	0.11%	-2.14%
5-yr*	-0.55%	0.32%	-1.17%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Investment Style

Chart 21: Relative returns of Funds by Investment Style: Last month

Dispersion between top and bottom quintile by perf was largest for Value funds

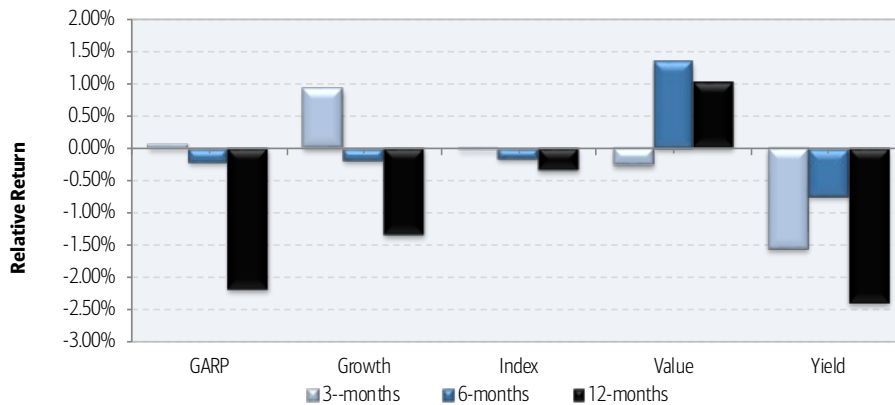


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 22: Relative returns of Funds by Investment Style: Periodic returns

Last month the best performing fund group was Value

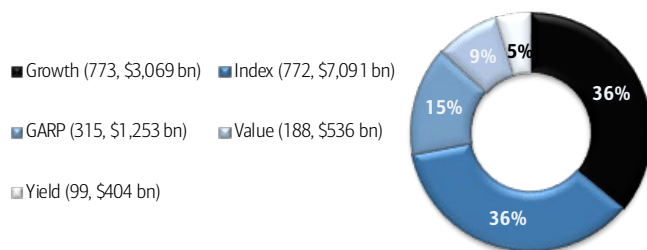


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 23: Percentage of Funds by Investment Style

Growth funds constitutes 36% of this fund group



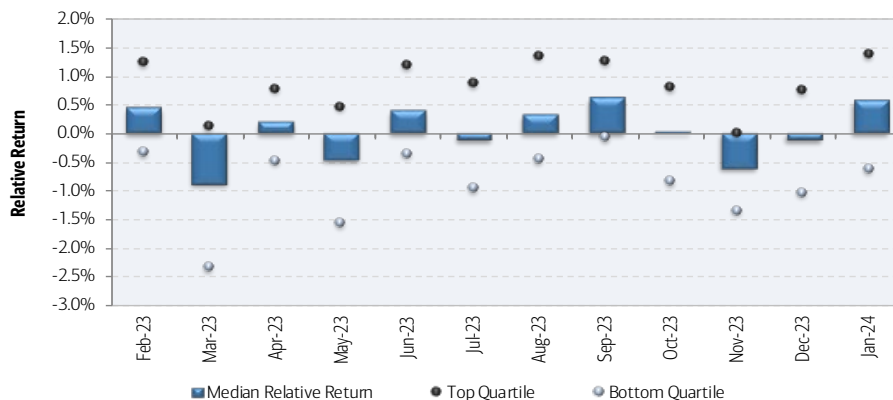
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Funds by Investment Style: VALUE

Chart 24: Relative returns of VALUE funds - Last 12 months

Value funds have outperformed by 0.57% last month

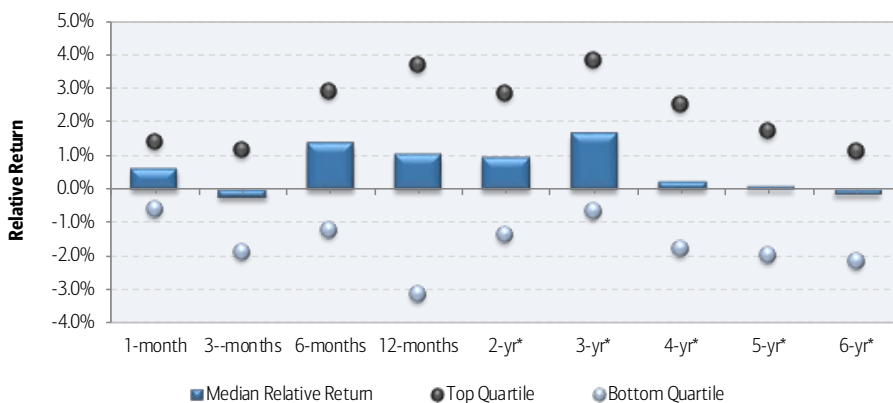


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 25: Relative returns of VALUE funds : Periodic returns

Value have outperformed by 1.64% in the last 3-yr*



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 9: Relative returns of VALUE funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.57%	1.37%	-0.63%
3--months	-0.24%	1.13%	-1.92%
6-months	1.35%	2.88%	-1.27%
12-months	1.03%	3.68%	-3.16%
2-yr*	0.93%	2.80%	-1.42%
3-yr*	1.64%	3.79%	-0.70%
4-yr*	0.21%	2.50%	-1.84%
5-yr*	0.08%	1.68%	-2.01%
6-yr*	-0.14%	1.07%	-2.21%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Investment Style: GROWTH

Chart 26: Relative returns of GROWTH funds - Last 12 months

Growth funds have outperformed by 0.12% last month

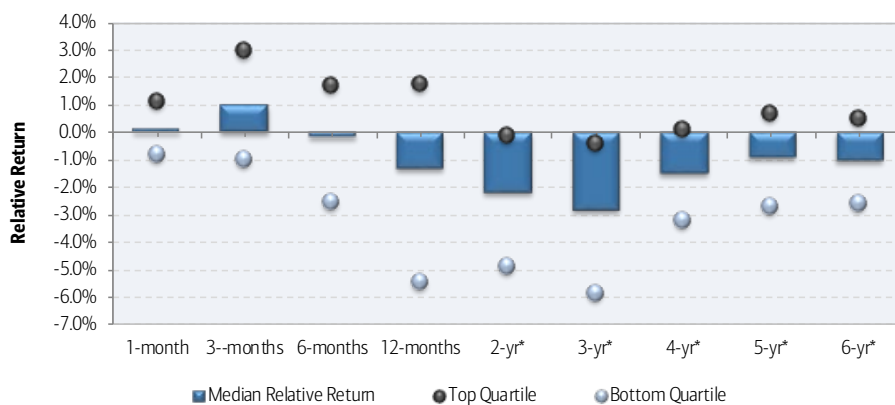


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 27: Relative returns of GROWTH funds : Periodic returns

Growth have outperformed by 0.94% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 10: Relative returns of GROWTH funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.12%	1.11%	-0.82%
3--months	0.94%	2.93%	-1.00%
6-months	-0.17%	1.66%	-2.55%
12-months	-1.32%	1.76%	-5.49%
2-yr*	-2.19%	-0.18%	-4.92%
3-yr*	-2.79%	-0.46%	-5.86%
4-yr*	-1.49%	0.07%	-3.24%
5-yr*	-0.93%	0.67%	-2.76%
6-yr*	-1.05%	0.49%	-2.63%

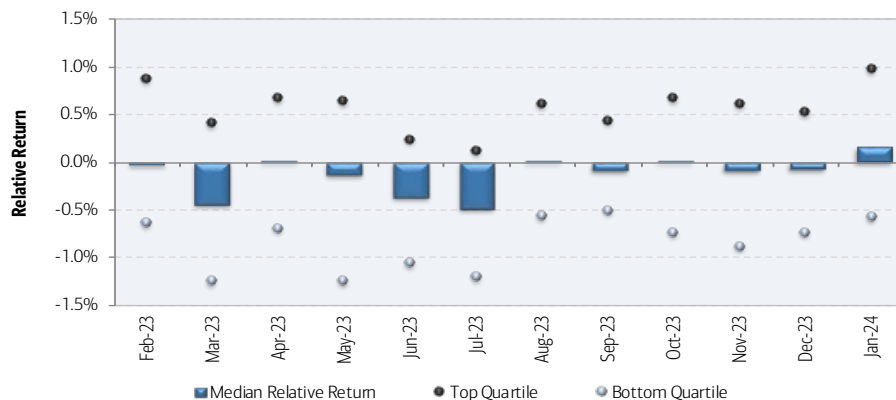
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Investment Style: GARP

Chart 28: Relative returns of GARP funds - Last 12 months

GARP funds have outperformed by 0.16% last month

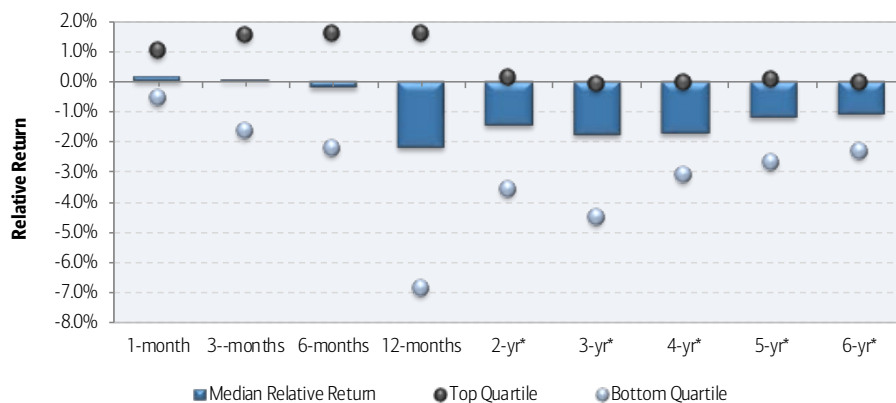


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 29: Relative returns of GARP funds : Periodic returns

GARP have outperformed by 0.16% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 11: Relative returns of GARP funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.16%	0.96%	-0.59%
3--months	0.05%	1.49%	-1.67%
6-months	-0.20%	1.57%	-2.23%
12-months	-2.17%	1.56%	-6.88%
2-yr*	-1.46%	0.09%	-3.61%
3-yr*	-1.73%	-0.09%	-4.52%
4-yr*	-1.70%	-0.03%	-3.13%
5-yr*	-1.17%	0.07%	-2.73%
6-yr*	-1.06%	-0.06%	-2.35%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Investment Style: YIELD

Chart 30: Relative returns of YIELD funds - Last 12 months

Yield funds have underperformed by -0.20% last month

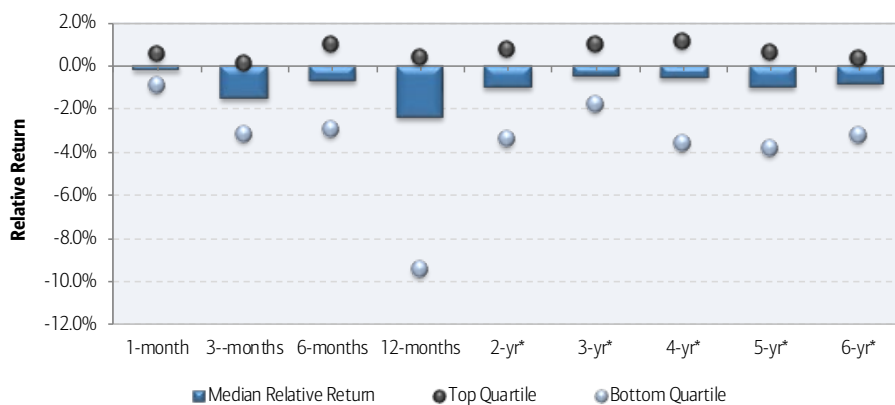


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 31: Relative returns of YIELD funds : Periodic returns

Yield have underperformed by -0.20% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 12: Relative returns of YIELD funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.20%	0.53%	-0.95%
3--months	-1.53%	0.07%	-3.22%
6-months	-0.73%	0.92%	-3.02%
12-months	-2.38%	0.39%	-9.52%
2-yr*	-0.99%	0.76%	-3.40%
3-yr*	-0.45%	0.94%	-1.83%
4-yr*	-0.55%	1.06%	-3.69%
5-yr*	-0.98%	0.60%	-3.90%
6-yr*	-0.85%	0.31%	-3.26%

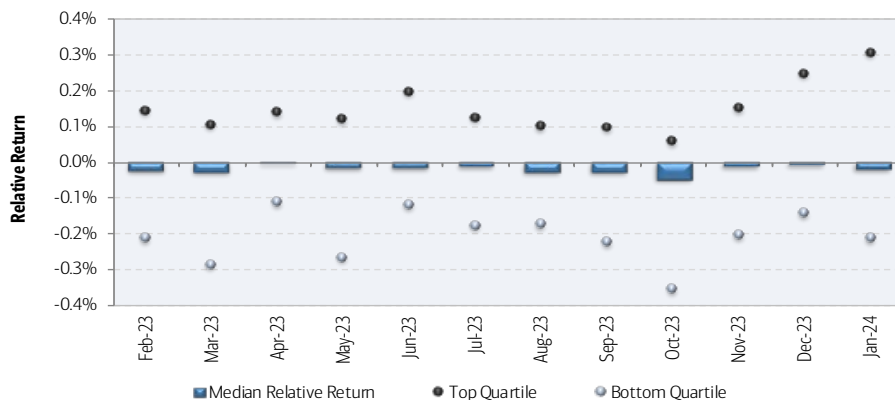
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Investment Style: INDEX funds

Chart 32: Relative returns of INDEX funds - Last 12 months

Index funds have underperformed by -0.02% last month

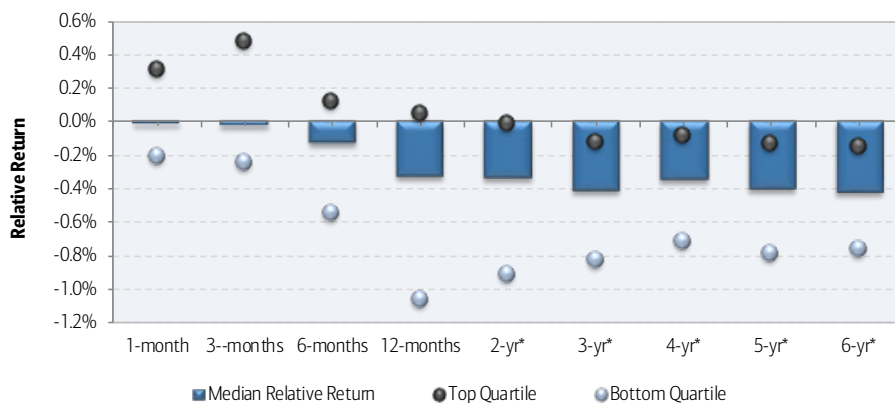


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 33: Relative returns of INDEX funds : Periodic returns

Index have underperformed by -0.02% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 13: Relative returns of INDEX funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.02%	0.31%	-0.21%
3--months	-0.02%	0.47%	-0.25%
6-months	-0.14%	0.12%	-0.55%
12-months	-0.33%	0.05%	-1.06%
2-yr*	-0.34%	-0.01%	-0.92%
3-yr*	-0.41%	-0.12%	-0.83%
4-yr*	-0.34%	-0.09%	-0.72%
5-yr*	-0.41%	-0.13%	-0.79%
6-yr*	-0.42%	-0.16%	-0.77%

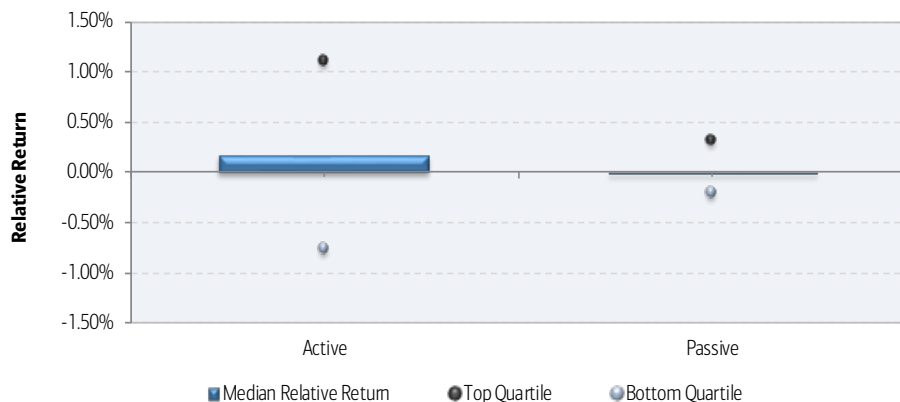
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Active/Passive

Chart 34: Relative returns of Funds by Management Type (Active/Passive): Last month

Best fund group based on median 1-m returns was Active

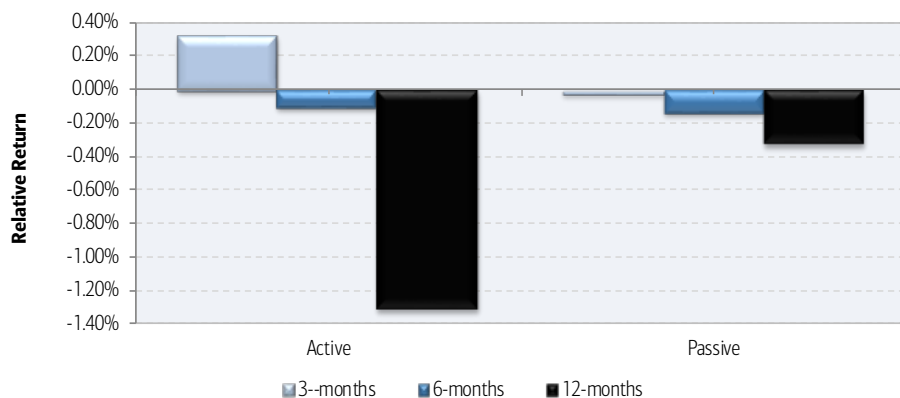


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 35: Relative returns of Funds by Type (Active/Passive): Periodic returns

Last month the best performing fund group was Active

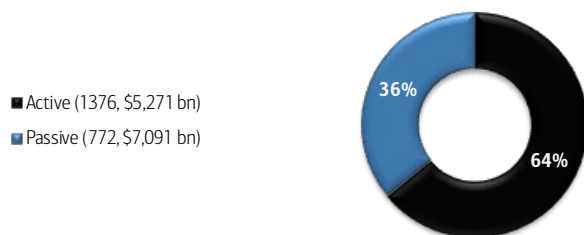


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 36: Percentage of Funds by Fund Type (Active/Passive)

Active funds constitutes 64% of this fund group



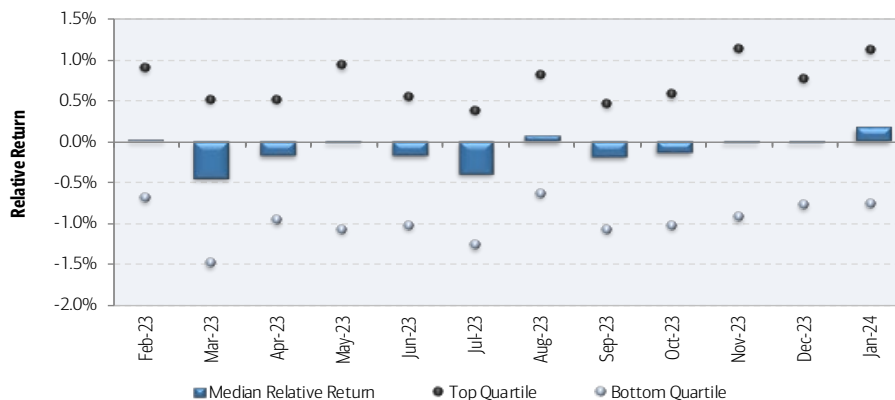
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

ACTIVE funds

Chart 37: Relative returns of ACTIVE funds - Last 12 months

Active funds have outperformed by 0.17% last month

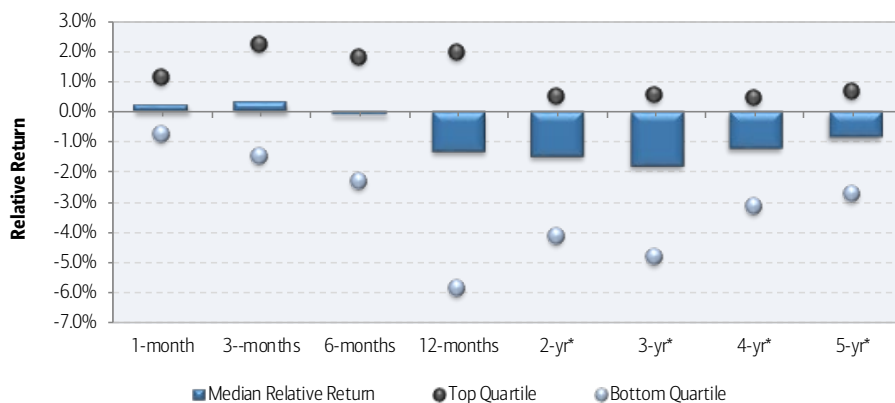


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 38: Relative returns of ACTIVE funds : Periodic returns

Active have outperformed by 0.32% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 14: Relative returns of ACTIVE funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.17%	1.11%	-0.77%
3--months	0.32%	2.18%	-1.53%
6-months	-0.11%	1.79%	-2.36%
12-months	-1.31%	1.96%	-5.89%
2-yr*	-1.50%	0.46%	-4.17%
3-yr*	-1.81%	0.51%	-4.82%
4-yr*	-1.22%	0.45%	-3.16%
5-yr*	-0.83%	0.64%	-2.75%

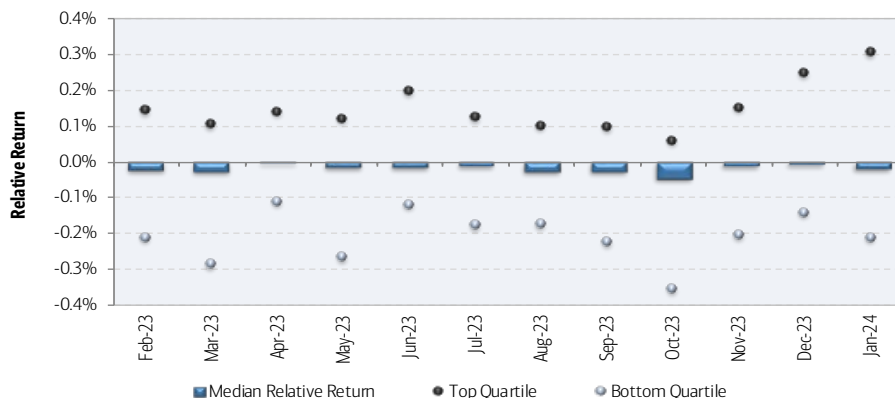
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

PASSIVE funds

Chart 39: Relative returns of PASSIVE funds - Last 12 months

Passive funds have underperformed by -0.02% last month

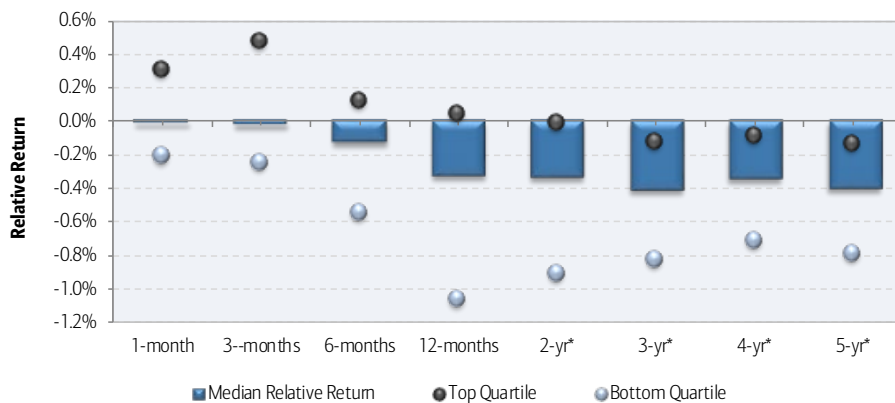


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 40: Relative returns of PASSIVE funds : Periodic returns

Passive have underperformed by -0.02% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 15: Relative returns of PASSIVE funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.02%	0.31%	-0.21%
3--months	-0.02%	0.47%	-0.25%
6-months	-0.14%	0.12%	-0.55%
12-months	-0.33%	0.05%	-1.06%
2-yr*	-0.34%	-0.01%	-0.92%
3-yr*	-0.41%	-0.12%	-0.83%
4-yr*	-0.34%	-0.09%	-0.72%
5-yr*	-0.41%	-0.13%	-0.79%

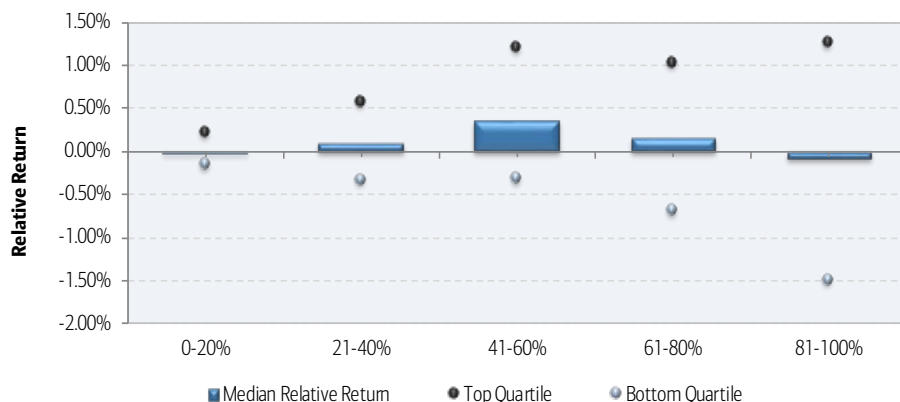
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Active Share Ratio (ASR)

Chart 41: Relative returns of Funds by ASR: Last month

Dispersion between top and bottom quintile by perf was largest for 81-100% funds

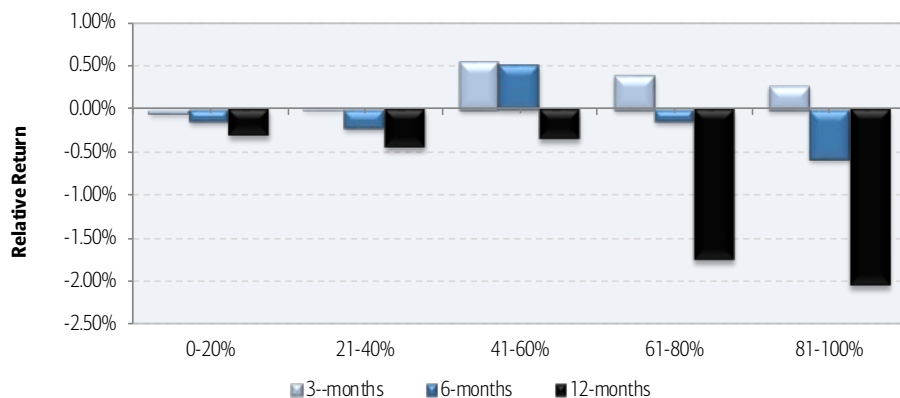


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 42: Relative returns of Funds by ASR: Periodic returns

Last month the best performing fund group was 41-60%



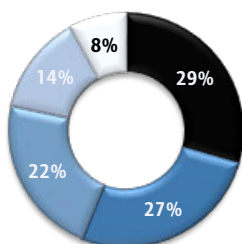
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 43: Percentage of Funds by Active Share Ratio

0-20% funds constitutes 29% of this fund group

- 0-20% (633, \$6,673 bn)
- 61-80% (571, \$2,363 bn)
- 81-100% (478, \$1,206 bn)
- 41-60% (296, \$1,529 bn)
- 21-40% (168, \$588 bn)



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Funds by ASR between 1% - 20%

Chart 44: Relative returns of funds with ASR < 20% - Last 12 months

0-20% funds have underperformed by -0.02% last month

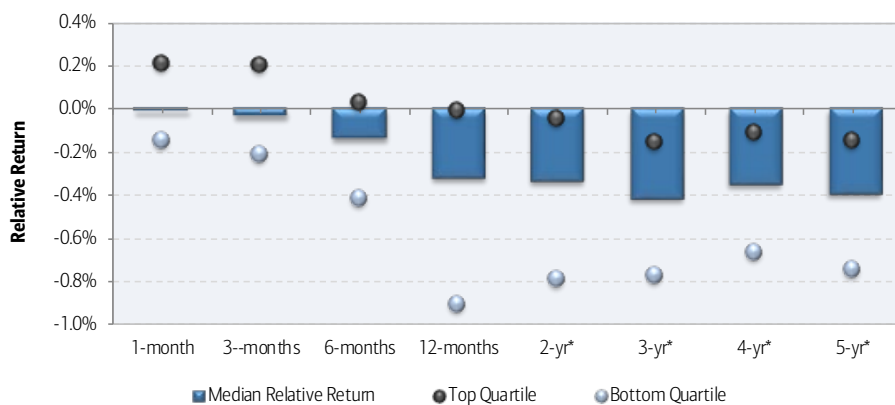


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 45: Relative returns of funds with ASR < 20% : Periodic returns

0-20% have underperformed by -0.02% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 16: Relative returns of funds with ASR < 20% : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.02%	0.21%	-0.15%
3--months	-0.04%	0.20%	-0.22%
6-months	-0.14%	0.02%	-0.42%
12-months	-0.32%	-0.01%	-0.91%
2-yr*	-0.33%	-0.05%	-0.79%
3-yr*	-0.42%	-0.16%	-0.78%
4-yr*	-0.35%	-0.12%	-0.67%
5-yr*	-0.40%	-0.15%	-0.75%

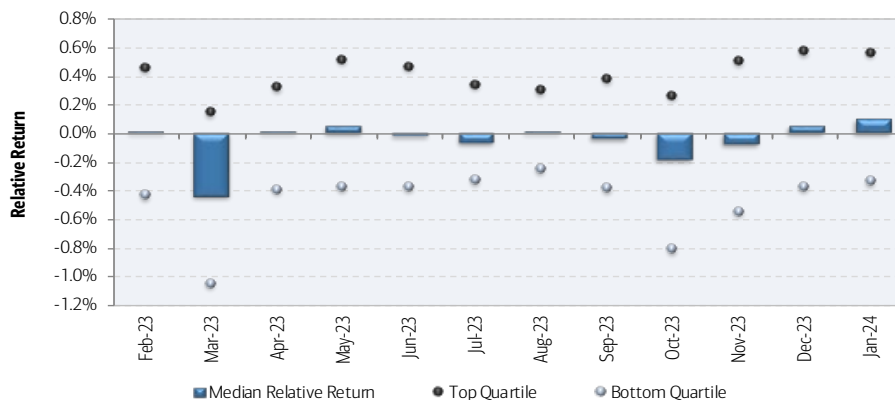
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by ASR between 21% - 40%

Chart 46: Relative returns of funds with ASR (21% - 40%) - Last 12 months

21-40% funds have outperformed by 0.10% last month

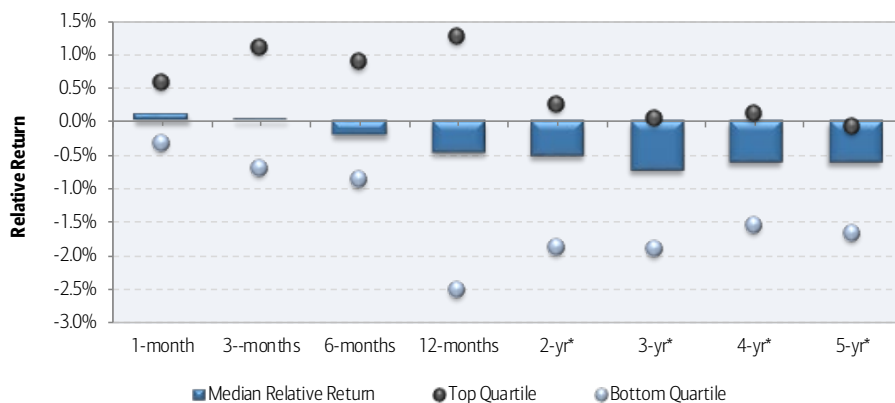


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 47: Relative returns of funds with ASR (21% - 40%) : Periodic returns

21-40% have outperformed by 0.10% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 17: Relative returns of funds with ASR (21% - 40%) : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.10%	0.56%	-0.34%
3--months	0.02%	1.08%	-0.71%
6-months	-0.21%	0.88%	-0.89%
12-months	-0.46%	1.25%	-2.52%
2-yr*	-0.51%	0.24%	-1.89%
3-yr*	-0.72%	0.05%	-1.91%
4-yr*	-0.61%	0.10%	-1.56%
5-yr*	-0.61%	-0.07%	-1.68%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by ASR between 41% - 60%

Chart 48: Relative returns of funds with ASR (41% - 60%) - Last 12 months

41-60% funds have outperformed by 0.37% last month

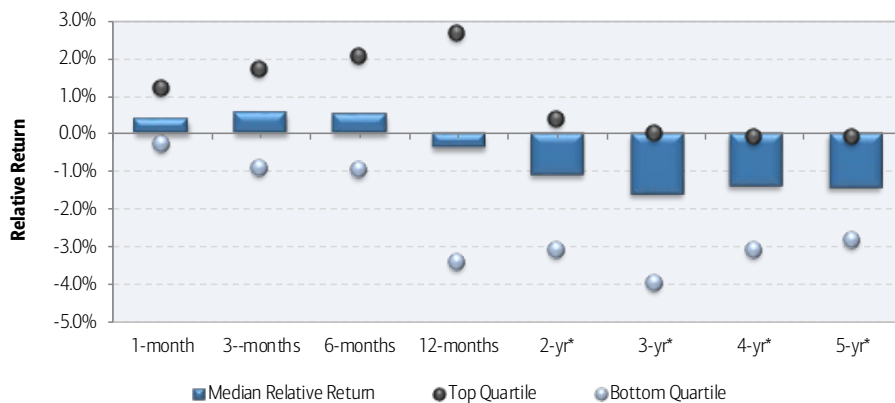


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 49: Relative returns of funds with ASR (41% - 60%) : Periodic returns

41-60% have outperformed by 0.56% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 18: Relative returns of funds with ASR (41% - 60%) : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.37%	1.19%	-0.32%
3--months	0.56%	1.69%	-0.92%
6-months	0.51%	2.03%	-0.97%
12-months	-0.36%	2.64%	-3.43%
2-yr*	-1.07%	0.36%	-3.09%
3-yr*	-1.59%	-0.02%	-3.97%
4-yr*	-1.36%	-0.11%	-3.09%
5-yr*	-1.43%	-0.10%	-2.87%

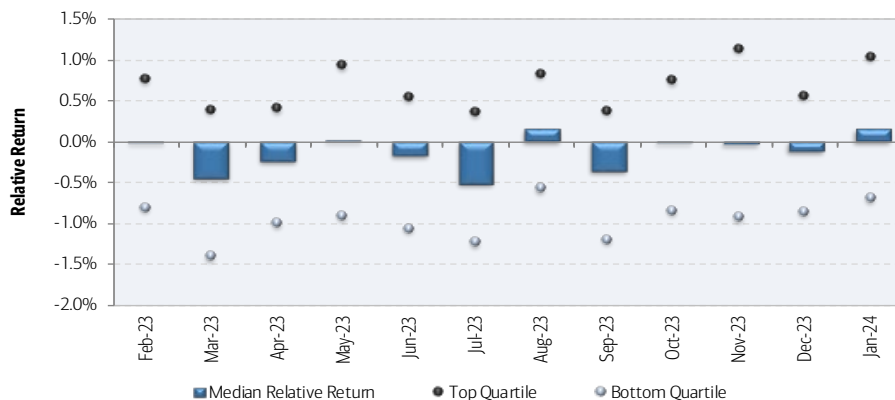
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by ASR between 61% - 80%

Chart 50: Relative returns of funds with ASR (61% - 80%) - Last 12 months

61-80% funds have outperformed by 0.16% last month

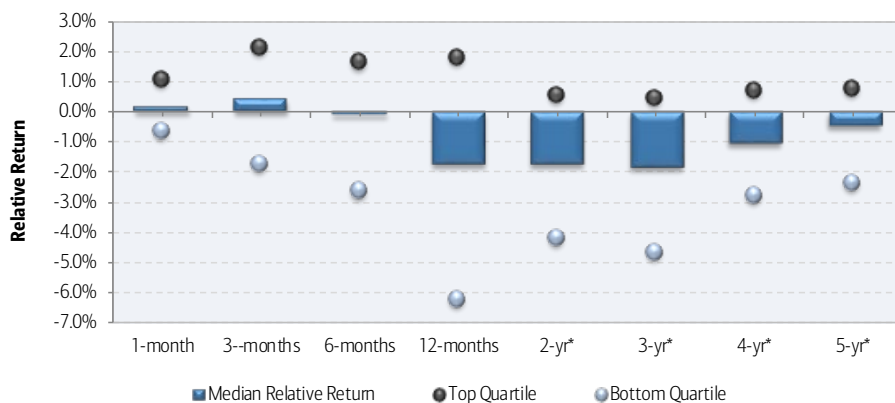


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 51: Relative returns of funds with ASR (61% - 80%) : Periodic returns

61-80% have outperformed by 0.38% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 19: Relative returns of funds with ASR (61% - 80%) : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.16%	1.03%	-0.69%
3--months	0.38%	2.07%	-1.79%
6-months	-0.14%	1.63%	-2.65%
12-months	-1.75%	1.77%	-6.24%
2-yr*	-1.73%	0.53%	-4.23%
3-yr*	-1.85%	0.44%	-4.68%
4-yr*	-1.06%	0.69%	-2.83%
5-yr*	-0.48%	0.75%	-2.38%

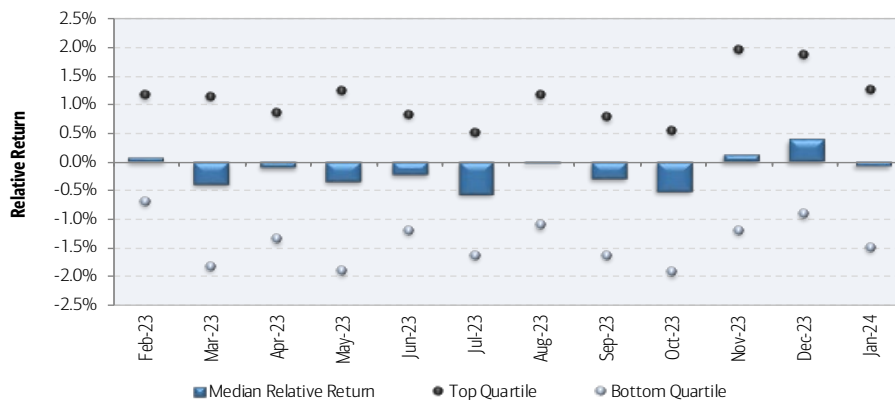
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by ASR between 81% - 100%

Chart 52: Relative returns of funds with ASR (81% - 100%) - Last 12 months

81-100% funds have underperformed by -0.06% last month

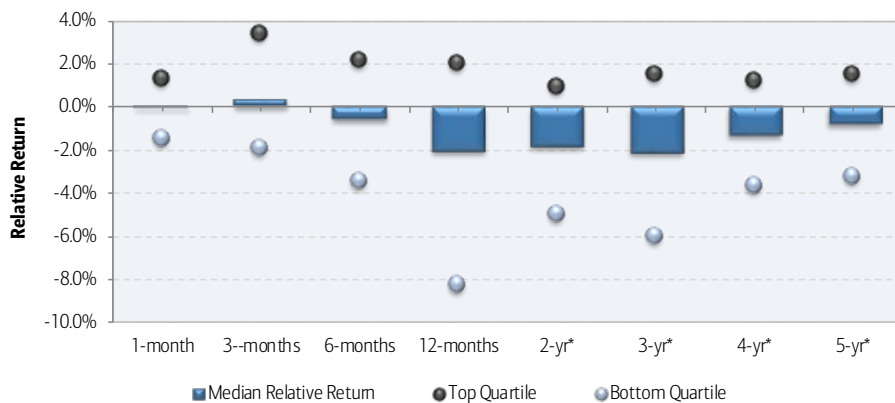


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 53: Relative returns of funds with ASR (81% - 100%) : Periodic returns

81-100% have outperformed by 0.28% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 20: Relative returns of funds with ASR (81% - 100%) : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.06%	1.26%	-1.50%
3--months	0.28%	3.39%	-1.95%
6-months	-0.58%	2.13%	-3.47%
12-months	-2.05%	2.00%	-8.32%
2-yr*	-1.82%	0.88%	-4.99%
3-yr*	-2.09%	1.49%	-6.05%
4-yr*	-1.31%	1.21%	-3.68%
5-yr*	-0.81%	1.51%	-3.24%

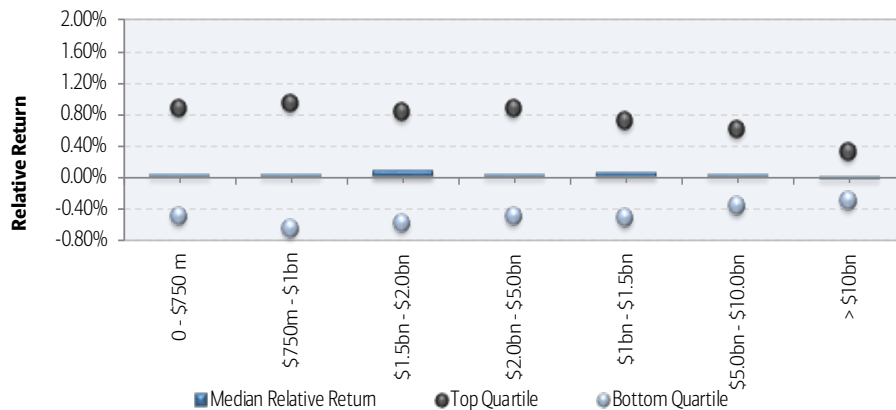
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Funds Under Management (FUM) (\$US)

Chart 54: Relative returns of Funds by FUM (USD \$): Last month

Dispersion between top and bottom quintile by perf was largest for \$750m - \$1bn funds

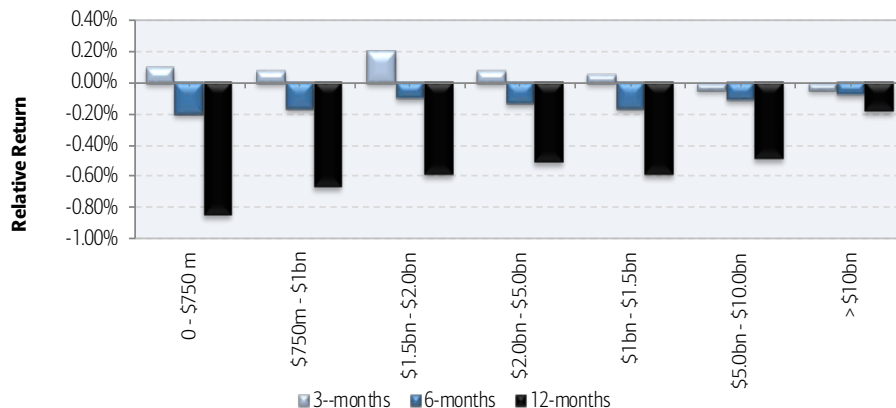


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 55: Relative returns of Funds by FUM (USD \$): Periodic returns

Last month the best performing fund group was \$1.5bn - \$2.0bn

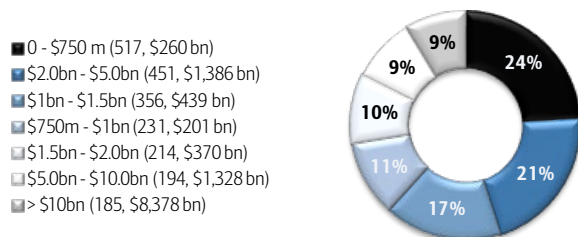


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 56: Percentage of Funds by FUM (USD \$)

0 - \$750 m funds constitutes 24% of this fund group



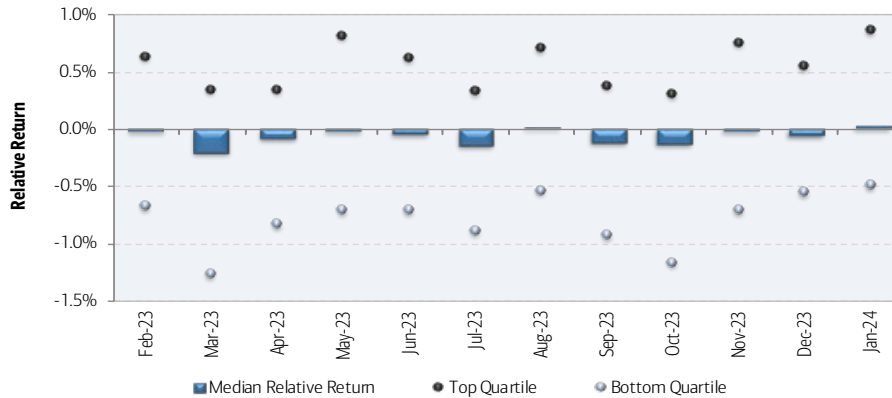
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Funds by FUM between \$1 - \$750m

Chart 57: Relative returns of funds managing < \$750m - Last 12 months

0 - \$750 m funds have outperformed by 0.03% last month

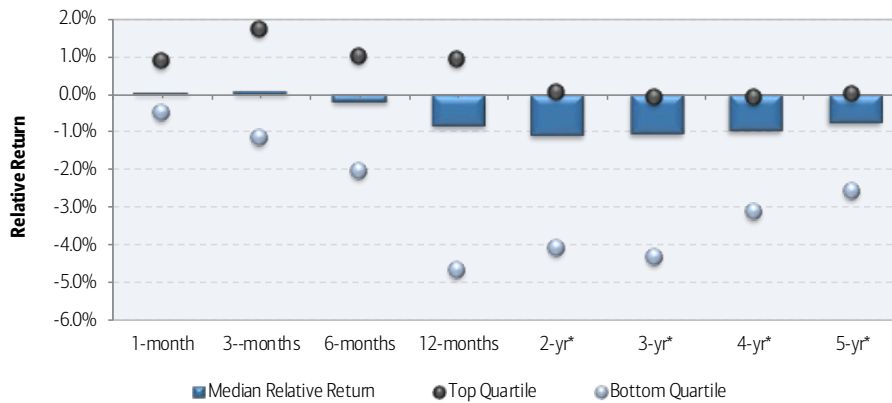


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 58: Relative returns of funds managing < \$750m : Periodic returns

0 - \$750 m have outperformed by 0.10% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 21: Relative returns of funds managing < \$750m : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.03%	0.86%	-0.50%
3--months	0.10%	1.67%	-1.20%
6-months	-0.20%	1.00%	-2.07%
12-months	-0.85%	0.90%	-4.69%
2-yr*	-1.09%	0.01%	-4.11%
3-yr*	-1.05%	-0.11%	-4.36%
4-yr*	-0.97%	-0.11%	-3.15%
5-yr*	-0.76%	-0.03%	-2.61%

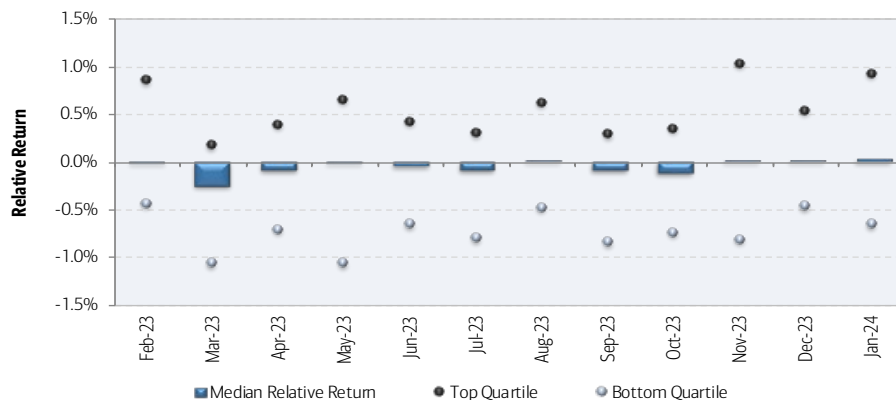
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by FUM between \$750m - \$1bn

Chart 59: Relative returns of funds managing between \$750m and \$1bn - Last 12 months

\$750m - \$1000m funds have outperformed by 0.03% last month

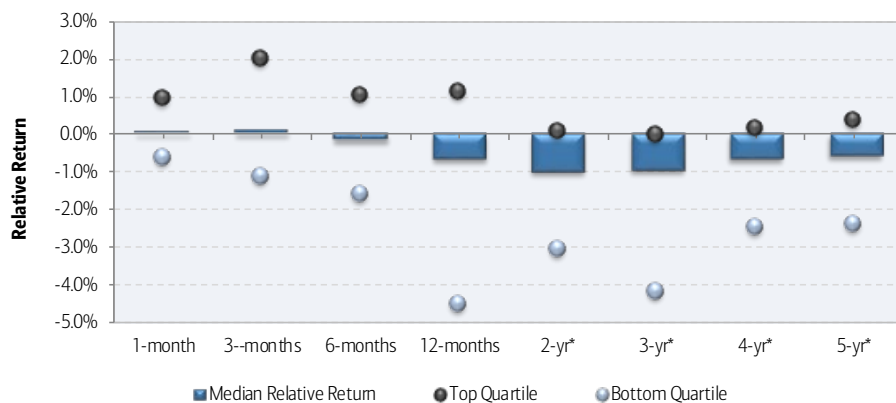


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 60: Relative returns of funds managing between \$750m and \$1bn : Periodic returns

\$750m - \$1000m have outperformed by 0.08% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 22: Relative returns of funds managing between \$750m and \$1bn : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.03%	0.93%	-0.67%
3--months	0.08%	1.97%	-1.15%
6-months	-0.17%	1.01%	-1.60%
12-months	-0.67%	1.08%	-4.51%
2-yr*	-0.99%	0.05%	-3.06%
3-yr*	-0.98%	-0.04%	-4.19%
4-yr*	-0.67%	0.13%	-2.48%
5-yr*	-0.56%	0.37%	-2.40%

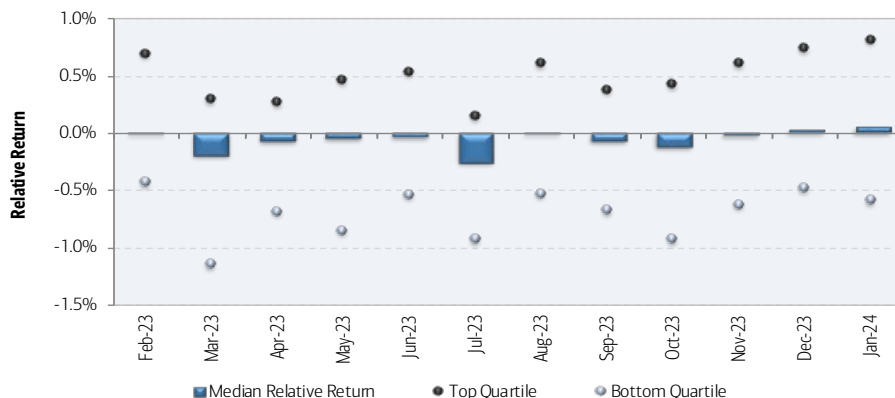
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by FUM between \$1bn - 1.5bn

Chart 61: Relative returns of funds managing between \$1.0bn and \$1.5bn - Last 12 months

\$1000m - 1500m funds have outperformed by 0.06% last month

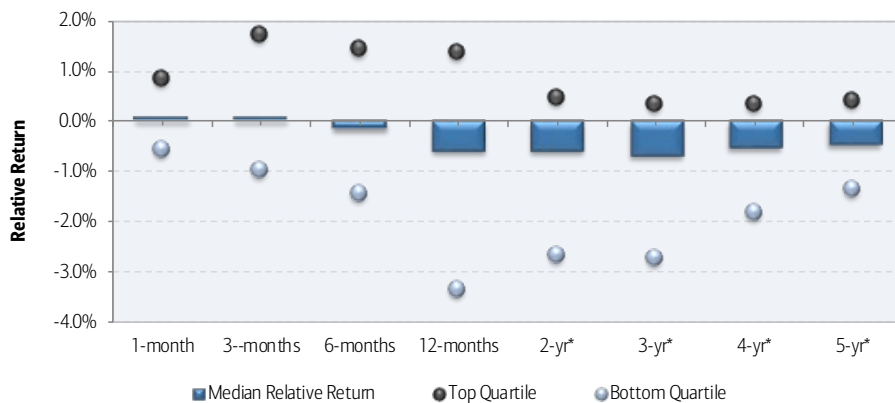


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 62: Relative returns of funds managing between \$1.0bn and \$1.5bn : Periodic returns

\$1000m - 1500m have outperformed by 0.06% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 23: Relative returns of funds managing between \$1.0bn and \$1.5bn : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.06%	0.81%	-0.59%
3-months	0.06%	1.71%	-1.00%
6-months	-0.17%	1.42%	-1.46%
12-months	-0.58%	1.36%	-3.37%
2-yr*	-0.60%	0.44%	-2.66%
3-yr*	-0.68%	0.34%	-2.75%
4-yr*	-0.53%	0.34%	-1.82%
5-yr*	-0.46%	0.39%	-1.35%

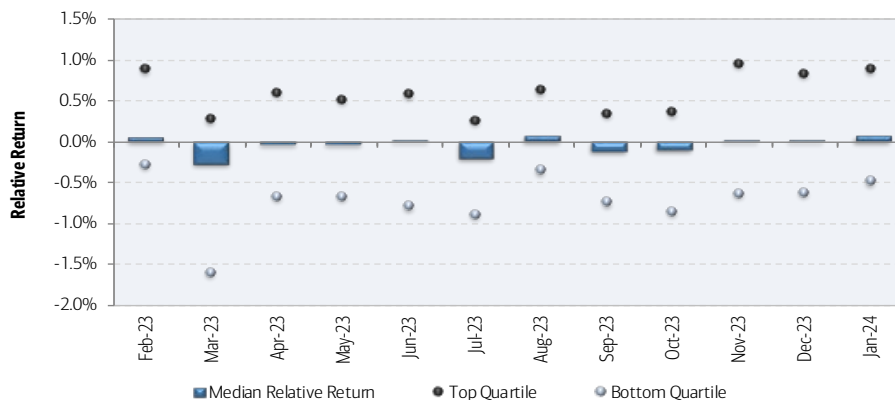
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by FUM between \$1.5bn - \$2.0bn

Chart 63: Relative returns of funds managing between \$1.5bn and \$2.0bn - Last 12 months

\$1500m - \$2000m funds have outperformed by 0.07% last month

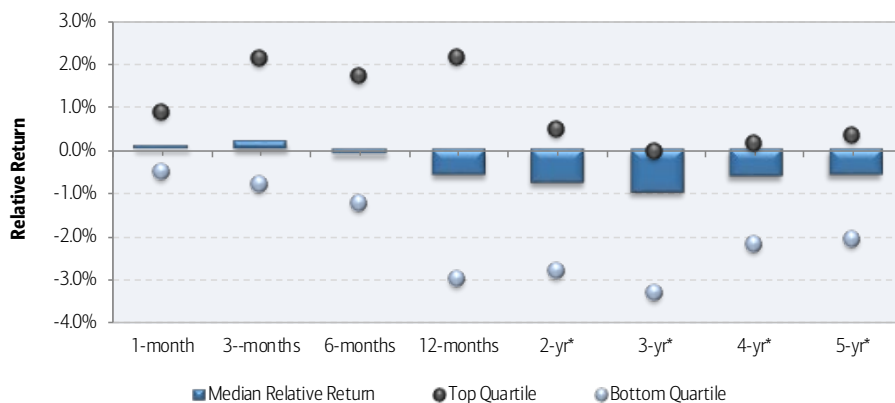


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 64: Relative returns of funds managing between \$1.5bn and \$2.0bn : Periodic returns

\$1500m - \$2000m have outperformed by 0.20% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 24: Relative returns of funds managing between \$1.5bn and \$2.0bn : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.07%	0.87%	-0.50%
3--months	0.20%	2.09%	-0.81%
6-months	-0.10%	1.71%	-1.23%
12-months	-0.58%	2.16%	-2.98%
2-yr*	-0.76%	0.47%	-2.81%
3-yr*	-0.97%	-0.04%	-3.34%
4-yr*	-0.59%	0.15%	-2.20%
5-yr*	-0.57%	0.31%	-2.09%

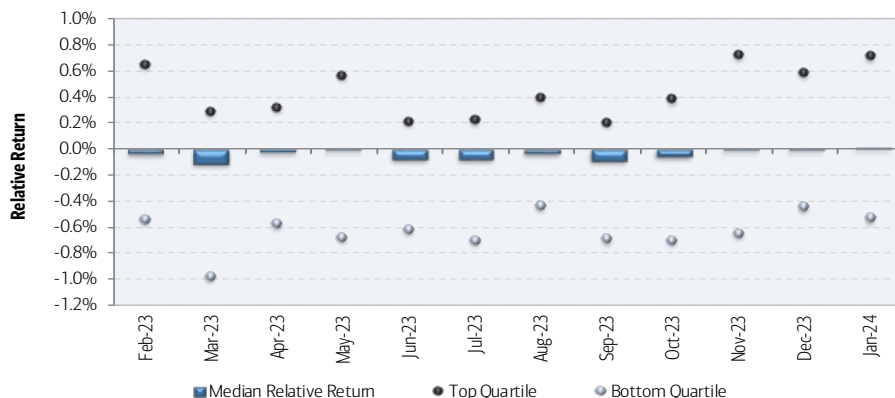
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by FUM between \$2bn - \$5bn

Chart 65: Relative returns of funds managing between \$2.0bn and \$5.0bn - Last 12 months

\$2000m - \$5000m funds have outperformed by 0.01% last month

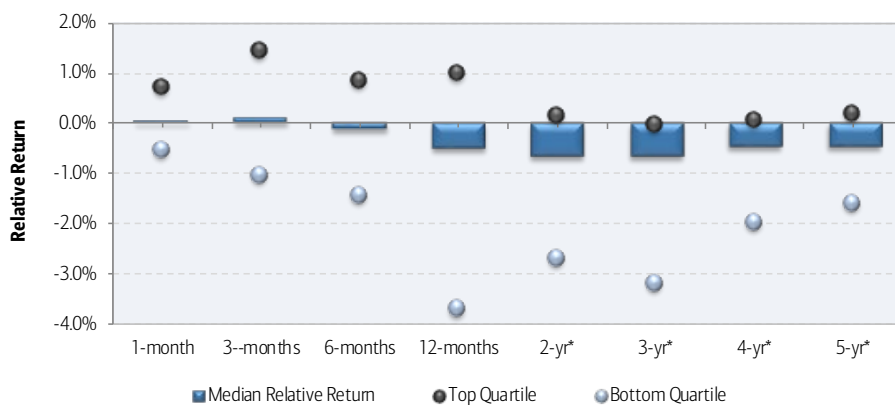


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 66: Relative returns of funds managing between \$2.0bn and \$5.0bn : Periodic returns

\$2000m - \$5000m have outperformed by 0.08% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 25: Relative returns of funds managing between \$2.0bn and \$5.0bn : Periodic returns

Median, Top and Bottom Quartile returns for various periods

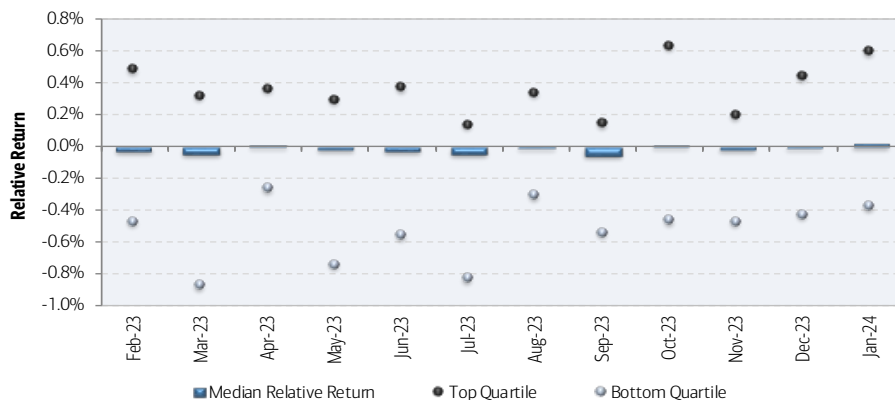
Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.01%	0.70%	-0.54%
3--months	0.08%	1.43%	-1.04%
6-months	-0.13%	0.84%	-1.47%
12-months	-0.51%	0.99%	-3.69%
2-yr*	-0.64%	0.14%	-2.69%
3-yr*	-0.66%	-0.04%	-3.20%
4-yr*	-0.46%	0.05%	-1.97%
5-yr*	-0.46%	0.16%	-1.62%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by FUM between \$5.0bn - \$10bn

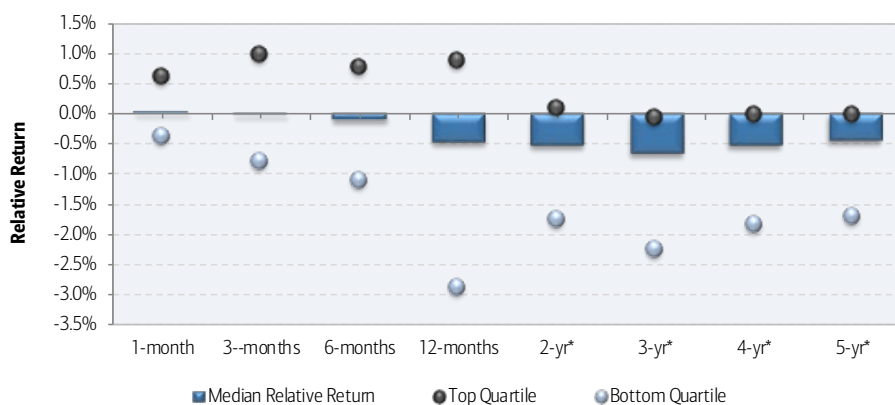
Chart 67: Relative returns of funds managing between \$5.0bn and \$10.0bn - Last 12 months
\$5000m - \$10000m funds have outperformed by 0.01% last month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 68: Relative returns of funds managing between \$5.0bn and \$10.0bn : Periodic returns
\$5000m - \$10000m have outperformed by 0.01% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 26: Relative returns of funds managing between \$5.0bn and \$10.0bn : Periodic returns
Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.01%	0.59%	-0.39%
3--months	-0.04%	0.97%	-0.81%
6-months	-0.11%	0.75%	-1.12%
12-months	-0.49%	0.85%	-2.90%
2-yr*	-0.54%	0.07%	-1.77%
3-yr*	-0.66%	-0.07%	-2.27%
4-yr*	-0.53%	-0.03%	-1.83%
5-yr*	-0.46%	-0.04%	-1.72%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by FUM > \$10bn

Chart 69: Relative returns of funds managing > \$10bn - Last 12 months

> \$10000m funds have underperformed by -0.02% last month

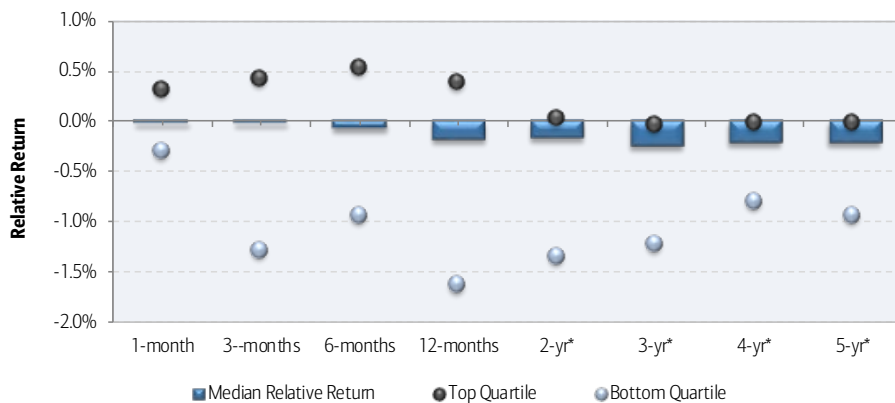


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 70: Relative returns of funds managing > \$10bn : Periodic returns

> \$10000m have underperformed by -0.02% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 27: Relative returns of funds managing > \$10bn : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.02%	0.31%	-0.31%
3--months	-0.04%	0.42%	-1.29%
6-months	-0.08%	0.52%	-0.94%
12-months	-0.19%	0.38%	-1.64%
2-yr*	-0.18%	0.03%	-1.35%
3-yr*	-0.24%	-0.04%	-1.23%
4-yr*	-0.23%	-0.02%	-0.81%
5-yr*	-0.23%	-0.03%	-0.95%

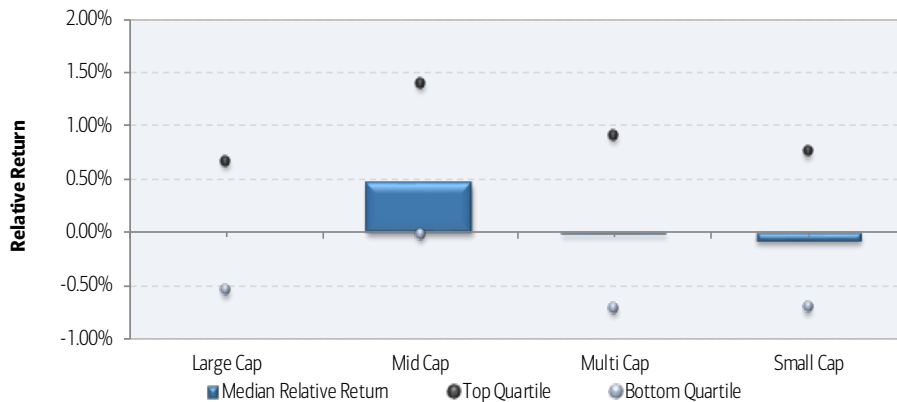
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Market Cap of Stocks

Chart 71: Relative returns of Funds by MCAP: Last month

Best fund group based on median 1-m returns was Mid Cap

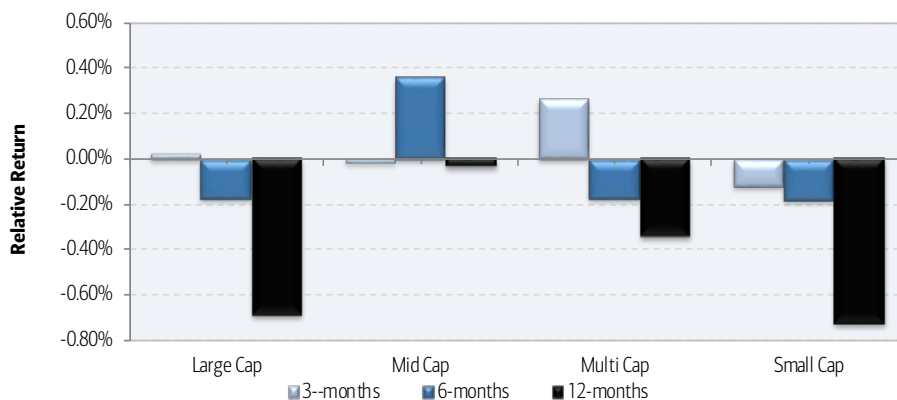


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 72: Relative returns of Funds by MCAP: Periodic returns

Mid Cap funds have performed best in the last 6m

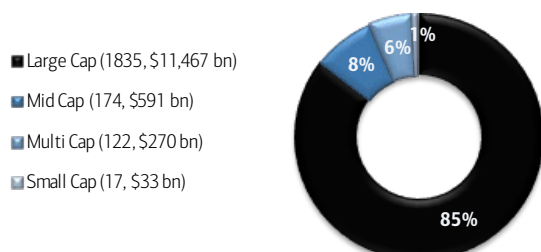


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 73: Percentage of Funds by MCAP

Large Cap funds constitutes 85% of this fund group



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Funds by Market Cap: LARGE CAP

Chart 74: Relative returns of LARGE CAP funds - Last 12 months

Large Cap funds have outperformed by 0.00% last month

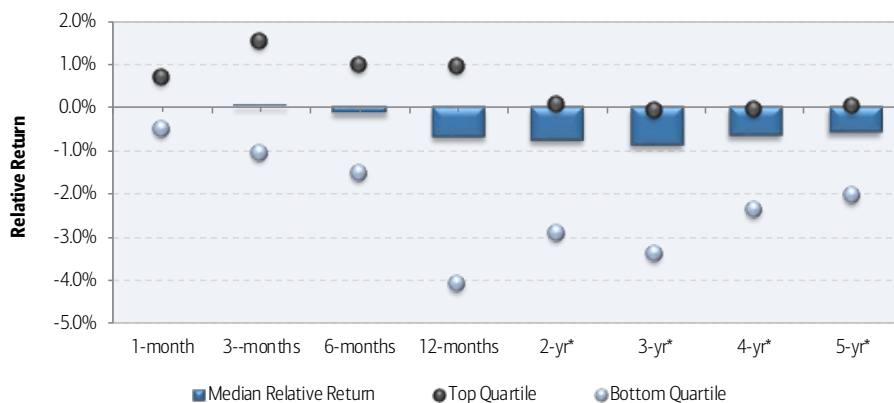


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 75: Relative returns of LARGE CAP funds : Periodic returns

Large Cap have outperformed by 0.02% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 28: Relative returns of LARGE CAP funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.00%	0.66%	-0.55%
3--months	0.02%	1.53%	-1.08%
6-months	-0.17%	0.95%	-1.56%
12-months	-0.68%	0.92%	-4.10%
2-yr*	-0.78%	0.06%	-2.94%
3-yr*	-0.88%	-0.09%	-3.42%
4-yr*	-0.66%	-0.05%	-2.39%
5-yr*	-0.60%	0.00%	-2.07%

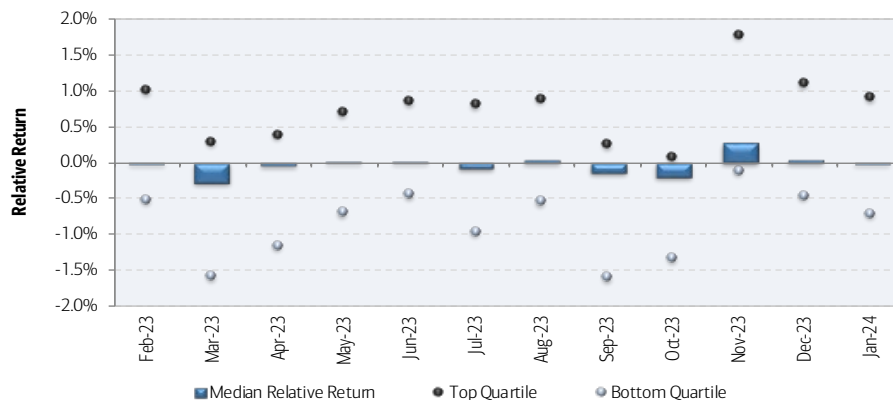
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Market Cap: MULTI CAP

Chart 76: Relative returns of MULTI CAP funds - Last 12 months

Multi Cap funds have underperformed by 0.00% last month

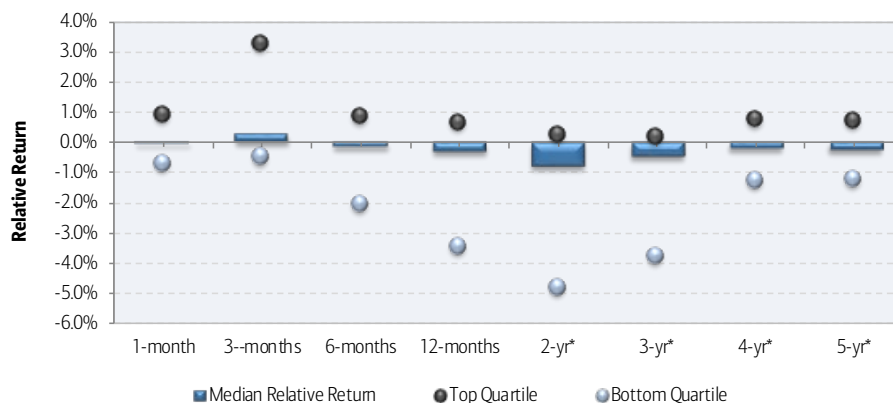


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 77: Relative returns of MULTI CAP funds : Periodic returns

Multi Cap have outperformed by 0.27% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 29: Relative returns of MULTI CAP funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.00%	0.90%	-0.73%
3--months	0.27%	3.25%	-0.49%
6-months	-0.17%	0.85%	-2.09%
12-months	-0.34%	0.62%	-3.48%
2-yr*	-0.79%	0.25%	-4.82%
3-yr*	-0.45%	0.17%	-3.77%
4-yr*	-0.23%	0.74%	-1.28%
5-yr*	-0.29%	0.69%	-1.23%

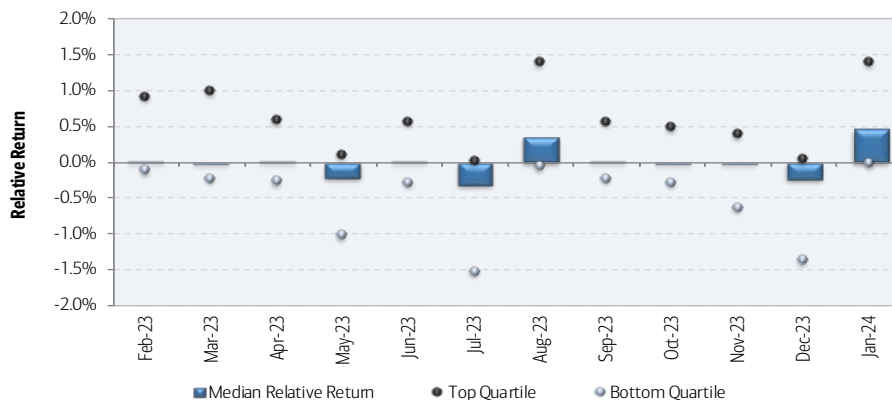
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Market Cap: MID CAP

Chart 78: Relative returns of MID CAP funds Last 12 months

Mid Cap funds have outperformed by 0.46% last month

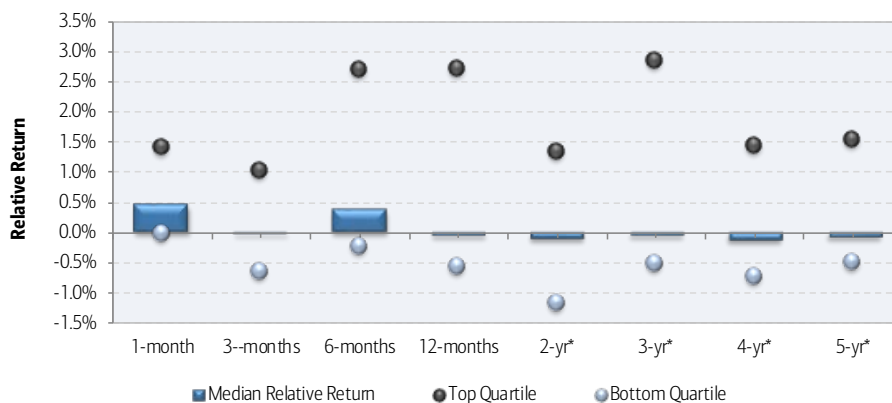


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 79: Relative returns of MID CAP funds : Periodic returns

Mid Cap have outperformed by 0.46% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 30: Relative returns of MID CAP funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.46%	1.40%	-0.04%
3--months	-0.01%	1.00%	-0.66%
6-months	0.36%	2.67%	-0.23%
12-months	-0.04%	2.69%	-0.58%
2-yr*	-0.10%	1.31%	-1.17%
3-yr*	-0.05%	2.83%	-0.52%
4-yr*	-0.12%	1.42%	-0.74%
5-yr*	-0.06%	1.54%	-0.51%

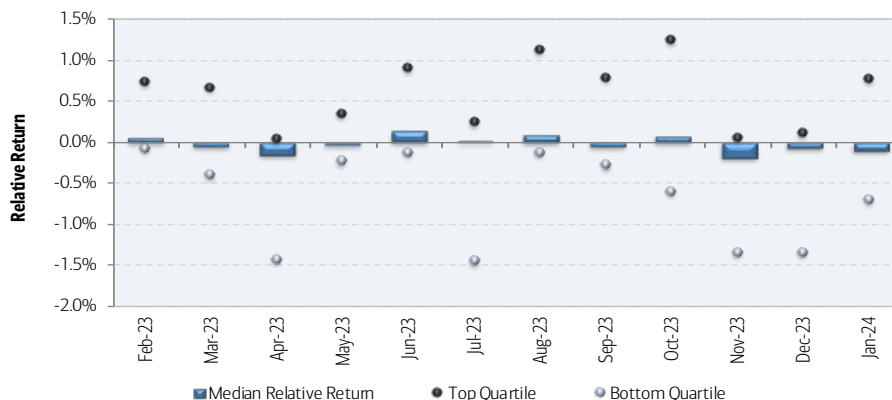
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Market Cap: SMALL CAP

Chart 80: Relative returns of SMALL CAP funds - Last 12 months

Small Cap funds have underperformed by -0.09% last month

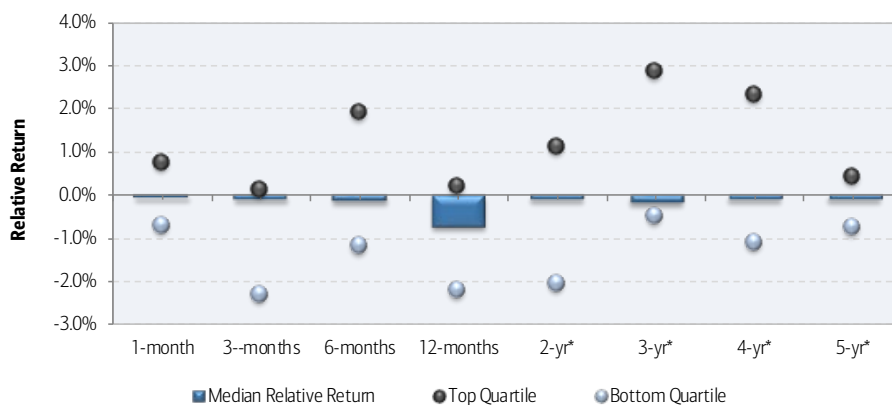


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Chart 81: Relative returns of SMALL CAP funds : Periodic returns

Small Cap have underperformed by -0.09% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Table 31: Relative returns of SMALL CAP funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.09%	0.75%	-0.72%
3--months	-0.12%	0.11%	-2.33%
6-months	-0.18%	1.90%	-1.18%
12-months	-0.73%	0.20%	-2.22%
2-yr*	-0.13%	1.09%	-2.08%
3-yr*	-0.19%	2.87%	-0.51%
4-yr*	-0.12%	2.32%	-1.13%
5-yr*	-0.10%	0.41%	-0.74%

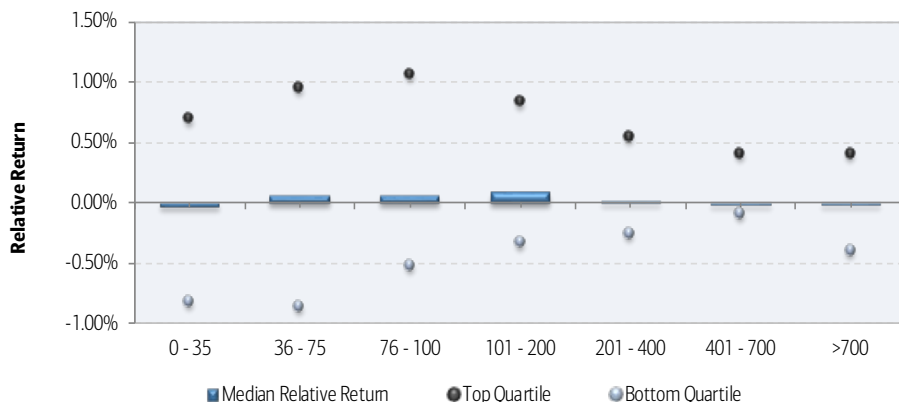
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Funds by Portfolio Size (# stocks)

Chart 82: Relative returns of Funds by Portfolio Size (# of stocks): Last month

Best fund group based on median 1-m returns was 101 - 200

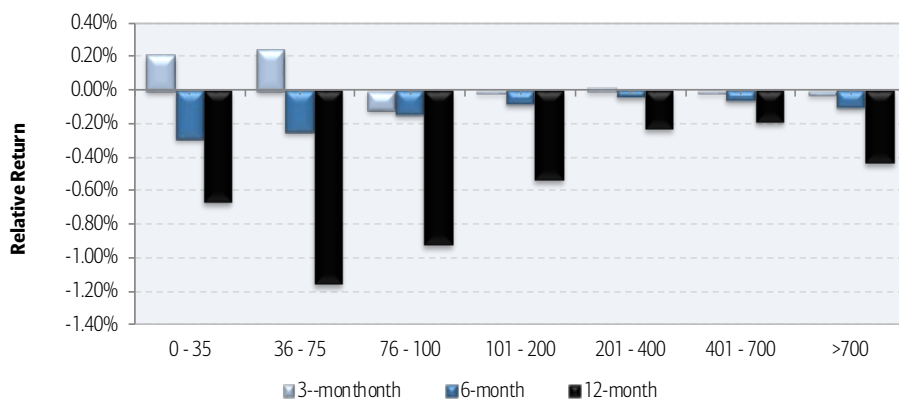


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 83: Relative returns of Funds by Portfolio Size (# of stocks): Periodic returns

Last month the best performing fund group was 101 - 200



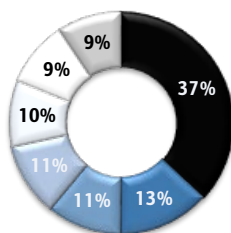
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 84: Percentage of Funds by Portfolio Size (# of stocks)

36 - 75 funds constitutes 37% of this fund group

- 36 - 75 (790, \$2,220 bn)
- 101 - 200 (287, \$1,670 bn)
- 0 - 35 (232, \$495 bn)
- 201 - 400 (228, \$1,989 bn)
- 401 - 700 (208, \$2,933 bn)
- >700 (204, \$2,441 bn)
- 76 - 100 (199, \$614 bn)



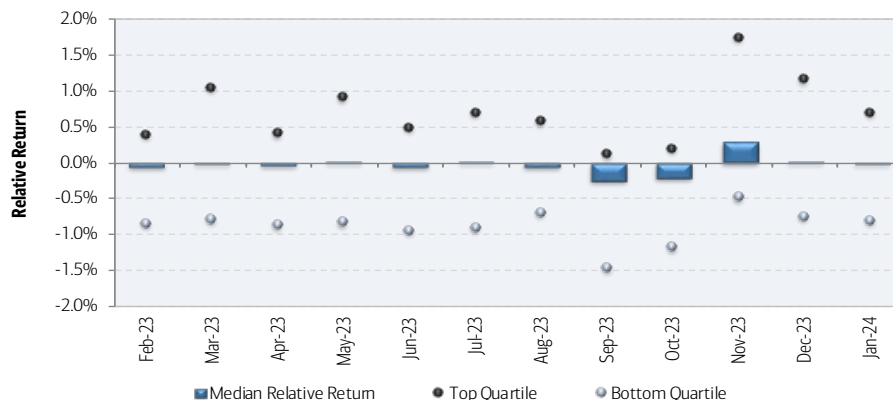
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Funds by Portfolio Size (< 35 stocks)

Chart 85: Relative returns of funds with <= 35 stocks - Last 12 months

0 - 35 funds have underperformed by -0.03% last month

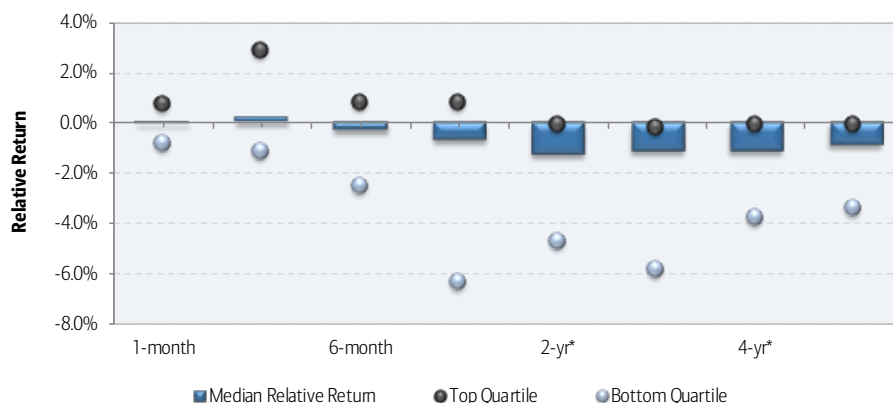


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 86: Relative returns of funds with <= 35 stocks : Periodic returns

0 - 35 have outperformed by 0.21% in the last 3--monthonth



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 32: Relative returns of funds with <= 35 stocks : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.03%	0.69%	-0.82%
3--monthonth	0.21%	2.83%	-1.15%
6-month	-0.28%	0.77%	-2.56%
12-month	-0.68%	0.75%	-6.36%
2-yr*	-1.25%	-0.10%	-4.70%
3-yr*	-1.15%	-0.19%	-5.83%
4-yr*	-1.14%	-0.09%	-3.79%
5-yr*	-0.89%	-0.10%	-3.43%

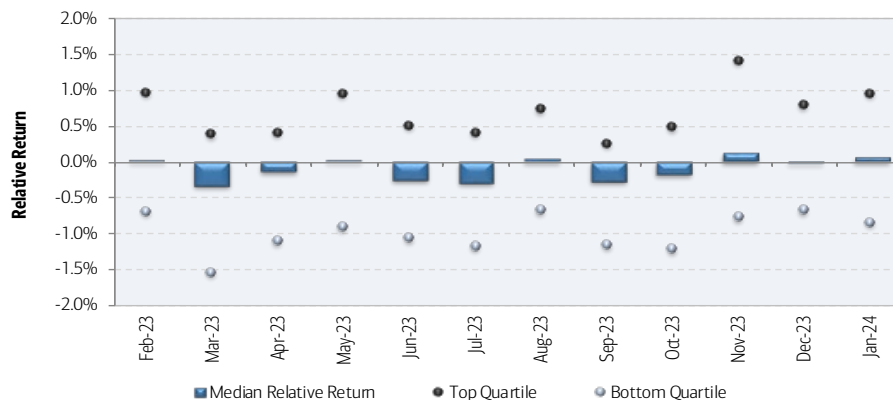
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Portfolio Size (36-75 stocks)

Chart 87: Relative returns of funds managing > 35 and ≤75 stocks - Last 12 months

36 - 75 funds have outperformed by 0.05% last month

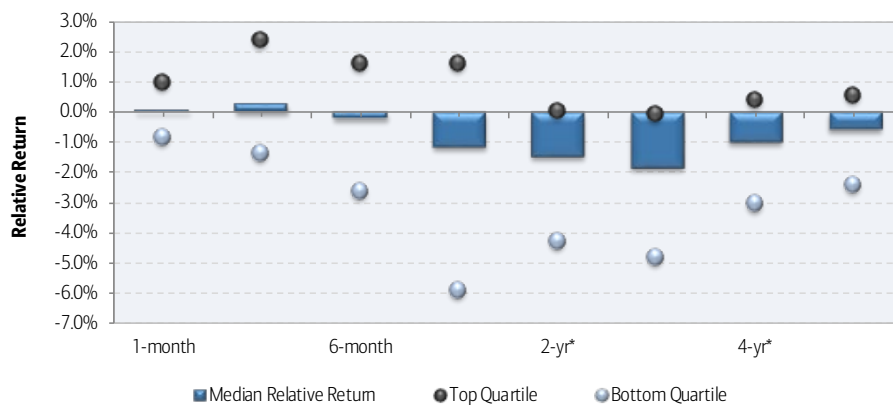


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 88: Relative returns of funds managing > 35 and ≤75 stocks : Periodic returns

36 - 75 have outperformed by 0.23% in the last 3--monthonth



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 33: Relative returns of funds managing > 35 and ≤75 stocks : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.05%	0.95%	-0.86%
3--monthonth	0.23%	2.33%	-1.42%
6-month	-0.25%	1.55%	-2.66%
12-month	-1.16%	1.58%	-5.92%
2-yr*	-1.49%	-0.02%	-4.33%
3-yr*	-1.82%	-0.08%	-4.82%
4-yr*	-1.01%	0.37%	-3.08%
5-yr*	-0.61%	0.52%	-2.42%

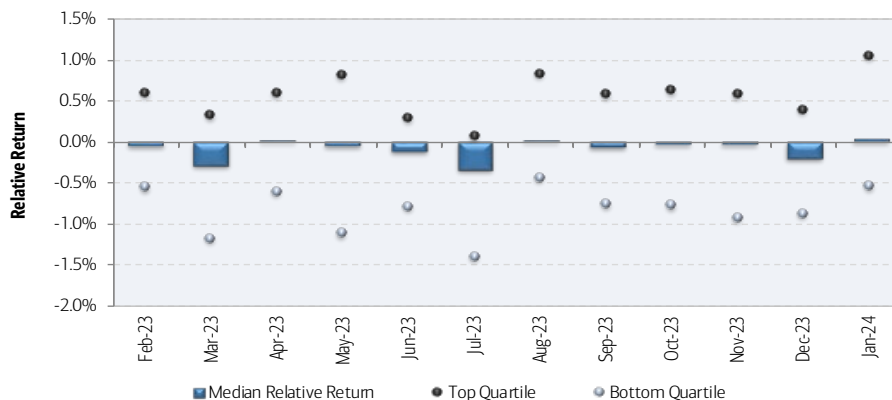
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Portfolio Size (76-100 stocks)

Chart 89: Relative returns of funds managing > 75 and <=100 stocks - Last 12 months

76 - 100 funds have outperformed by 0.05% last month

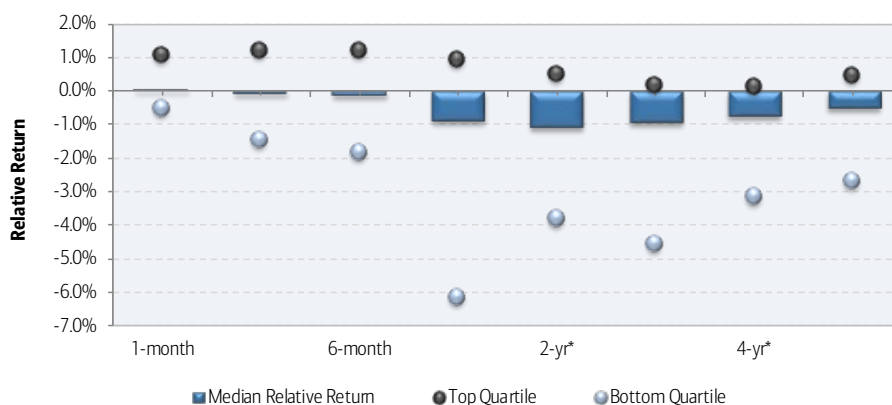


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 90: Relative returns of funds managing > 75 and <=100 stocks : Periodic returns

76 - 100 have outperformed by 0.05% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 34: Relative returns of funds managing > 75 and <=100 stocks : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.05%	1.06%	-0.54%
3--month	-0.11%	1.20%	-1.51%
6-month	-0.15%	1.18%	-1.88%
12-month	-0.93%	0.91%	-6.17%
2-yr*	-1.08%	0.47%	-3.84%
3-yr*	-0.95%	0.17%	-4.61%
4-yr*	-0.76%	0.09%	-3.18%
5-yr*	-0.53%	0.42%	-2.72%

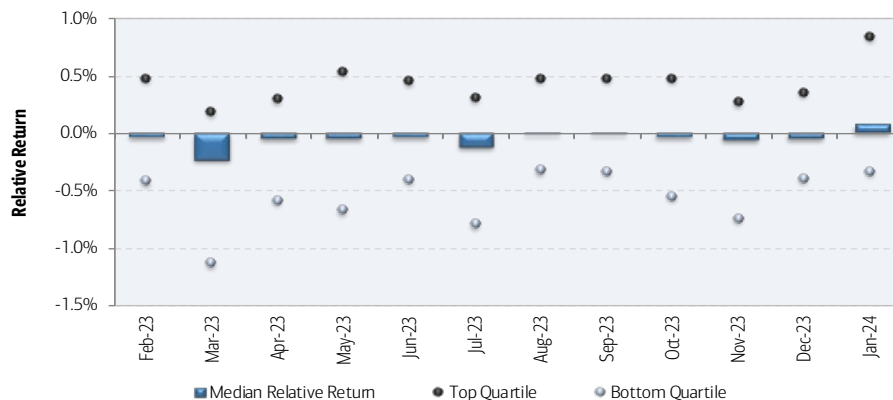
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Portfolio Size (101-200 stocks)

Chart 91: Relative returns of funds managing > 100 and ≤200 stocks - Last 12 months

101 - 200 funds have outperformed by 0.08% last month

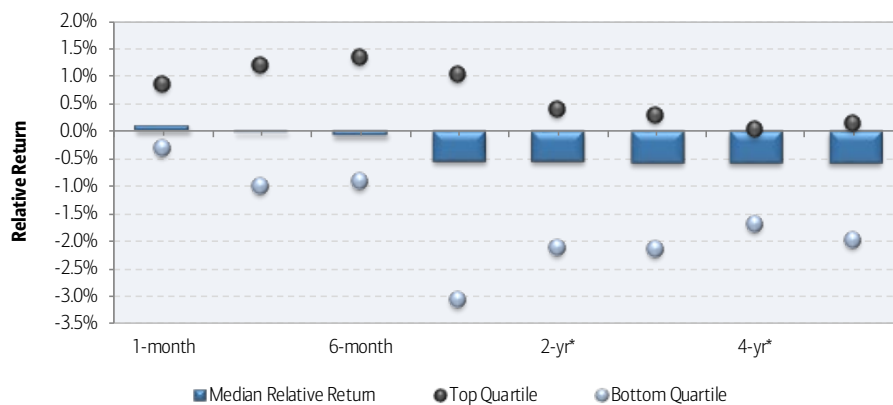


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 92: Relative returns of funds managing > 100 and ≤200 stocks : Periodic returns

101 - 200 have outperformed by 0.08% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 35: Relative returns of funds managing > 100 and ≤200 stocks : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.08%	0.84%	-0.34%
3--monthonth	-0.01%	1.17%	-1.02%
6-month	-0.09%	1.33%	-0.93%
12-month	-0.54%	1.03%	-3.08%
2-yr*	-0.55%	0.37%	-2.15%
3-yr*	-0.58%	0.26%	-2.17%
4-yr*	-0.57%	0.00%	-1.72%
5-yr*	-0.57%	0.12%	-2.00%

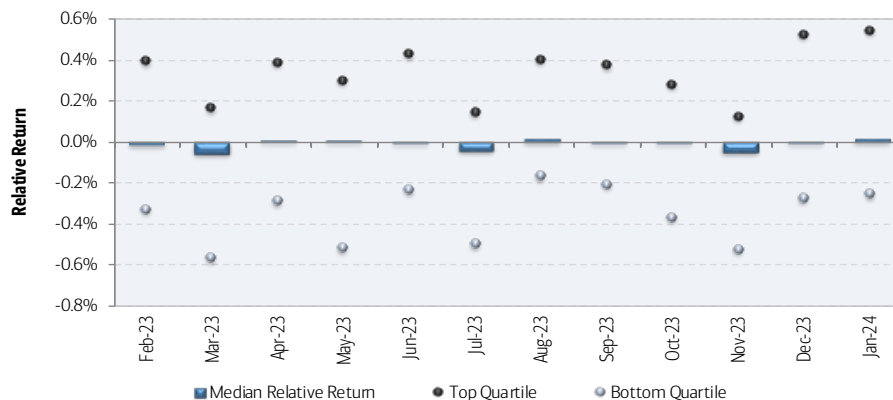
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Portfolio Size (201-400 stocks)

Chart 93: Relative returns of funds managing > 200 and ≤400 stocks - Last 12 months

201 - 400 funds have outperformed by 0.01% last month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 94: Relative returns of funds managing > 200 and ≤400 stocks : Periodic returns

201 - 400 have outperformed by 0.02% in the last 3--monthonth



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 36: Relative returns of funds managing > 200 and ≤400 stocks : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.01%	0.54%	-0.26%
3--monthonth	0.02%	0.94%	-0.38%
6-month	-0.05%	0.90%	-0.48%
12-month	-0.23%	1.04%	-1.47%
2-yr*	-0.27%	0.24%	-1.16%
3-yr*	-0.42%	0.04%	-1.27%
4-yr*	-0.32%	0.02%	-0.97%
5-yr*	-0.41%	-0.07%	-1.15%

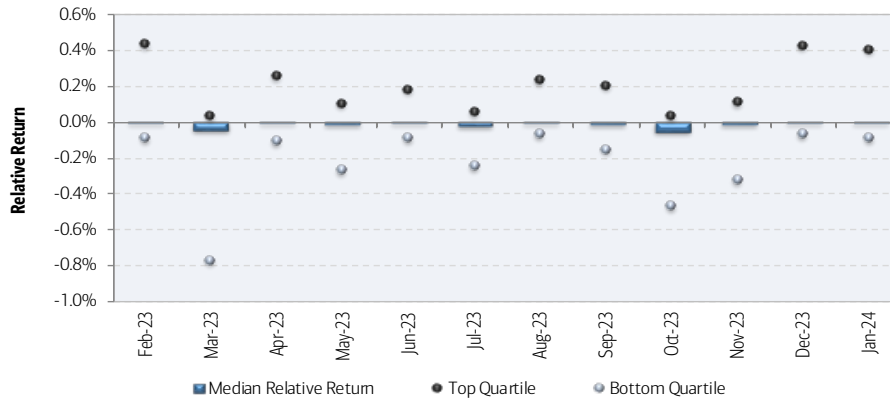
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Portfolio Size (401-700 stocks)

Chart 95: Relative returns of funds managing > 400 and ≤700 stocks - Last 12 months

401 - 700 funds have underperformed by 0.00% last month

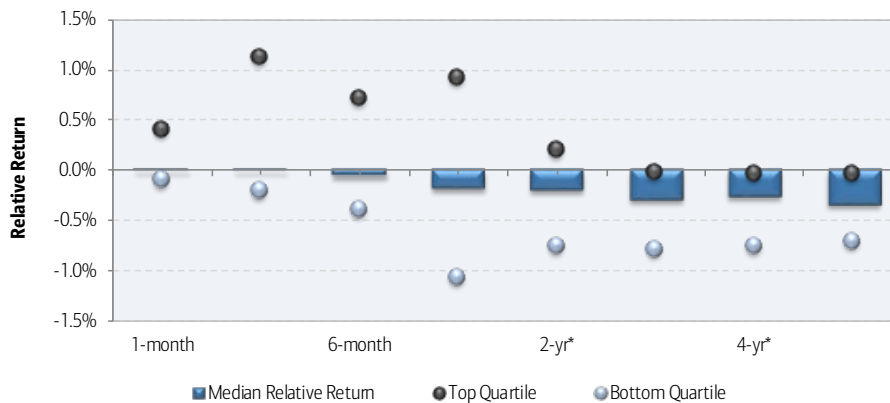


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 96: Relative returns of funds managing > 400 and ≤700 stocks : Periodic returns

401 - 700 have underperformed by 0.00% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 37: Relative returns of funds managing > 400 and ≤700 stocks : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.00%	0.40%	-0.10%
3--monthonth	-0.01%	1.12%	-0.21%
6-month	-0.07%	0.70%	-0.40%
12-month	-0.20%	0.92%	-1.07%
2-yr*	-0.21%	0.20%	-0.75%
3-yr*	-0.29%	-0.02%	-0.79%
4-yr*	-0.27%	-0.04%	-0.76%
5-yr*	-0.34%	-0.04%	-0.71%

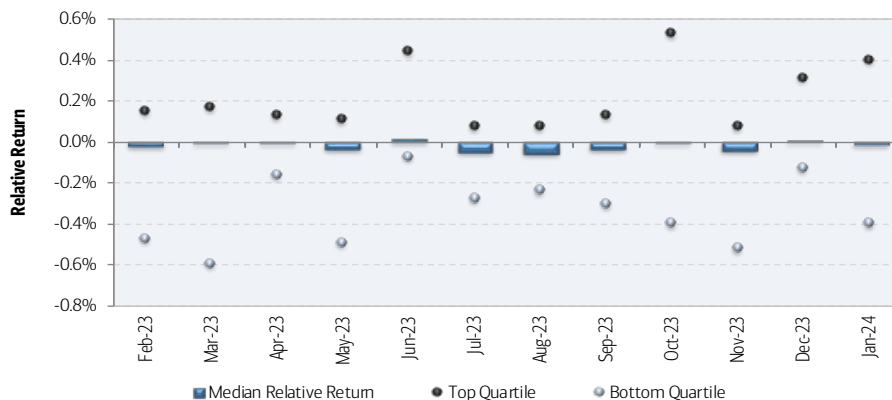
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Portfolio Size (> 700 stocks)

Chart 97: Relative returns of funds with > 700 stocks - Last 12 months

>700 funds have underperformed by -0.01% last month

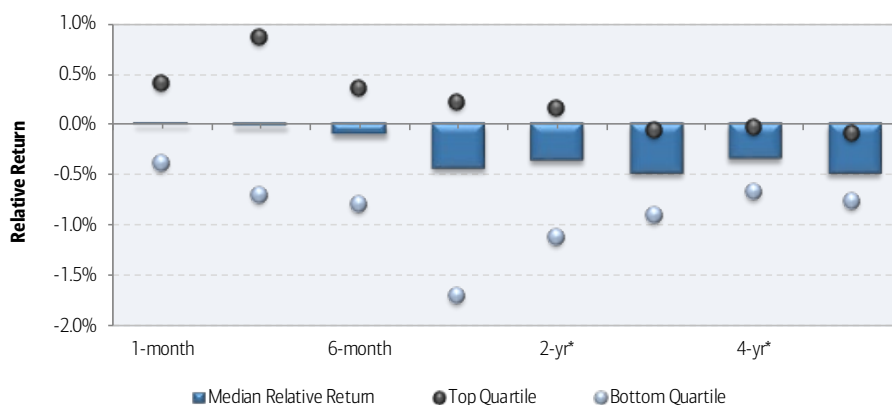


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 98: Relative returns of funds with > 700 stocks : Periodic returns

>700 have underperformed by -0.01% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 38: Relative returns of funds with > 700 stocks : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	-0.01%	0.40%	-0.40%
3--monthonth	-0.03%	0.85%	-0.71%
6-month	-0.11%	0.35%	-0.81%
12-month	-0.44%	0.21%	-1.72%
2-yr*	-0.35%	0.15%	-1.13%
3-yr*	-0.49%	-0.07%	-0.92%
4-yr*	-0.34%	-0.05%	-0.68%
5-yr*	-0.49%	-0.10%	-0.78%

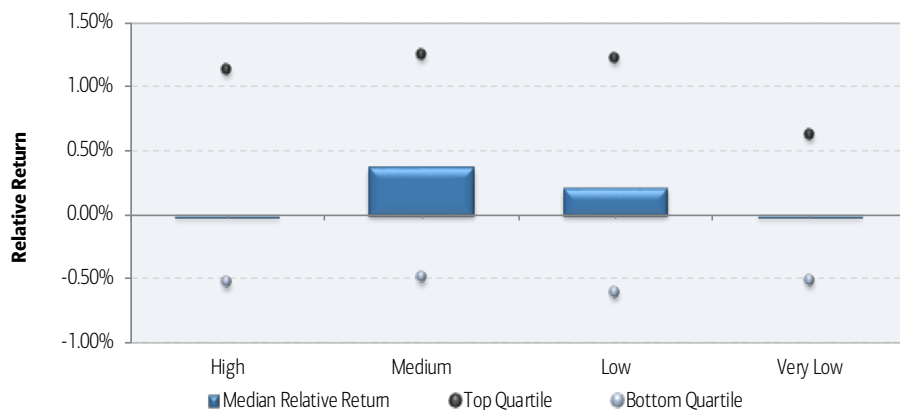
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Turnover

Chart 99: Relative returns of Funds by Turnover: Last month

Dispersion between top and bottom quintile by perf was largest for Low funds

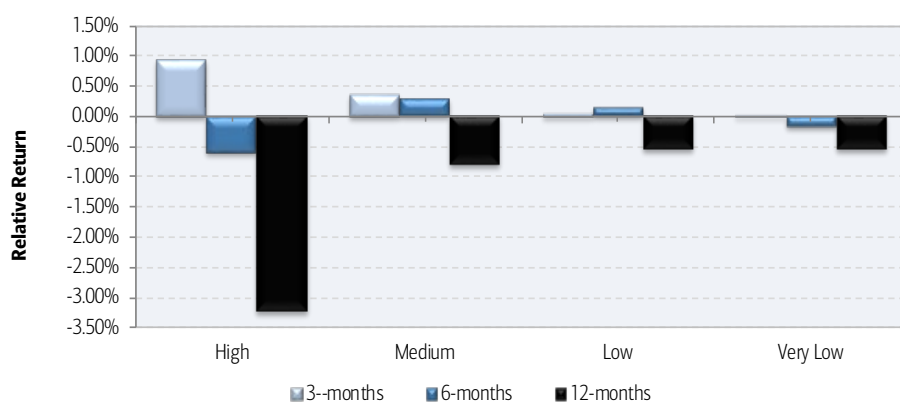


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 100: Relative returns of Funds by Turnover: Periodic returns

Very Low funds have performed the best in the last 12m



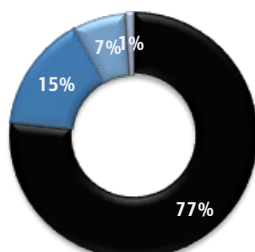
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 101: Percentage of Funds by Turnover

Very Low funds constitutes 77% of this fund group

- Very Low (1528, \$9,616 bn)
- Low (303, \$1,435 bn)
- Medium (139, \$344 bn)
- High (21, \$42 bn)



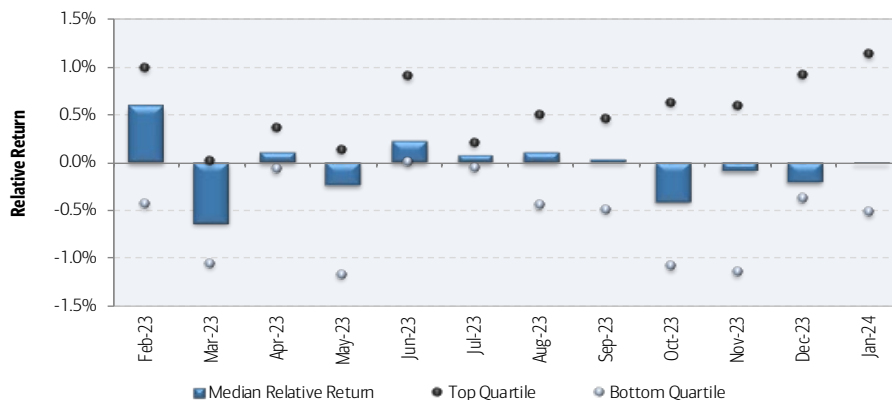
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Funds by Turnover: HIGH

Chart 102: Relative returns of HIGH turnover funds - Last 12 months

High funds have underperformed by 0.00% last month

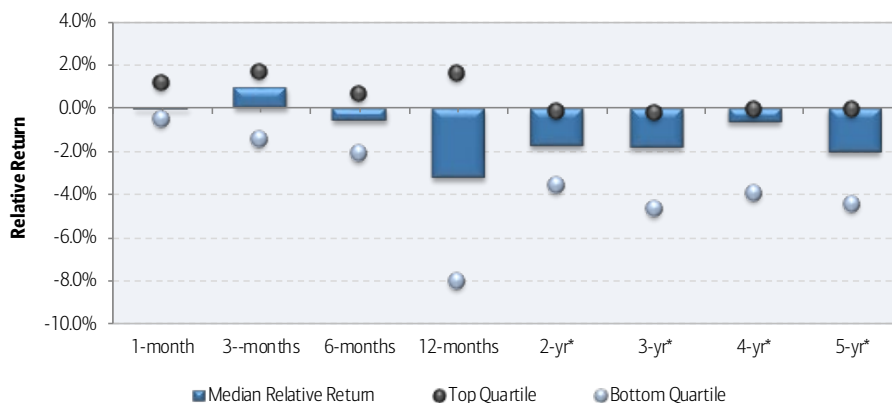


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 103: Relative returns of HIGH turnover funds : Periodic returns

High have outperformed by 0.93% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 39: Relative returns of HIGH turnover funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.00%	1.13%	-0.53%
3--months	0.93%	1.65%	-1.52%
6-months	-0.57%	0.64%	-2.18%
12-months	-3.22%	1.58%	-8.08%
2-yr*	-1.76%	-0.21%	-3.63%
3-yr*	-1.80%	-0.23%	-4.74%
4-yr*	-0.65%	-0.13%	-3.95%
5-yr*	-2.06%	-0.15%	-4.49%

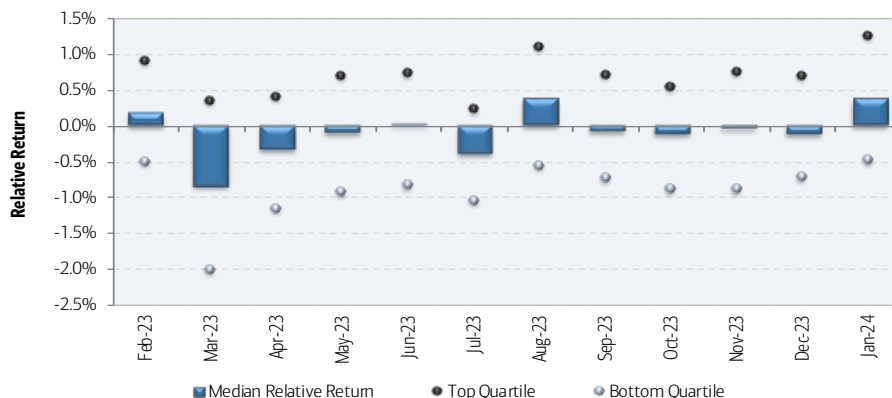
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Turnover: MEDIUM

Chart 104: Relative returns of MEDIUM turnover funds - Last 12 months

Medium funds have outperformed by 0.37% last month

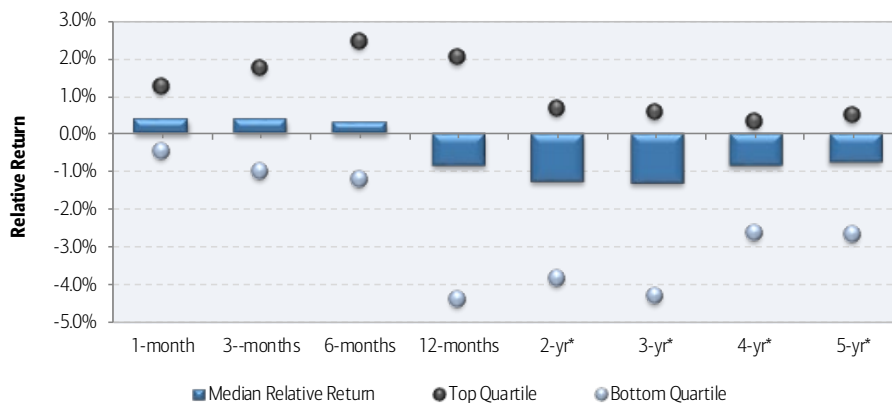


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 105: Relative returns of MEDIUM turnover funds : Periodic returns

Medium have outperformed by 0.37% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 40: Relative returns of MEDIUM turnover funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.37%	1.25%	-0.50%
3--months	0.37%	1.71%	-1.03%
6-months	0.29%	2.43%	-1.24%
12-months	-0.82%	2.02%	-4.39%
2-yr*	-1.26%	0.65%	-3.87%
3-yr*	-1.28%	0.54%	-4.30%
4-yr*	-0.83%	0.32%	-2.67%
5-yr*	-0.77%	0.47%	-2.70%

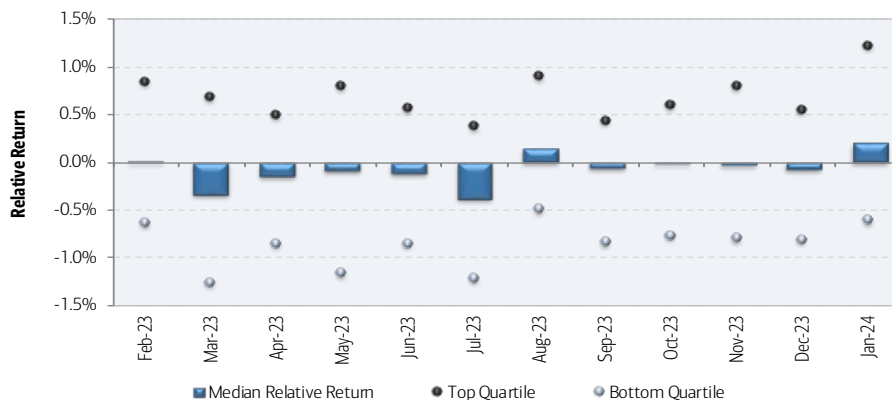
Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Turnover: LOW

Chart 106: Relative returns of LOW turnover funds - Last 12 months

Low funds have outperformed by 0.21% last month

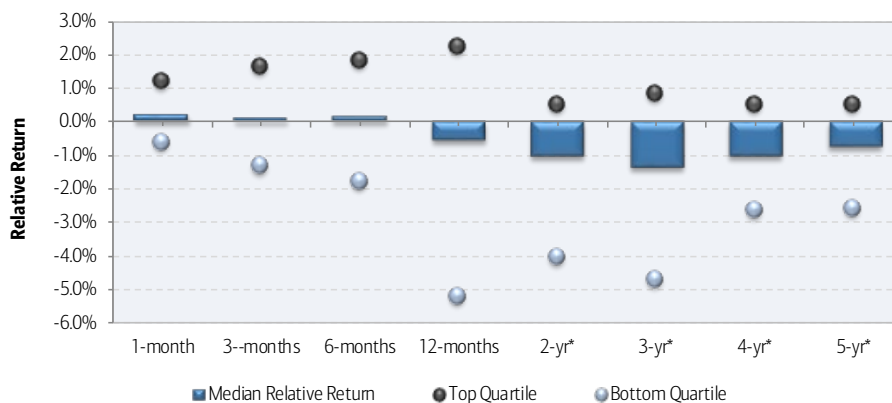


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 107: Relative returns of LOW turnover funds : Periodic returns

Low have outperformed by 0.21% in the last 1-month



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 41: Relative returns of LOW turnover funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.21%	1.22%	-0.62%
3--months	0.08%	1.63%	-1.36%
6-months	0.15%	1.82%	-1.82%
12-months	-0.56%	2.23%	-5.24%
2-yr*	-1.05%	0.50%	-4.05%
3-yr*	-1.37%	0.81%	-4.72%
4-yr*	-1.01%	0.50%	-2.65%
5-yr*	-0.73%	0.47%	-2.62%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Funds by Turnover: VERY LOW

Chart 108: Relative returns of VERY LOW turnover funds - Last 12 months

Very Low funds have underperformed by 0.00% last month

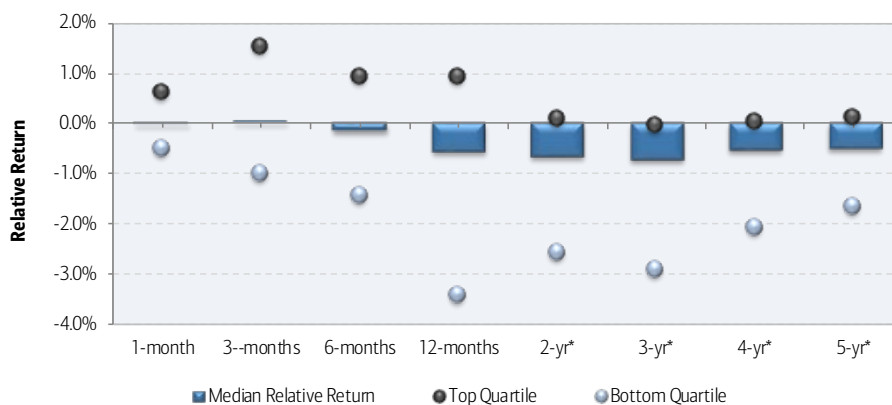


Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Chart 109: Relative returns of VERY LOW turnover funds : Periodic returns

Very Low have outperformed by 0.01% in the last 3--months



Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Table 42: Relative returns of VERY LOW turnover funds : Periodic returns

Median, Top and Bottom Quartile returns for various periods

Period	Median Relative Return	Top Quartile	Bottom Quartile
1-month	0.00%	0.62%	-0.53%
3--months	0.01%	1.51%	-1.00%
6-months	-0.16%	0.94%	-1.45%
12-months	-0.55%	0.92%	-3.41%
2-yr*	-0.67%	0.09%	-2.58%
3-yr*	-0.71%	-0.05%	-2.91%
4-yr*	-0.55%	0.00%	-2.08%
5-yr*	-0.50%	0.11%	-1.67%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return

BofA GLOBAL RESEARCH

Summary Table: Median Relative Returns

Table 43: Median relative returns matrix

Relative returns of all fund groups for various periods

Group	Sub-Group	1m	3m	6m	YTD	12m	2-yr*	3-yr*	4-yr*	5-yr*
Fund by ASR	0-20%	-0.02%	-0.04%	-0.14%	-0.02%	-0.32%	-0.33%	-0.42%	-0.35%	-0.40%
Fund by ASR	21-40%	0.10%	0.02%	-0.21%	0.10%	-0.46%	-0.51%	-0.72%	-0.61%	-0.61%
Fund by ASR	41-60%	0.37%	0.56%	0.51%	0.37%	-0.36%	-1.07%	-1.59%	-1.36%	-1.43%
Fund by ASR	61-80%	0.16%	0.38%	-0.14%	0.16%	-1.75%	-1.73%	-1.85%	-1.06%	-0.48%
Fund by ASR	81-100%	-0.06%	0.28%	-0.58%	-0.06%	-2.05%	-1.82%	-2.09%	-1.31%	-0.81%
Fund by FUM(\$)	0 - \$750 m	0.03%	0.10%	-0.20%	0.03%	-0.85%	-1.09%	-1.05%	-0.97%	-0.76%
Fund by FUM(\$)	\$750m - \$1bn	0.03%	0.08%	-0.17%	0.03%	-0.67%	-0.99%	-0.98%	-0.67%	-0.56%
Fund by FUM(\$)	\$1.0bn- 1.5bn	0.06%	0.06%	-0.17%	0.06%	-0.58%	-0.60%	-0.68%	-0.53%	-0.46%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	0.07%	0.20%	-0.10%	0.07%	-0.58%	-0.76%	-0.97%	-0.59%	-0.57%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	0.01%	0.08%	-0.13%	0.01%	-0.51%	-0.64%	-0.66%	-0.46%	-0.46%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	0.01%	-0.04%	-0.11%	0.01%	-0.49%	-0.54%	-0.66%	-0.53%	-0.46%
Fund by FUM(\$)	> \$10.0bn	-0.02%	-0.04%	-0.08%	-0.02%	-0.19%	-0.18%	-0.24%	-0.23%	-0.23%
Fund by MCAP	Large Cap	0.00%	0.02%	-0.17%	0.00%	-0.68%	-0.78%	-0.88%	-0.66%	-0.60%
Fund by MCAP	Mid Cap	0.46%	-0.01%	0.36%	0.46%	-0.04%	-0.10%	-0.05%	-0.12%	-0.06%
Fund by MCAP	Small Cap	-0.09%	-0.12%	-0.18%	-0.09%	-0.73%	-0.13%	-0.19%	-0.12%	-0.10%
Fund by MCAP	Multi Cap	0.00%	0.27%	-0.17%	0.00%	-0.34%	-0.79%	-0.45%	-0.23%	-0.29%
Fund by Investment Style	Value	0.57%	-0.24%	1.35%	0.57%	1.03%	0.93%	1.64%	0.21%	0.08%
Fund by Investment Style	Growth	0.12%	0.94%	-0.17%	0.12%	-1.32%	-2.19%	-2.79%	-1.49%	-0.93%
Fund by Investment Style	GARP	0.16%	0.05%	-0.20%	0.16%	-2.17%	-1.46%	-1.73%	-1.70%	-1.17%
Fund by Investment Style	Yield	-0.20%	-1.53%	-0.73%	-0.20%	-2.38%	-0.99%	-0.45%	-0.55%	-0.98%
Fund by Investment Style	Index	-0.02%	-0.02%	-0.14%	-0.02%	-0.33%	-0.34%	-0.41%	-0.34%	-0.41%
Fund by Manager Type	Active	0.17%	0.32%	-0.11%	0.17%	-1.31%	-1.50%	-1.81%	-1.22%	-0.83%
Fund by Manager Type	Passive	-0.02%	-0.02%	-0.14%	-0.02%	-0.33%	-0.34%	-0.41%	-0.34%	-0.41%
Fund by Portfolio Size (# stocks)	0 - 35	-0.03%	0.21%	-0.28%	-0.03%	-0.68%	-1.25%	-1.15%	-1.14%	-0.89%
Fund by Portfolio Size (# stocks)	36 - 75	0.05%	0.23%	-0.25%	0.05%	-1.16%	-1.49%	-1.82%	-1.01%	-0.61%
Fund by Portfolio Size (# stocks)	76 - 100	0.05%	-0.11%	-0.15%	0.05%	-0.93%	-1.08%	-0.95%	-0.76%	-0.53%
Fund by Portfolio Size (# stocks)	101 - 200	0.08%	-0.01%	-0.09%	0.08%	-0.54%	-0.55%	-0.58%	-0.57%	-0.57%
Fund by Portfolio Size (# stocks)	201 - 400	0.01%	0.02%	-0.05%	0.01%	-0.23%	-0.27%	-0.42%	-0.32%	-0.41%
Fund by Portfolio Size (# stocks)	401 - 700	0.00%	-0.01%	-0.07%	0.00%	-0.20%	-0.21%	-0.29%	-0.27%	-0.34%
Fund by Portfolio Size (# stocks)	>700	-0.01%	-0.03%	-0.11%	-0.01%	-0.44%	-0.35%	-0.49%	-0.34%	-0.49%
Fund by Turnover	High	0.00%	0.93%	-0.57%	0.00%	-3.22%	-1.76%	-1.80%	-0.65%	-2.06%
Fund by Turnover	Medium	0.37%	0.37%	0.29%	0.37%	-0.82%	-1.26%	-1.28%	-0.83%	-0.77%
Fund by Turnover	Low	0.21%	0.08%	0.15%	0.21%	-0.56%	-1.05%	-1.37%	-1.01%	-0.73%
Fund by Turnover	Very Low	0.00%	0.01%	-0.16%	0.00%	-0.55%	-0.67%	-0.71%	-0.55%	-0.50%
Fund by Region	Global (DM+EM)	-0.14%	0.77%	-0.36%	-0.14%	-1.11%	-1.46%	-2.09%	-0.65%	-0.59%
Fund by Region	Global (DM)	-0.07%	0.89%	-0.38%	-0.07%	-1.24%	-1.01%	-1.26%	-0.85%	-0.91%
Fund by Region	EAFE	-0.99%	-2.20%	-1.09%	-0.99%	-2.26%	-1.91%	-1.09%	-0.70%	-0.76%
Fund by Region	USA	0.03%	0.00%	-0.02%	0.03%	-0.23%	-0.26%	-0.33%	-0.38%	-0.38%
Fund by Region	Europe	0.02%	0.15%	-0.17%	0.02%	-0.54%	-1.05%	-1.06%	-0.82%	-0.64%
Fund by Region	Japan	-0.19%	-0.43%	-0.91%	-0.19%	-0.95%	-0.68%	-0.83%	-0.32%	-0.28%
Fund by Region	APXJ	0.03%	-0.35%	-0.76%	0.03%	-1.45%	-1.20%	-0.74%	-0.34%	-0.46%
Fund by Region	EM	0.39%	0.26%	-0.21%	0.39%	-1.17%	-1.11%	-0.97%	-0.71%	-0.55%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return. Empty cell suggests no data is available for that period.

BofA GLOBAL RESEARCH



Table 44: Median relative returns matrix: Global (DM+EM)

Relative returns of all fund groups in Global (DM+EM) for various periods

Group	Sub-Group	Fund Count	1m	3m	6m	YTD	12m	2-yr*	3-yr*	4-yr*	5-yr*
Fund by ASR	0-20%	27	-0.24%	-0.47%	-0.41%	-0.24%	-0.74%	-0.78%	-0.50%	-0.43%	-0.57%
Fund by ASR	21-40%	12	-0.13%	0.16%	0.33%	-0.13%	-0.68%	-0.78%	-0.69%	-0.34%	-0.47%
Fund by ASR	41-60%	11	-0.22%	0.52%	-0.24%	-0.22%	0.09%	-0.79%	-0.88%	-1.67%	-2.21%
Fund by ASR	61-80%	37	0.32%	0.92%	0.51%	0.32%	-0.38%	-1.77%	-3.96%	-1.02%	-0.72%
Fund by ASR	81-100%	94	-0.27%	1.75%	-1.28%	-0.27%	-4.33%	-2.92%	-3.77%	-1.58%	-1.17%
Fund by FUM(\$)	0 - \$750 m	21	-0.08%	1.54%	-0.36%	-0.08%	-0.91%	-1.62%	-3.30%	-1.07%	-1.14%
Fund by FUM(\$)	\$750m - \$1bn	20	-0.28%	2.30%	-0.64%	-0.28%	-4.15%	-3.09%	-2.55%	-2.14%	0.15%
Fund by FUM(\$)	\$1.0bn - 1.5bn	38	-0.23%	0.42%	-0.80%	-0.23%	-1.86%	-1.57%	-2.59%	-0.79%	-0.74%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	16	0.33%	1.44%	1.08%	0.33%	1.21%	-0.52%	-1.23%	-0.35%	-0.43%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	56	-0.09%	0.62%	-0.29%	-0.09%	-0.87%	-1.29%	-1.38%	-0.56%	-0.59%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	12	0.40%	1.08%	0.63%	0.40%	-0.38%	-1.90%	-3.16%	-1.72%	-1.30%
Fund by FUM(\$)	> \$10.0bn	18	-0.46%	-0.43%	-0.81%	-0.46%	-1.55%	-1.25%	-1.08%	-0.40%	-0.49%
Fund by MCAP	Large Cap	164	-0.09%	0.88%	-0.32%	-0.09%	-1.27%	-1.52%	-2.21%	-0.72%	-0.60%
Fund by MCAP	Mid Cap	8	-0.25%	0.97%	0.05%	-0.25%	0.80%	-0.39%	-0.57%	-0.38%	-0.49%
Fund by MCAP	Small Cap	3	-0.72%	-1.62%	-1.18%	-0.72%	-1.95%	-1.41%	-0.53%	-0.75%	-0.43%
Fund by MCAP	Multi Cap	6	-0.19%	-0.46%	-0.50%	-0.19%	-0.69%	-0.67%	-0.83%	-0.37%	-1.04%
Fund by Investment Style	Value	9	-0.86%	-2.18%	-2.66%	-0.86%	-5.01%	0.25%	-1.17%	-2.52%	-1.84%
Fund by Investment Style	Growth	114	-0.01%	1.83%	-0.35%	-0.01%	-1.39%	-2.85%	-4.12%	-1.32%	-0.73%
Fund by Investment Style	GARP	12	0.18%	2.17%	-0.06%	0.18%	-1.24%	-1.50%	-1.15%	-1.13%	-1.54%
Fund by Investment Style	Yield	5	-0.43%	-1.75%	-1.53%	-0.43%	-5.89%	-1.57%	-1.47%	-3.43%	-2.87%
Fund by Investment Style	Index	41	-0.22%	-0.46%	-0.24%	-0.22%	-0.70%	-0.60%	-0.49%	-0.41%	-0.56%
Fund by Manager Type	Active	140	-0.10%	1.39%	-0.42%	-0.10%	-1.74%	-2.11%	-3.72%	-1.54%	-1.12%
Fund by Manager Type	Passive	41	-0.22%	-0.46%	-0.24%	-0.22%	-0.70%	-0.60%	-0.49%	-0.41%	-0.56%
Fund by Portfolio Size (# stocks)	0 - 35	16	0.86%	2.85%	0.93%	0.86%	-0.43%	-2.01%	-4.66%	0.25%	1.58%
Fund by Portfolio Size (# stocks)	36 - 75	86	-0.23%	0.50%	-0.47%	-0.23%	-2.08%	-1.68%	-2.70%	-1.54%	-0.97%
Fund by Portfolio Size (# stocks)	76 - 100	22	-0.29%	1.78%	-1.14%	-0.29%	-2.21%	-3.19%	-4.74%	-1.58%	-1.17%
Fund by Portfolio Size (# stocks)	101 - 200	18	-0.18%	0.97%	-0.25%	-0.18%	-0.58%	-1.35%	-2.02%	-0.29%	-0.27%
Fund by Portfolio Size (# stocks)	201 - 400	14	0.09%	-0.13%	0.50%	0.09%	-0.88%	-0.67%	-0.82%	-0.98%	-0.61%
Fund by Portfolio Size (# stocks)	401 - 700	7	-0.01%	-0.21%	-0.39%	-0.01%	-0.51%	-0.70%	-0.14%	-0.36%	-0.71%
Fund by Portfolio Size (# stocks)	>700	18	-0.60%	-1.14%	-0.82%	-0.60%	-1.27%	-1.23%	-0.56%	-0.43%	-0.57%
Fund by Turnover	High										
Fund by Turnover	Medium	12	0.99%	1.92%	1.58%	0.99%	2.58%	-0.75%	-0.69%	-0.74%	-0.65%
Fund by Turnover	Low	32	-0.06%	0.44%	-0.38%	-0.06%	-1.07%	-1.37%	-3.65%	-0.95%	-0.72%
Fund by Turnover	Very Low	134	-0.26%	0.63%	-0.58%	-0.26%	-1.50%	-1.51%	-1.99%	-0.61%	-0.59%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return. Empty cell suggests no data is available for that period.

BofA GLOBAL RESEARCH

Table 45: Median relative returns matrix: Global (DM)

Relative returns of all fund groups in Global (DM) for various periods

Group	Sub-Group	Fund Count	1m	3m	6m	YTD	12m	2-yr*	3-yr*	4-yr*	5-yr*
Fund by ASR	0-20%	47	-0.03%	0.74%	-0.06%	-0.03%	0.43%	-0.24%	-0.65%	-0.61%	-0.56%
Fund by ASR	21-40%	10	0.37%	2.13%	1.01%	0.37%	1.44%	0.13%	-0.99%	-0.56%	-0.57%
Fund by ASR	41-60%	23	0.03%	0.06%	-0.11%	0.03%	-1.27%	-1.01%	-0.48%	-0.14%	-0.91%
Fund by ASR	61-80%	49	0.67%	1.14%	0.21%	0.67%	-1.01%	-0.78%	-1.74%	-0.90%	-0.61%
Fund by ASR	81-100%	76	-0.69%	0.38%	-2.20%	-0.69%	-8.39%	-2.93%	-4.20%	-3.05%	-2.75%
Fund by FUM(\$)	0 - \$750 m	12	-0.10%	1.06%	0.03%	-0.10%	0.19%	0.21%	-0.76%	-0.50%	-0.68%
Fund by FUM(\$)	\$750m - \$1bn	26	0.48%	1.24%	-0.44%	0.48%	-1.56%	-0.98%	-2.22%	-1.68%	-1.87%
Fund by FUM(\$)	\$1.0bn- 1.5bn	44	-0.39%	0.09%	-0.82%	-0.39%	-2.86%	-1.74%	-1.87%	-1.23%	-0.94%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	30	-0.24%	1.19%	-0.51%	-0.24%	-2.44%	-1.11%	-1.66%	-0.79%	-0.93%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	62	0.04%	0.92%	-0.24%	0.04%	-0.87%	-1.04%	-1.10%	-0.72%	-0.66%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	21	-0.04%	-0.04%	-0.65%	-0.04%	-0.50%	-0.62%	-1.07%	-0.82%	-0.67%
Fund by FUM(\$)	> \$10.0bn	11	0.27%	0.40%	-0.25%	0.27%	-0.54%	-0.47%	-0.59%	-0.51%	-0.63%
Fund by MCAP	Large Cap	203	-0.05%	0.87%	-0.38%	-0.05%	-1.15%	-1.00%	-1.25%	-0.85%	-0.91%
Fund by MCAP	Mid Cap										
Fund by MCAP	Small Cap										
Fund by MCAP	Multi Cap	3	-4.00%	1.46%	-3.69%	-4.00%	-9.22%	-3.03%	-2.59%	-1.21%	-0.09%
Fund by Investment Style	Value	16	-0.90%	-3.57%	-1.61%	-0.90%	-8.92%	-1.87%	-2.06%	-1.21%	-2.08%
Fund by Investment Style	Growth	87	-0.22%	1.46%	-0.15%	-0.22%	-1.62%	-1.17%	-2.81%	-1.22%	-0.99%
Fund by Investment Style	GARP	28	0.39%	1.18%	-0.41%	0.39%	-1.95%	-2.45%	-3.21%	-2.18%	-1.19%
Fund by Investment Style	Yield	22	-0.58%	-2.17%	-2.47%	-0.58%	-9.31%	-1.19%	-0.69%	-1.61%	-3.41%
Fund by Investment Style	Index	52	-0.01%	0.86%	-0.01%	-0.01%	0.55%	-0.18%	-0.65%	-0.61%	-0.59%
Fund by Manager Type	Active	154	-0.24%	0.95%	-0.95%	-0.24%	-3.04%	-1.40%	-2.40%	-1.43%	-1.60%
Fund by Manager Type	Passive	52	-0.01%	0.86%	-0.01%	-0.01%	0.55%	-0.18%	-0.65%	-0.61%	-0.59%
Fund by Portfolio Size (# stocks)	0 - 35	27	-0.37%	0.90%	-1.75%	-0.37%	-2.16%	-2.55%	-4.09%	-3.10%	-3.05%
Fund by Portfolio Size (# stocks)	36 - 75	63	-0.30%	1.43%	-0.96%	-0.30%	-3.12%	-2.24%	-3.29%	-1.32%	-0.84%
Fund by Portfolio Size (# stocks)	76 - 100	27	-0.28%	-1.14%	-2.01%	-0.28%	-8.99%	-1.21%	-0.67%	-1.20%	-2.08%
Fund by Portfolio Size (# stocks)	101 - 200	11	1.23%	1.36%	2.45%	1.23%	1.46%	0.47%	-0.64%	-1.00%	-0.60%
Fund by Portfolio Size (# stocks)	201 - 400	19	-0.17%	-0.02%	-0.11%	-0.17%	-1.08%	-1.05%	-0.99%	-0.71%	-0.91%
Fund by Portfolio Size (# stocks)	401 - 700	14	0.61%	0.01%	-0.47%	0.61%	-1.43%	-0.40%	-0.81%	-0.80%	-0.89%
Fund by Portfolio Size (# stocks)	>700	45	0.01%	0.87%	-0.01%	0.01%	0.43%	-0.12%	-0.64%	-0.50%	-0.55%
Fund by Turnover	High	4	-0.78%	2.54%	-2.29%	-0.78%	-6.65%	-3.09%	-4.03%	-3.95%	-4.51%
Fund by Turnover	Medium	13	0.51%	1.10%	0.65%	0.51%	-0.14%	-0.54%	-1.67%	-1.04%	-1.21%
Fund by Turnover	Low	24	-0.42%	-0.57%	-0.94%	-0.42%	-3.35%	-1.03%	-0.98%	-1.35%	-1.74%
Fund by Turnover	Very Low	152	-0.08%	0.89%	-0.43%	-0.08%	-1.20%	-1.01%	-1.21%	-0.83%	-0.73%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return. Empty cell suggests no data is available for that period.

BofA GLOBAL RESEARCH



Table 46: Median relative returns matrix: EAFE

Relative returns of all fund groups in EAFE for various periods

Group	Sub-Group	Fund Count	1m	3m	6m	YTD	12m	2-yr*	3-yr*	4-yr*	5-yr*
Fund by ASR	0-20%	19	-0.89%	-2.04%	-1.09%	-0.89%	-2.26%	-1.56%	-0.82%	-0.68%	-0.79%
Fund by ASR	21-40%										
Fund by ASR	41-60%	5	-0.74%	-2.62%	-0.65%	-0.74%	-1.48%	0.59%	2.50%	1.03%	1.27%
Fund by ASR	61-80%	19	-1.10%	-2.61%	-1.85%	-1.10%	-4.02%	-3.21%	-1.85%	-0.66%	-0.50%
Fund by ASR	81-100%	13	-1.00%	-2.15%	-0.59%	-1.00%	-2.50%	-3.41%	-2.83%	-2.09%	-2.50%
Fund by FUM(\$)	0 - \$750 m	6	-1.80%	-3.55%	-3.80%	-1.80%	-4.64%	-3.36%	-2.00%	-2.47%	-1.98%
Fund by FUM(\$)	\$750m - \$1bn	7	-1.05%	-1.96%	-1.30%	-1.05%	-5.50%	-3.02%	-2.16%	-1.40%	-1.86%
Fund by FUM(\$)	\$1.0bn - 1.5bn	5	-0.88%	-1.69%	-0.65%	-0.88%	-1.98%	-2.17%	-1.45%	-0.84%	-0.68%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	3	-0.17%	0.47%	0.84%	-0.17%	0.86%	-1.00%	-0.36%	1.03%	1.27%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	11	-1.00%	-2.43%	-0.80%	-1.00%	-2.50%	-1.94%	-1.17%	-0.72%	-0.98%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	8	-0.75%	-2.30%	-1.02%	-0.75%	-1.87%	-1.66%	-0.88%	-0.51%	-0.66%
Fund by FUM(\$)	> \$10.0bn	16	-1.07%	-2.28%	-1.19%	-1.07%	-2.18%	-1.50%	-0.56%	-0.43%	-0.72%
Fund by MCAP	Large Cap	53	-1.00%	-2.18%	-1.09%	-1.00%	-2.26%	-1.94%	-1.17%	-0.68%	-0.73%
Fund by MCAP	Mid Cap	2	-1.25%	-4.10%	-4.57%	-1.25%	-3.53%	-3.86%	-3.14%	-3.02%	-3.23%
Fund by MCAP	Small Cap										
Fund by MCAP	Multi Cap	1	-0.75%	-2.43%	-2.23%	-0.75%	-2.57%	-1.76%	-1.02%	-0.72%	-0.98%
Fund by Investment Style	Value	1	-2.40%	-5.05%	-2.32%	-2.40%	-2.57%	-0.75%	1.88%	0.28%	-0.49%
Fund by Investment Style	Growth	30	-1.04%	-2.60%	-1.38%	-1.04%	-2.24%	-3.52%	-2.18%	-0.83%	-0.63%
Fund by Investment Style	GARP										
Fund by Investment Style	Yield	4	-0.73%	-1.99%	-1.09%	-0.73%	-0.29%	-2.16%	-0.67%	-0.38%	-0.98%
Fund by Investment Style	Index	21	-0.96%	-2.04%	-1.09%	-0.96%	-2.26%	-1.56%	-0.82%	-0.66%	-0.82%
Fund by Manager Type	Active	35	-1.00%	-2.61%	-1.41%	-1.00%	-1.98%	-3.31%	-1.88%	-0.77%	-0.60%
Fund by Manager Type	Passive	21	-0.96%	-2.04%	-1.09%	-0.96%	-2.26%	-1.56%	-0.82%	-0.66%	-0.82%
Fund by Portfolio Size (# stocks)	0 - 35	4	-0.76%	-3.71%	-1.29%	-0.76%	-5.31%	-5.22%	-4.58%	-1.94%	-1.28%
Fund by Portfolio Size (# stocks)	36 - 75	11	-1.29%	-3.06%	-1.41%	-1.29%	-2.50%	-3.31%	-2.12%	-0.66%	-1.35%
Fund by Portfolio Size (# stocks)	76 - 100	7	-0.28%	-1.36%	-1.35%	-0.28%	-0.69%	-3.91%	-1.20%	0.14%	0.83%
Fund by Portfolio Size (# stocks)	101 - 200	9	-1.47%	-2.61%	-2.24%	-1.47%	-2.61%	-3.00%	-1.54%	-0.84%	-0.85%
Fund by Portfolio Size (# stocks)	201 - 400	5	-1.10%	-2.54%	-1.85%	-1.10%	-4.02%	-2.84%	-1.85%	-0.71%	-0.92%
Fund by Portfolio Size (# stocks)	401 - 700	2	-1.25%	-3.44%	-0.40%	-1.25%	-1.72%	0.59%	2.50%	-0.32%	-1.94%
Fund by Portfolio Size (# stocks)	>700	18	-0.92%	-2.05%	-1.07%	-0.92%	-2.20%	-1.51%	-0.71%	-0.60%	-0.72%
Fund by Turnover	High										
Fund by Turnover	Medium	3	-0.98%	-0.50%	0.06%	-0.98%	-0.83%	-2.67%	-1.88%	-0.96%	-0.52%
Fund by Turnover	Low	9	-1.00%	-2.15%	-2.36%	-1.00%	-5.13%	-3.41%	-2.83%	-0.66%	-0.15%
Fund by Turnover	Very Low	42	-0.99%	-2.30%	-1.07%	-0.99%	-2.26%	-1.91%	-0.99%	-0.67%	-0.83%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return. Empty cell suggests no data is available for that period.

Table 47: Median relative returns matrix: USA

Relative returns of all fund groups in the USA for various periods

Group	Sub-Group	Fund Count	1m	3m	6m	YTD	12m	2-yr*	3-yr*	4-yr*	5-yr*
Fund by ASR	0-20%	280	-0.02%	-0.03%	-0.09%	-0.02%	-0.16%	-0.14%	-0.24%	-0.23%	-0.22%
Fund by ASR	21-40%	80	0.16%	0.02%	-0.16%	0.16%	-0.31%	-0.31%	-0.57%	-0.80%	-0.77%
Fund by ASR	41-60%	141	0.67%	0.79%	0.78%	0.67%	-0.32%	-0.82%	-1.87%	-1.69%	-2.00%
Fund by ASR	61-80%	203	0.26%	0.18%	0.35%	0.26%	-1.11%	-0.74%	-0.64%	-0.77%	-0.91%
Fund by ASR	81-100%	203	0.61%	-0.19%	0.77%	0.61%	-0.38%	-0.19%	0.51%	-0.17%	-0.04%
Fund by FUM(\$)	0 - \$750 m	198	0.06%	0.08%	-0.09%	0.06%	-0.33%	-0.41%	-0.48%	-0.71%	-0.63%
Fund by FUM(\$)	\$750m - \$1bn	75	0.01%	-0.02%	-0.16%	0.01%	-0.38%	-0.09%	-0.29%	-0.35%	-0.42%
Fund by FUM(\$)	\$1.0bn- 1.5bn	128	0.21%	0.08%	0.06%	0.21%	-0.27%	-0.27%	-0.32%	-0.38%	-0.49%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	95	0.25%	0.21%	0.42%	0.25%	-0.33%	-0.47%	-0.68%	-0.62%	-0.56%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	168	0.20%	0.04%	-0.04%	0.20%	-0.29%	-0.34%	-0.33%	-0.30%	-0.24%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	115	0.01%	-0.02%	-0.01%	0.01%	-0.31%	-0.30%	-0.41%	-0.39%	-0.39%
Fund by FUM(\$)	> \$10.0bn	128	-0.01%	-0.03%	-0.03%	-0.01%	-0.11%	-0.07%	-0.15%	-0.16%	-0.15%
Fund by MCAP	Large Cap	723	0.01%	0.01%	-0.05%	0.01%	-0.34%	-0.34%	-0.50%	-0.58%	-0.54%
Fund by MCAP	Mid Cap	133	0.66%	-0.02%	0.60%	0.66%	0.10%	-0.05%	0.04%	-0.05%	0.03%
Fund by MCAP	Small Cap	12	0.29%	-0.10%	0.86%	0.29%	-0.20%	-0.09%	1.85%	0.00%	-0.09%
Fund by MCAP	Multi Cap	39	-0.05%	0.14%	-0.14%	-0.05%	-0.38%	-0.29%	-0.39%	-0.23%	-0.22%
Fund by Investment Style	Value	116	0.78%	-0.47%	1.65%	0.78%	1.18%	1.44%	2.31%	0.69%	0.56%
Fund by Investment Style	Growth	201	0.71%	1.35%	0.44%	0.71%	-0.67%	-1.31%	-1.87%	-1.29%	-1.24%
Fund by Investment Style	GARP	190	0.26%	0.23%	0.20%	0.26%	-1.50%	-1.07%	-1.60%	-2.14%	-1.81%
Fund by Investment Style	Yield	44	-0.17%	-1.73%	-0.37%	-0.17%	-2.69%	-0.62%	-0.54%	-0.56%	-0.92%
Fund by Investment Style	Index	356	-0.03%	-0.02%	-0.09%	-0.03%	-0.17%	-0.13%	-0.23%	-0.22%	-0.22%
Fund by Manager Type	Active	551	0.49%	0.23%	0.45%	0.49%	-0.65%	-0.74%	-0.95%	-1.04%	-1.07%
Fund by Manager Type	Passive	356	-0.03%	-0.02%	-0.09%	-0.03%	-0.17%	-0.13%	-0.23%	-0.22%	-0.22%
Fund by Portfolio Size (# stocks)	0 - 35	85	-0.06%	-0.08%	-0.18%	-0.06%	-0.52%	-0.52%	-0.88%	-1.30%	-0.99%
Fund by Portfolio Size (# stocks)	36 - 75	265	0.40%	0.28%	0.26%	0.40%	-0.37%	-0.78%	-1.00%	-1.06%	-0.87%
Fund by Portfolio Size (# stocks)	76 - 100	89	0.66%	-0.06%	0.07%	0.66%	-0.35%	-0.19%	-0.32%	-0.46%	-0.30%
Fund by Portfolio Size (# stocks)	101 - 200	158	0.16%	-0.03%	-0.04%	0.16%	-0.50%	-0.20%	-0.24%	-0.48%	-0.54%
Fund by Portfolio Size (# stocks)	201 - 400	108	0.00%	0.02%	0.00%	0.00%	-0.10%	-0.10%	-0.15%	-0.14%	-0.19%
Fund by Portfolio Size (# stocks)	401 - 700	134	-0.01%	0.01%	-0.03%	-0.01%	-0.06%	-0.13%	-0.22%	-0.22%	-0.19%
Fund by Portfolio Size (# stocks)	>700	68	-0.01%	-0.02%	-0.02%	-0.01%	-0.11%	-0.04%	-0.07%	-0.08%	-0.13%
Fund by Turnover	High	11	0.25%	0.51%	-0.18%	0.25%	-3.48%	-1.92%	-1.87%	-1.14%	-2.91%
Fund by Turnover	Medium	68	0.53%	0.24%	0.87%	0.53%	-0.04%	-0.35%	-0.10%	-0.72%	-0.72%
Fund by Turnover	Low	144	0.53%	0.19%	0.57%	0.53%	-0.16%	-0.24%	-0.27%	-0.50%	-0.40%
Fund by Turnover	Very Low	613	0.00%	0.00%	-0.04%	0.00%	-0.23%	-0.26%	-0.33%	-0.34%	-0.35%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return. Empty cell suggests no data is available for that period.

BofA GLOBAL RESEARCH

Table 48: Median relative returns matrix: EUROPE

Relative returns of all fund groups in Europe for various periods

Group	Sub-Group	Fund Count	1m	3m	6m	YTD	12m	2-yr*	3-yr*	4-yr*	5-yr*
Fund by ASR	0-20%	114	0.00%	0.03%	-0.16%	0.00%	-0.38%	-0.49%	-0.57%	-0.54%	-0.50%
Fund by ASR	21-40%	43	0.11%	0.02%	-0.36%	0.11%	-0.84%	-1.22%	-0.99%	-0.83%	-0.84%
Fund by ASR	41-60%	59	0.06%	0.35%	0.53%	0.06%	-0.43%	-1.38%	-1.60%	-1.44%	-1.18%
Fund by ASR	61-80%	98	0.07%	1.00%	0.01%	0.07%	-0.92%	-2.61%	-2.71%	-1.29%	-0.62%
Fund by ASR	81-100%	51	-0.54%	1.45%	-1.83%	-0.54%	-1.81%	-3.65%	-4.60%	-2.45%	-1.59%
Fund by FUM(\$)	0 - \$750 m	143	0.03%	0.19%	-0.26%	0.03%	-0.88%	-1.50%	-1.47%	-1.32%	-1.10%
Fund by FUM(\$)	\$750m - \$1bn	53	0.21%	0.50%	-0.10%	0.21%	-0.53%	-1.46%	-1.37%	-0.74%	-0.74%
Fund by FUM(\$)	\$1.0bn- 1.5bn	62	0.11%	0.09%	-0.15%	0.11%	-0.30%	-0.34%	-0.78%	-0.41%	-0.17%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	35	-0.17%	0.13%	-0.10%	-0.17%	-0.38%	-1.17%	-0.97%	-0.58%	-0.44%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	59	-0.06%	0.10%	-0.14%	-0.06%	-0.34%	-0.50%	-0.65%	-0.53%	-0.50%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	12	0.01%	0.03%	-0.13%	0.01%	-0.52%	-0.60%	-0.56%	-0.56%	-0.37%
Fund by FUM(\$)	> \$10.0bn	1	-1.00%	-1.11%	-0.96%	-1.00%	-2.64%	-1.90%	-1.01%	-0.75%	-0.69%
Fund by MCAP	Large Cap	303	0.00%	0.13%	-0.19%	0.00%	-0.63%	-0.86%	-1.02%	-0.80%	-0.62%
Fund by MCAP	Mid Cap	15	-0.14%	0.42%	0.34%	-0.14%	-0.54%	-1.78%	-2.42%	-1.35%	-0.75%
Fund by MCAP	Small Cap	2	-1.36%	-0.67%	-4.59%	-1.36%	-2.32%	-5.66%	-5.08%	-3.59%	-2.87%
Fund by MCAP	Multi Cap	45	0.18%	0.41%	0.07%	0.18%	-0.26%	-1.43%	-1.01%	-0.68%	-0.53%
Fund by Investment Style	Value	13	-0.54%	-1.15%	-0.16%	-0.54%	-0.54%	-1.22%	0.82%	-0.49%	-1.34%
Fund by Investment Style	Growth	194	0.04%	0.79%	-0.09%	0.04%	-1.06%	-2.42%	-2.74%	-1.58%	-1.10%
Fund by Investment Style	GARP	4	-1.37%	-1.40%	-0.73%	-1.37%	-2.10%	-0.81%	0.39%	-0.28%	-0.89%
Fund by Investment Style	Yield	21	0.07%	0.35%	0.58%	0.07%	-0.30%	-0.12%	0.37%	-0.06%	-0.36%
Fund by Investment Style	Index	133	0.00%	0.05%	-0.19%	0.00%	-0.42%	-0.51%	-0.58%	-0.55%	-0.53%
Fund by Manager Type	Active	232	0.04%	0.71%	-0.09%	0.04%	-0.99%	-2.19%	-2.28%	-1.47%	-1.10%
Fund by Manager Type	Passive	133	0.00%	0.05%	-0.19%	0.00%	-0.42%	-0.51%	-0.58%	-0.55%	-0.53%
Fund by Portfolio Size (# stocks)	0 - 35	69	0.16%	0.24%	-0.33%	0.16%	-0.59%	-1.03%	-0.98%	-0.89%	-0.77%
Fund by Portfolio Size (# stocks)	36 - 75	181	-0.02%	0.45%	-0.21%	-0.02%	-0.78%	-1.76%	-1.84%	-0.87%	-0.59%
Fund by Portfolio Size (# stocks)	76 - 100	23	0.05%	-0.11%	-0.06%	0.05%	-0.38%	-0.49%	-0.97%	-0.82%	-1.17%
Fund by Portfolio Size (# stocks)	101 - 200	41	0.03%	0.06%	0.12%	0.03%	-0.54%	-0.79%	-1.34%	-1.46%	-1.29%
Fund by Portfolio Size (# stocks)	201 - 400	26	-0.19%	0.07%	-0.08%	-0.19%	-0.30%	-0.59%	-0.75%	-0.55%	-0.47%
Fund by Portfolio Size (# stocks)	401 - 700	24	-0.04%	-0.02%	-0.09%	-0.04%	-0.42%	-0.47%	-0.56%	-0.51%	-0.49%
Fund by Portfolio Size (# stocks)	>700	1	-1.00%	-1.11%	-0.96%	-1.00%	-2.64%	-1.90%	-1.01%	-0.75%	-0.69%
Fund by Turnover	High	1	-3.49%	-4.93%	-3.59%	-3.49%	-7.19%	-0.21%	1.26%	4.54%	2.04%
Fund by Turnover	Medium	21	-0.12%	-0.22%	-0.67%	-0.12%	-3.46%	-2.62%	-2.18%	-2.49%	-2.09%
Fund by Turnover	Low	39	0.08%	0.42%	0.47%	0.08%	-0.96%	-2.65%	-2.92%	-1.83%	-2.13%
Fund by Turnover	Very Low	262	-0.01%	0.13%	-0.16%	-0.01%	-0.50%	-0.79%	-0.91%	-0.68%	-0.58%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return. Empty cell suggests no data is available for that period.

BofA GLOBAL RESEARCH

Table 49: Median relative returns matrix: Japan

Relative returns of all fund groups in Japan for various periods

Group	Sub-Group	Fund Count	1m	3m	6m	YTD	12m	2-yr*	3-yr*	4-yr*	5-yr*
Fund by ASR	0-20%	43	0.01%	-0.13%	-0.20%	0.01%	-0.59%	-0.42%	-0.51%	-0.26%	-0.36%
Fund by ASR	21-40%	5	-1.75%	-3.69%	-2.23%	-1.75%	-4.69%	-2.18%	-1.96%	-1.00%	-1.33%
Fund by ASR	41-60%	1	-0.47%	-1.23%	-2.21%	-0.47%	-3.41%	-3.93%	-3.23%	-3.44%	-2.93%
Fund by ASR	61-80%	19	-1.45%	0.02%	-2.97%	-1.45%	-2.39%	-4.08%	-4.93%	-0.39%	0.12%
Fund by ASR	81-100%	10	-2.02%	-1.54%	-3.89%	-2.02%	-3.55%	-4.00%	-3.64%	-0.58%	1.39%
Fund by FUM(\$)	0 - \$750 m	22	-0.56%	-1.43%	-2.01%	-0.56%	-1.67%	-1.85%	-1.65%	-0.82%	-0.77%
Fund by FUM(\$)	\$750m - \$1bn	10	-0.10%	-3.62%	-1.00%	-0.10%	-1.44%	1.83%	3.48%	3.67%	1.94%
Fund by FUM(\$)	\$1.0bn- 1.5bn	13	-0.04%	-0.06%	-1.47%	-0.04%	-0.49%	-0.43%	-0.40%	-0.36%	-0.20%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	8	-0.10%	-1.83%	-0.60%	-0.10%	-0.81%	-0.60%	-0.84%	-0.30%	-0.57%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	18	-0.73%	-0.08%	-1.30%	-0.73%	-1.22%	-0.68%	-0.95%	-0.23%	-0.28%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	2	0.51%	0.15%	0.25%	0.51%	0.22%	0.11%	0.08%	-0.02%	-0.06%
Fund by FUM(\$)	> \$10.0bn	5	0.23%	-0.13%	-0.02%	0.23%	-0.16%	-0.14%	-0.17%	-0.18%	-0.17%
Fund by MCAP	Large Cap	71	-0.22%	-0.35%	-1.02%	-0.22%	-1.22%	-0.78%	-0.86%	-0.37%	-0.28%
Fund by MCAP	Mid Cap	6	0.43%	-0.57%	0.15%	0.43%	0.06%	-0.10%	0.06%	-0.09%	-0.12%
Fund by MCAP	Small Cap										
Fund by MCAP	Multi Cap	1	-1.52%	-3.32%	-3.60%	-1.52%	4.37%	5.11%	-0.54%	1.62%	0.55%
Fund by Investment Style	Value	2	3.62%	0.67%	7.41%	3.62%	32.57%	19.21%	20.47%	7.35%	4.46%
Fund by Investment Style	Growth	5	-2.35%	-1.77%	-6.82%	-2.35%	-0.92%	-4.36%	-6.15%	-1.58%	-0.64%
Fund by Investment Style	GARP	29	-1.45%	-1.30%	-2.23%	-1.45%	-3.41%	-2.60%	-2.03%	-0.58%	-0.19%
Fund by Investment Style	Yield										
Fund by Investment Style	Index	42	0.00%	-0.17%	-0.24%	0.00%	-0.74%	-0.42%	-0.61%	-0.26%	-0.38%
Fund by Manager Type	Active	36	-1.28%	-1.47%	-2.22%	-1.28%	-2.14%	-2.39%	-2.41%	-0.49%	-0.10%
Fund by Manager Type	Passive	42	0.00%	-0.17%	-0.24%	0.00%	-0.74%	-0.42%	-0.61%	-0.26%	-0.38%
Fund by Portfolio Size (# stocks)	0 - 35	5	-2.83%	0.76%	-6.82%	-2.83%	-6.18%	-4.36%	-6.15%	-1.58%	-0.64%
Fund by Portfolio Size (# stocks)	36 - 75	27	-1.10%	-1.63%	-2.05%	-1.10%	-2.39%	-0.78%	-2.03%	-0.38%	-0.14%
Fund by Portfolio Size (# stocks)	76 - 100	6	0.12%	-1.26%	-0.93%	0.12%	6.06%	3.04%	1.70%	2.38%	1.81%
Fund by Portfolio Size (# stocks)	101 - 200	3	-1.68%	-2.25%	-2.23%	-1.68%	-4.09%	-2.18%	-0.68%	-0.58%	-0.43%
Fund by Portfolio Size (# stocks)	201 - 400	24	0.01%	-0.15%	-0.22%	0.01%	-0.63%	-0.42%	-0.56%	-0.30%	-0.46%
Fund by Portfolio Size (# stocks)	401 - 700	7	-0.38%	-1.92%	-1.02%	-0.38%	-1.04%	-0.71%	-0.83%	-0.24%	-0.65%
Fund by Portfolio Size (# stocks)	>700	6	0.29%	0.04%	0.16%	0.29%	-0.02%	-0.03%	-0.08%	-0.08%	-0.09%
Fund by Turnover	High										
Fund by Turnover	Medium	6	-2.18%	-1.54%	-4.51%	-2.18%	-2.16%	-4.00%	-4.29%	-1.92%	-1.47%
Fund by Turnover	Low	2	0.57%	3.19%	1.05%	0.57%	13.07%	7.21%	9.34%	2.82%	3.28%
Fund by Turnover	Very Low	62	-0.12%	-0.77%	-0.73%	-0.12%	-0.82%	-0.54%	-0.70%	-0.34%	-0.28%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return. Empty cell suggests no data is available for that period.

BofA GLOBAL RESEARCH

Table 50: Median relative returns matrix: Asia Pac ex-Japan

Relative returns of all fund groups in Asia Pac ex-Japan for various periods

Group	Sub-Group	Fund Count	1m	3m	6m	YTD	12m	2-yr*	3-yr*	4-yr*	5-yr*
Fund by ASR	0-20%	62	0.09%	-0.11%	-0.20%	0.09%	-0.49%	-0.59%	-0.44%	-0.34%	-0.76%
Fund by ASR	21-40%	9	-0.07%	0.28%	-0.13%	-0.07%	-0.39%	-0.42%	0.01%	0.87%	-0.37%
Fund by ASR	41-60%	33	0.27%	-0.95%	-0.94%	0.27%	-1.45%	-1.86%	-1.87%	-0.53%	-0.63%
Fund by ASR	61-80%	77	-0.11%	-2.06%	-2.88%	-0.11%	-6.33%	-4.30%	-3.09%	-1.58%	-0.03%
Fund by ASR	81-100%	14	1.52%	4.16%	1.81%	1.52%	2.45%	2.32%	4.22%	3.82%	2.39%
Fund by FUM(\$)	0 - \$750 m	62	0.08%	-0.25%	-1.10%	0.08%	-1.92%	-1.60%	-0.74%	-0.33%	-0.50%
Fund by FUM(\$)	\$750m - \$1bn	22	0.11%	-0.18%	0.22%	0.11%	-0.30%	-0.61%	-0.20%	0.14%	-0.20%
Fund by FUM(\$)	\$1.0bn - 1.5bn	37	0.11%	-0.08%	-0.34%	0.11%	-0.71%	-0.82%	-0.33%	-0.22%	-0.08%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	15	-0.32%	-2.12%	-1.23%	-0.32%	-2.38%	-1.72%	-0.98%	-0.89%	-0.99%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	44	-0.07%	-0.84%	-1.89%	-0.07%	-2.45%	-1.25%	-1.19%	-0.63%	-0.54%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	13	0.15%	-0.67%	-0.63%	0.15%	-0.55%	-0.89%	-0.49%	-1.00%	-0.55%
Fund by FUM(\$)	> \$10.0bn	2	0.16%	0.02%	0.25%	0.16%	-0.12%	-0.02%	-0.06%	-0.16%	-0.25%
Fund by MCAP	Large Cap	167	0.08%	-0.38%	-0.59%	0.08%	-1.28%	-1.17%	-0.81%	-0.46%	-0.54%
Fund by MCAP	Mid Cap	9	-0.06%	-2.82%	-2.05%	-0.06%	-6.66%	-3.07%	-2.67%	-3.96%	-1.78%
Fund by MCAP	Small Cap										
Fund by MCAP	Multi Cap	19	0.00%	0.64%	-0.63%	0.00%	-0.40%	-0.70%	-0.19%	0.79%	2.54%
Fund by Investment Style	Value	1	-2.06%	-3.33%	-2.74%	-2.06%	-2.39%	2.35%	4.67%	1.56%	0.15%
Fund by Investment Style	Growth	80	0.26%	-0.70%	-1.26%	0.26%	-4.07%	-2.63%	-2.57%	-1.60%	-1.00%
Fund by Investment Style	GARP	40	-0.57%	-2.17%	-2.89%	-0.57%	-6.07%	-3.83%	-1.95%	-0.12%	0.42%
Fund by Investment Style	Yield	3	1.65%	0.32%	1.65%	1.65%	1.89%	6.48%	9.98%	2.45%	1.97%
Fund by Investment Style	Index	71	0.07%	-0.11%	-0.17%	0.07%	-0.48%	-0.53%	-0.41%	-0.30%	-0.60%
Fund by Manager Type	Active	124	0.01%	-1.44%	-2.11%	0.01%	-4.99%	-3.51%	-1.99%	-0.68%	-0.13%
Fund by Manager Type	Passive	71	0.07%	-0.11%	-0.17%	0.07%	-0.48%	-0.53%	-0.41%	-0.30%	-0.60%
Fund by Portfolio Size (# stocks)	0 - 35	21	-0.04%	-0.16%	-0.29%	-0.04%	-0.79%	-1.56%	-0.44%	-0.35%	-0.52%
Fund by Portfolio Size (# stocks)	36 - 75	106	0.05%	-0.94%	-1.89%	0.05%	-3.99%	-2.26%	-1.44%	-0.99%	-0.53%
Fund by Portfolio Size (# stocks)	76 - 100	11	-1.43%	-3.07%	-2.97%	-1.43%	-6.34%	-3.70%	-2.18%	-0.49%	0.04%
Fund by Portfolio Size (# stocks)	101 - 200	25	-0.01%	-0.11%	-0.13%	-0.01%	-0.46%	-0.78%	-0.36%	-0.28%	-0.30%
Fund by Portfolio Size (# stocks)	201 - 400	14	0.32%	0.15%	0.03%	0.32%	-0.04%	-0.16%	-0.17%	-0.07%	-0.37%
Fund by Portfolio Size (# stocks)	401 - 700	6	0.23%	0.09%	-0.07%	0.23%	-0.35%	-0.11%	-0.14%	1.01%	-0.48%
Fund by Portfolio Size (# stocks)	>700	12	0.01%	-0.33%	-0.82%	0.01%	-1.25%	-0.83%	-0.83%	-0.39%	-0.83%
Fund by Turnover	High	1	-1.11%	-3.20%	-3.36%	-1.11%	-8.08%	-10.31%	-7.82%	-3.46%	-4.39%
Fund by Turnover	Medium	7	0.91%	1.36%	0.43%	0.91%	-6.68%	-4.00%	0.88%	0.09%	-0.03%
Fund by Turnover	Low	26	0.25%	-0.62%	-1.03%	0.25%	-3.40%	-4.00%	-2.70%	-0.32%	-0.46%
Fund by Turnover	Very Low	148	0.05%	-0.40%	-0.76%	0.05%	-1.34%	-1.14%	-0.75%	-0.45%	-0.52%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return. Empty cell suggests no data is available for that period.

BofA GLOBAL RESEARCH

Table 51: Median relative returns matrix: Emerging Markets

Relative returns of all fund groups in Emerging Markets for various periods

Group	Sub-Group	Fund Count	1m	3m	6m	YTD	12m	2-yr*	3-yr*	4-yr*	5-yr*
Fund by ASR	0-20%	40	0.03%	-0.16%	-0.45%	0.03%	-1.17%	-0.78%	-0.74%	-0.59%	-0.78%
Fund by ASR	21-40%	9	0.44%	-0.15%	0.77%	0.44%	0.58%	0.66%	-0.07%	-0.01%	-0.61%
Fund by ASR	41-60%	25	0.95%	0.77%	1.57%	0.95%	0.32%	0.05%	0.30%	-0.35%	-0.16%
Fund by ASR	61-80%	68	0.31%	0.41%	-0.94%	0.31%	-2.42%	-2.96%	-3.48%	-1.82%	-0.29%
Fund by ASR	81-100%	17	1.09%	1.36%	0.83%	1.09%	3.32%	0.77%	-0.44%	2.03%	1.80%
Fund by FUM(\$)	0 - \$750 m	53	0.43%	0.75%	-0.07%	0.43%	-1.28%	-1.42%	-1.08%	-0.87%	-0.69%
Fund by FUM(\$)	\$750m - \$1bn	18	-0.09%	0.48%	-1.00%	-0.09%	-1.39%	-1.66%	-1.74%	-1.04%	-0.47%
Fund by FUM(\$)	\$1.0bn- 1.5bn	30	0.38%	0.01%	-0.13%	0.38%	-0.43%	-0.70%	-0.68%	-0.55%	-0.10%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	12	0.97%	0.17%	0.30%	0.97%	0.09%	-0.79%	-0.79%	-0.76%	0.05%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	33	0.65%	0.74%	0.01%	0.65%	-0.51%	-0.78%	-0.75%	-0.43%	-0.73%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	10	0.01%	-0.97%	-1.21%	0.01%	-2.37%	-1.71%	-1.16%	-0.87%	-0.91%
Fund by FUM(\$)	> \$10.0bn	4	0.00%	-0.22%	-0.70%	0.00%	-1.25%	-0.97%	-0.66%	-0.51%	-0.70%
Fund by MCAP	Large Cap	150	0.32%	0.20%	-0.25%	0.32%	-1.27%	-1.18%	-1.02%	-0.75%	-0.56%
Fund by MCAP	Mid Cap	2	0.76%	0.80%	0.22%	0.76%	2.40%	0.87%	-0.28%	-0.60%	-0.79%
Fund by MCAP	Small Cap										
Fund by MCAP	Multi Cap	8	0.78%	0.53%	0.74%	0.78%	2.34%	1.16%	0.63%	0.50%	0.04%
Fund by Investment Style	Value	30	1.28%	1.14%	1.54%	1.28%	3.14%	1.31%	2.26%	0.34%	0.40%
Fund by Investment Style	Growth	61	0.15%	-0.12%	-0.78%	0.15%	-2.47%	-2.99%	-4.41%	-1.63%	-0.33%
Fund by Investment Style	GARP	12	0.84%	0.69%	0.09%	0.84%	-0.65%	-1.57%	-2.69%	-1.17%	-0.14%
Fund by Investment Style	Yield	2	2.88%	2.60%	8.61%	2.88%	13.38%	7.87%	9.82%	2.68%	1.47%
Fund by Investment Style	Index	55	0.18%	0.02%	-0.29%	0.18%	-1.07%	-0.82%	-0.70%	-0.55%	-0.80%
Fund by Manager Type	Active	105	0.44%	0.48%	0.02%	0.44%	-1.22%	-1.64%	-1.74%	-1.08%	-0.07%
Fund by Manager Type	Passive	55	0.18%	0.02%	-0.29%	0.18%	-1.07%	-0.82%	-0.70%	-0.55%	-0.80%
Fund by Portfolio Size (# stocks)	0 - 35	5	0.96%	0.79%	1.58%	0.96%	0.33%	0.46%	-0.97%	-0.55%	-0.55%
Fund by Portfolio Size (# stocks)	36 - 75	50	0.19%	0.26%	-0.53%	0.19%	-2.21%	-2.30%	-3.86%	-1.77%	-0.36%
Fund by Portfolio Size (# stocks)	76 - 100	15	0.02%	-1.30%	-1.31%	0.02%	-2.59%	-3.82%	-3.39%	-2.59%	-1.52%
Fund by Portfolio Size (# stocks)	101 - 200	22	0.63%	0.32%	0.26%	0.63%	-0.44%	-1.60%	-1.19%	-0.67%	-0.20%
Fund by Portfolio Size (# stocks)	201 - 400	17	1.65%	1.56%	0.77%	1.65%	0.58%	-0.40%	-0.44%	0.34%	-0.22%
Fund by Portfolio Size (# stocks)	401 - 700	15	0.37%	0.00%	-0.51%	0.37%	0.01%	0.04%	0.33%	-0.61%	-0.18%
Fund by Portfolio Size (# stocks)	>700	36	0.15%	-0.15%	-0.27%	0.15%	-1.03%	-0.66%	-0.66%	-0.46%	-0.69%
Fund by Turnover	High	4	1.11%	1.15%	0.26%	1.11%	-0.57%	-0.61%	-0.52%	-0.04%	-0.79%
Fund by Turnover	Medium	10	1.15%	1.79%	0.40%	1.15%	-1.19%	-2.11%	-3.73%	-0.82%	0.08%
Fund by Turnover	Low	28	0.44%	0.02%	-0.43%	0.44%	-1.42%	-1.19%	-2.15%	-1.54%	-0.51%
Fund by Turnover	Very Low	113	0.29%	0.05%	-0.33%	0.29%	-1.21%	-1.18%	-0.94%	-0.70%	-0.56%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. * relative annualized return. Empty cell suggests no data is available for that period.

BofA GLOBAL RESEARCH

Summary Table: Proportion of Funds Outperforming

Table 52: Proportion of Funds Outperforming their Benchmark

Hit rate of funds

Group	Sub-Group	# Funds	FUM \$US billions	% of Funds Outperforming								
				1m	3m	6m	YTD	12m	2-yr	3-yr	4-yr	5-yr
Fund by ASR	0-20%	633	6,673	41%	41%	28%	41%	24%	21%	11%	11%	9%
Fund by ASR	21-40%	168	588	55%	53%	44%	55%	38%	30%	27%	28%	24%
Fund by ASR	41-60%	296	1,529	65%	61%	58%	65%	46%	31%	24%	24%	23%
Fund by ASR	61-80%	571	2,363	55%	54%	47%	55%	36%	29%	29%	33%	41%
Fund by ASR	81-100%	478	1,206	49%	54%	44%	49%	37%	33%	36%	35%	40%
Fund by FUM(\$)	0 - \$750 m	517	260	53%	54%	41%	53%	34%	25%	24%	21%	24%
Fund by FUM(\$)	\$750m - \$1bn	231	201	53%	52%	40%	53%	37%	27%	24%	28%	32%
Fund by FUM(\$)	\$1.0bn- 1.5bn	356	439	52%	52%	44%	52%	36%	32%	29%	30%	32%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	214	370	53%	56%	48%	53%	38%	31%	24%	27%	30%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	451	1,386	51%	53%	42%	51%	34%	27%	24%	26%	29%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	194	1,328	52%	45%	41%	52%	33%	27%	21%	22%	22%
Fund by FUM(\$)	> \$10.0bn	185	8,378	39%	38%	38%	39%	30%	29%	21%	24%	23%
Fund by MCAP	Large Cap	1835	11,467	50%	51%	41%	50%	33%	26%	22%	23%	25%
Fund by MCAP	Mid Cap	174	591	63%	48%	57%	63%	48%	42%	47%	39%	46%
Fund by MCAP	Small Cap	17	33	47%	35%	35%	47%	25%	31%	38%	38%	38%
Fund by MCAP	Multi Cap	122	270	50%	57%	43%	50%	36%	29%	30%	39%	35%
Fund by Investment Style	Value	188	536	66%	43%	61%	66%	58%	64%	67%	52%	51%
Fund by Investment Style	Growth	773	3,069	54%	63%	48%	54%	37%	22%	21%	26%	36%
Fund by Investment Style	GARP	315	1,253	56%	51%	45%	56%	35%	27%	24%	25%	27%
Fund by Investment Style	Yield	99	404	43%	26%	36%	43%	28%	34%	43%	41%	35%
Fund by Investment Style	Index	772	7,091	43%	45%	31%	43%	27%	24%	15%	16%	13%
Fund by Manager Type	Active	1376	5,271	56%	55%	48%	56%	39%	30%	30%	31%	36%
Fund by Manager Type	Passive	772	7,091	43%	45%	31%	43%	27%	24%	15%	16%	13%
Fund by Portfolio Size (# stocks)	0 - 35	232	495	47%	55%	36%	47%	31%	23%	20%	22%	24%
Fund by Portfolio Size (# stocks)	36 - 75	790	2,220	52%	55%	43%	52%	35%	25%	24%	28%	33%
Fund by Portfolio Size (# stocks)	76 - 100	199	614	56%	44%	42%	56%	32%	30%	27%	27%	33%
Fund by Portfolio Size (# stocks)	101 - 200	287	1,670	54%	49%	47%	54%	35%	30%	29%	25%	27%
Fund by Portfolio Size (# stocks)	201 - 400	228	1,989	53%	52%	44%	53%	37%	31%	26%	27%	22%
Fund by Portfolio Size (# stocks)	401 - 700	208	2,933	48%	49%	41%	48%	37%	32%	24%	20%	20%
Fund by Portfolio Size (# stocks)	>700	204	2,441	44%	45%	38%	44%	32%	33%	18%	21%	15%
Fund by Turnover	High	21	42	48%	62%	43%	48%	29%	24%	14%	19%	25%
Fund by Turnover	Medium	139	344	60%	58%	53%	60%	43%	32%	33%	28%	33%
Fund by Turnover	Low	303	1,435	61%	51%	51%	61%	41%	33%	32%	31%	31%
Fund by Turnover	Very Low	1528	9,616	49%	51%	40%	49%	33%	27%	23%	25%	27%
Fund by Region	Global (DM+EM)	181	1,425	45%	60%	44%	45%	34%	21%	16%	25%	30%
Fund by Region	Global (DM)	206	680	47%	60%	40%	47%	38%	32%	16%	19%	23%
Fund by Region	EAFE	56	641	9%	13%	18%	9%	18%	11%	19%	27%	26%
Fund by Region	USA	907	7,940	53%	50%	48%	53%	39%	35%	30%	27%	27%
Fund by Region	Europe	365	535	51%	59%	38%	51%	30%	16%	14%	19%	24%
Fund by Region	Japan	78	301	40%	32%	29%	40%	28%	23%	24%	22%	25%
Fund by Region	APXJ	195	369	52%	37%	32%	52%	27%	24%	29%	37%	34%
Fund by Region	EM	160	464	68%	57%	42%	68%	33%	30%	29%	29%	34%
All Funds				51%	51%	42%	51%	34%	28%	24%	25%	27%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. 0% means no funds outperformed their benchmark and empty cell suggests no data is available.

BofA GLOBAL RESEARCH



Summary Table: Spread of returns

Table 53: Spread of returns (difference between 75th and 25th percentile)

Difference between the returns of the top and bottom quartile of funds by performance

Spread of Returns (difference between 75th and 25th percentile)												
Group	Sub-Group	# Funds	FUM \$US billions	1m	3m	6m	YTD	12m	2-yr	3-yr	4-yr	5-yr
Fund by ASR	0-20%	633	6,673	0.36%	0.42%	0.44%	0.36%	0.90%	0.74%	0.62%	0.60%	0.60%
Fund by ASR	21-40%	168	588	0.90%	1.79%	1.77%	0.90%	3.77%	2.13%	1.95%	1.61%	1.61%
Fund by ASR	41-60%	296	1,529	1.51%	2.61%	3.01%	1.51%	6.08%	3.46%	3.95%	2.78%	2.78%
Fund by ASR	61-80%	571	2,363	1.72%	3.86%	4.27%	1.72%	8.01%	4.76%	5.12%	3.13%	3.13%
Fund by ASR	81-100%	478	1,206	2.76%	5.34%	5.61%	2.76%	10.32%	5.87%	7.55%	4.75%	4.75%
Fund by FUM(\$)	0 - \$750 m	517	260	1.36%	2.87%	3.07%	1.36%	5.59%	4.11%	4.25%	2.58%	2.58%
Fund by FUM(\$)	\$750m - \$1bn	231	201	1.59%	3.12%	2.61%	1.59%	5.59%	3.11%	4.16%	2.77%	2.77%
Fund by FUM(\$)	\$1.0bn - 1.5bn	356	439	1.40%	2.71%	2.88%	1.40%	4.73%	3.10%	3.09%	1.74%	1.74%
Fund by FUM(\$)	\$1.5bn - \$2.0bn	214	370	1.37%	2.90%	2.95%	1.37%	5.14%	3.28%	3.30%	2.40%	2.40%
Fund by FUM(\$)	\$2.0bn - \$5.0bn	451	1,386	1.24%	2.47%	2.31%	1.24%	4.68%	2.83%	3.15%	1.78%	1.78%
Fund by FUM(\$)	\$5.0bn - \$10.0bn	194	1,328	0.98%	1.78%	1.87%	0.98%	3.75%	1.83%	2.20%	1.69%	1.69%
Fund by FUM(\$)	> \$10.0bn	185	8,378	0.62%	1.71%	1.46%	0.62%	2.02%	1.38%	1.19%	0.92%	0.92%
Fund by MCAP	Large Cap	1835	11,467	1.21%	2.60%	2.51%	1.21%	5.02%	3.00%	3.33%	2.07%	2.07%
Fund by MCAP	Mid Cap	174	591	1.43%	1.66%	2.90%	1.43%	3.28%	2.48%	3.35%	2.06%	2.06%
Fund by MCAP	Small Cap	17	33	1.47%	2.43%	3.08%	1.47%	2.43%	3.17%	3.38%	1.15%	1.15%
Fund by MCAP	Multi Cap	122	270	1.62%	3.74%	2.94%	1.62%	4.10%	5.06%	3.95%	1.92%	1.92%
Fund by Investment Style	Value	188	536	2.00%	3.05%	4.16%	2.00%	6.84%	4.22%	4.50%	3.69%	3.69%
Fund by Investment Style	Growth	773	3,069	1.93%	3.93%	4.21%	1.93%	7.25%	4.74%	5.40%	3.43%	3.43%
Fund by Investment Style	GARP	315	1,253	1.55%	3.16%	3.80%	1.55%	8.44%	3.70%	4.43%	2.80%	2.80%
Fund by Investment Style	Yield	99	404	1.47%	3.29%	3.94%	1.47%	9.91%	4.16%	2.77%	4.50%	4.50%
Fund by Investment Style	Index	772	7,091	0.52%	0.72%	0.67%	0.52%	1.11%	0.90%	0.71%	0.66%	0.66%
Fund by Manager Type	Active	1376	5,271	1.88%	3.71%	4.15%	1.88%	7.85%	4.62%	5.32%	3.40%	3.40%
Fund by Manager Type	Passive	772	7,091	0.52%	0.72%	0.67%	0.52%	1.11%	0.90%	0.71%	0.66%	0.66%
Fund by Portfolio Size (# stocks)	0 - 35	232	495	1.51%	3.99%	3.33%	1.51%	7.12%	4.60%	5.64%	3.33%	3.33%
Fund by Portfolio Size (# stocks)	36 - 75	790	2,220	1.81%	3.75%	4.21%	1.81%	7.50%	4.32%	4.73%	2.94%	2.94%
Fund by Portfolio Size (# stocks)	76 - 100	199	614	1.59%	2.71%	3.05%	1.59%	7.07%	4.30%	4.78%	3.14%	3.14%
Fund by Portfolio Size (# stocks)	101 - 200	287	1,670	1.18%	2.19%	2.26%	1.18%	4.10%	2.52%	2.44%	2.12%	2.12%
Fund by Portfolio Size (# stocks)	201 - 400	228	1,989	0.80%	1.31%	1.39%	0.80%	2.51%	1.41%	1.30%	1.08%	1.08%
Fund by Portfolio Size (# stocks)	401 - 700	208	2,933	0.50%	1.33%	1.10%	0.50%	1.99%	0.95%	0.77%	0.67%	0.67%
Fund by Portfolio Size (# stocks)	>700	204	2,441	0.79%	1.55%	1.15%	0.79%	1.93%	1.28%	0.85%	0.68%	0.68%
Fund by Turnover	High	21	42	1.66%	3.18%	2.82%	1.66%	9.66%	3.42%	4.50%	4.34%	4.34%
Fund by Turnover	Medium	139	344	1.74%	2.74%	3.68%	1.74%	6.42%	4.52%	4.84%	3.17%	3.17%
Fund by Turnover	Low	303	1,435	1.83%	2.99%	3.64%	1.83%	7.46%	4.55%	5.52%	3.09%	3.09%
Fund by Turnover	Very Low	1528	9,616	1.14%	2.51%	2.39%	1.14%	4.33%	2.67%	2.86%	1.78%	1.78%
Fund by Region	Global (DM+EM)	181	1,425	1.77%	4.06%	3.46%	1.77%	6.68%	3.91%	5.74%	2.76%	2.76%
Fund by Region	Global (DM)	206	680	1.52%	3.40%	3.00%	1.52%	9.28%	3.22%	3.85%	2.93%	2.93%
Fund by Region	EAFE	56	641	0.64%	1.44%	1.69%	0.64%	3.05%	2.55%	1.82%	1.23%	1.23%
Fund by Region	USA	907	7,940	1.13%	1.98%	2.28%	1.13%	4.38%	2.46%	2.40%	2.10%	2.10%
Fund by Region	Europe	365	535	0.98%	2.16%	1.54%	0.98%	3.09%	3.08%	3.24%	1.79%	1.79%
Fund by Region	Japan	78	301	1.73%	3.59%	2.57%	1.73%	3.71%	2.11%	2.36%	0.90%	0.90%
Fund by Region	APXJ	195	369	1.44%	3.18%	3.37%	1.44%	6.77%	4.44%	3.93%	2.00%	2.00%
Fund by Region	EM	160	464	1.46%	2.27%	2.68%	1.46%	4.00%	3.77%	4.77%	1.49%	1.49%

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. Empty cell suggests no data is available for that period.

BofA GLOBAL RESEARCH



Methodology

In this report we analyse relative returns of large long-only equity funds which declare portfolio holdings on a regular basis (frequency differs by fund, but is typically monthly or quarterly), manage more than US\$500m in any one region, for which we have identified and have access to their benchmark, and which have a ready-made “fund price” available from various data sources (Factset, Bloomberg). The table below summarizes the total number of funds, their funds under management and number of unique benchmarks used in this analysis.

Table 54: Summary Stats for Fund Returns

Information on the funds used in this analysis

Number of Funds	Total FUM (\$US millions)	Unique Benchmarks
2148	14,125,747	479

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

Table 55: Average and Median Fund characteristics

Aggregate ASR, FUM, # stocks statistics

	Average	Median
ASR	48.88%	58.89%
FUM	5,755	1,455
# of stocks	299	81

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices

BofA GLOBAL RESEARCH

We divide funds by type based on various characteristics, including Region, Investment Style, Active / Passive, Active Share Ratio (ASR), Funds Under Management (FUM), Market Cap of Stocks, Portfolio Size (# of stocks in the fund), and Turnover.

For each period of return we currently include in the report (1m, 3m, 6m, 12m, Year-to-date, 2yr, 3yr) we only include funds which were in our analysis and have price return for the entire period in question. We calculate relative returns of each fund for each period. Relative return is defined as the difference between a fund's return and the benchmark return. We calculate Median, Top Quartile, and Bottom Quartile relative returns across all funds for each group of fund in the analysis.

The data in this report is based on the most recent month-end data. The number of funds may change each month based on data availability and an annual refresh of the funds included in this analysis.

These "Benchmark Indices" are managed by MSCI, S&P, FTSE and Country Indices such as NSE, CNX among others.

Table 56: Definitions

Fund Group definitions

#	Group	Definition
1	Region	Based on the region of the Benchmark. E.g. Funds benchmarked to MSCI All Country World Index are classified as Global (DM+EM), while Funds benchmarked to MSCI World are classified as Global (DM).
2	Investment Style	Determined by Factset.
3	Active/Passive	Determined by Factset.
4	Active Share Ratio (ASR)	We calculate the Active Share Ratio (ASR) as the sum of the absolute value of the differences of the weight of each holding in the manager's portfolio versus the weight of each holding in the benchmark index and then dividing by two.
5	Funds Under Management (FUM)	We calculate FUM as the total value of a fund's holding as of the latest month-end in USD.
6	Market Cap of Stocks	Determined by Factset.
7	Portfolio Size (# stocks)	We count the number of stocks within each fund.
8	Turnover	Determined by Factset.

Source : BofA Global Quantitative Strategy, Factset, Bloomberg, Benchmark Indices. The group definitions may vary from the fund's own definition/description.

BofA GLOBAL RESEARCH

Global Quant Publications

Monthly reports schedule

Day 1: Contenders & Defenders

A popular visual stock selection model. For each stock, this report graphically shows how consensus earnings expectations have changed over the long term versus the market, and whether recent earnings revisions appear to have been reflected in relative share price performance. Popular ways of using this analysis include 1) reviewing the Contenders (buys) and Defenders (Sells) lists, 2) perusing individual stock charts, 3) monitoring region, country and sector themes using the “quadrant charts”, and 4) reviewing stock rankings. Regional versions are published monthly in these linked reports for [Global Contenders & Defenders](#) and [Asia Pac ex-Japan Contenders & Defenders](#).

Day 1: [Global Performance Monitor](#)

The above linked monthly report analysing the performance of global regions, countries, sectors and identifying the major stock contributors to global equity market performance.

Day 2/3: Quantessential Style

Style rotation. Different investment styles outperform at various stages of the cycle. This investment style analysis relates performance of seven Quantessential Styles (Value, Growth, Quality, Risk, Momentum, Dividend and Size) to trends in global macro data. Popular uses include 1) when to buy “Deep Value”, “Growthiest of Growth”, and other styles, 2) identifying stocks with various style characteristics, 3) monitoring style performance, and 4) explaining out/under-performance due to style tilts. Regional versions are published in these linked monthly reports for [Global Quantessential Style](#) and [Asia Pac ex-Japan Quantessential Style](#).

Week 1: [Global Fund Performance Monitor](#)

The above linked monthly report analysing the relative returns of large long-only equity funds in order to help fund managers understand how returns have been affected by fund characteristics. Funds are grouped by Region, Investment Style, Active/Passive, Active Share Ratio, Funds Under Management, Stock Size, Number of Stocks, and Portfolio Turnover.

Week 2: [Global Wave](#)

The Global Wave (report link above) quantifies turning points and multi-year trends in global economic activity. The direction of the global cycle influences equity market performance, regional allocation, country allocation, style allocation, and stock selection. The Bunkers are stocks for a downturn and the Boosters are stocks for an upturn.

Week 2: [NewsAlpha](#)

The above linked monthly report: 1) quantifies alpha opportunities using news for both short-term and long-term investors, 2) Leverages big data – a) to identify the most significant news events, b) to highlight which stocks are driven by news and c) to create an indicator- The Global News Pulse - to monitor trends in news sentiment globally.

Week 2: Positioning in Stocks

Quantifies how large investors are positioned in terms of stocks, regions, countries and sectors. Popular uses include 1) identifying extreme positioning for contrarian trade ideas, and 2) identifying developing trends in investor positioning. Regional versions are published in these linked monthly reports for [Global Positioning in Stocks](#) and [Pacific Positioning](#).

Week 3: [Global ProductPaedia](#)

In the above linked monthly report, we identify investment trends based on products as an alternative approach to analysing equity markets by sector, industry, country, region, or style. We have categorized 50,000 stocks globally into 350 Product Groups based on product revenue exposure. We have also mapped 510,000 relationships between companies, customers, and suppliers, which would help monitor significant changes in supply chain dynamics.



Disclosures

Important Disclosures

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R1}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R1} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. **Coverage Cluster** is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofam.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes

this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. IQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.