

China, Concentration & Cap Bias in Emerging Markets

Offset unintended risks and improve outcomes with a dedicated allocation to emerging markets small cap

Regulatory Risk

Chinese government intervention rattled equity markets and caused an outsized impact on emerging markets portfolios

Concentration Risk

Mega cap stocks have a dominating presence in emerging markets indices that sway returns

Large Cap Bias

Institutional portfolios have a large cap bias in emerging markets and are missing out on the full spectrum of the opportunity set

The 2021 pullback in Chinese stocks driven by Beijing's regulatory crackdown has highlighted risks for many emerging markets portfolios. The most common benchmark for broad emerging markets exposure is the MSCI Emerging Markets Index, which has almost a third of its weight in China and heavy exposure to some of the companies impacted most by these abrupt changes. One approach managers can take to balance out this concentrated exposure in large cap is with a dedicated allocation to emerging markets small cap stocks.

Our research shows emerging markets small cap stocks are widely under-represented in institutional portfolios. In the emerging markets investable universe, small cap stocks outnumber large and mid cap stocks by 10:1 and represent 29% of the total market cap. Yet, according to eVestment, out of the 663 global emerging markets strategies, only 84 are in dedicated small cap strategies, representing just 3% of total assets invested in the emerging markets asset class.

In this analysis, we demonstrate what we believe is often a missed opportunity to capture a differentiated source of returns and exposures with emerging markets small cap. Additionally, we show that active managers have been able to navigate the investment universe to consistently add alpha in both up and down markets. Finally, we look at what factor exposures have worked best in the emerging markets investment universe.

EAM's Expertise in Emerging Markets Small Cap

EAM has been able to navigate the large universe of emerging markets small cap stocks by utilizing a systematic approach to deliver more consistent and predictable return streams. Our Informed Momentum approach combines stock selection, tailored risk management, and efficient implementation to effectively deliver the momentum premium. This approach is the foundation of our firm and has been applied consistently across all EAM's strategies since inception in 2007. The EAM Emerging Markets Small Strategy has returned 6.42% since inception 4/1/2012 through 9/30/2022 (Net of fees), outperforming the MSCI EM Small Cap Index by 368 basis points annualized.

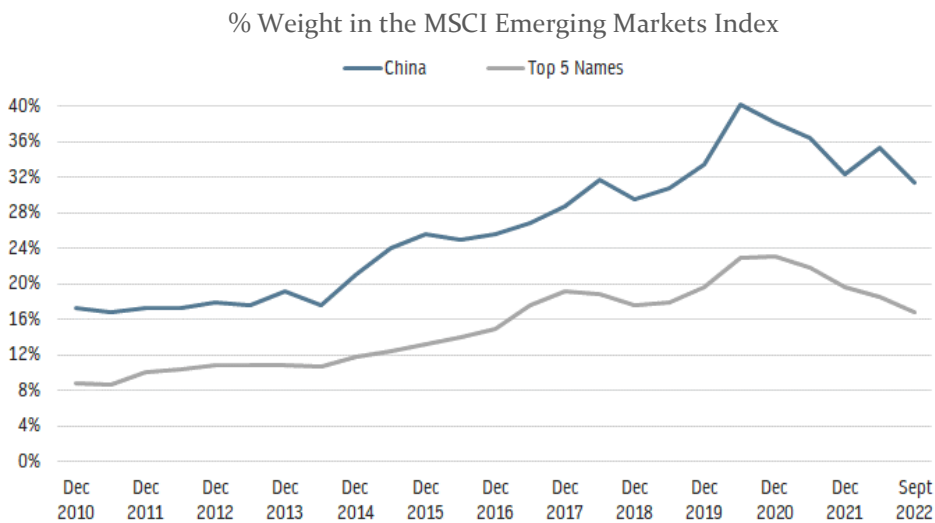
The recent selloff has emphasized the single-country and concentration risks present in emerging markets

Globally, it is common for institutional investors to own a dedicated allocation to small cap stocks alongside existing large cap allocations. Combining the two asset classes can potentially achieve beneficial and differentiated returns and exposures when compared to a standalone large cap allocation. The same principles hold true in emerging markets, where the need for diversification is magnified given the prominence of mega cap stocks and single-country concentration risks in emerging markets.

The MSCI Emerging Markets Index is the most common benchmark for institutional emerging markets managers. The influence of the benchmark’s five largest names has increased substantially over the past decade, as their total weight has more than doubled. Among the benchmark’s 1,400 securities, the top five holdings represented 20% of the weight at the end of 2021.

Similarly, exposure to China has ballooned over the years. In the ten-year stretch from 2010 to 2020, the weight of China grew from a 17% to nearly 40% weight in the MSCI Emerging Markets Index. This was the highest level ever for any single country and greater than the weight of the bottom 24 countries combined.

Index concentration in China and mega-cap names has increased substantially over the past decade



The MSCI Emerging Markets Index is not representative of broad emerging markets exposure

The increased concentration of this index warrants investor attention given the outsized exposure to a single country and just a handful of stocks. The top five mega cap names, Taiwan Semiconductor, Alibaba, Tencent, Samsung and Meituan, helped propel the MSCI Emerging Markets Index to outperform its small cap counterpart in 2019 and 2020, accounting for 34% and 65% of the index’s gains, respectively. However, in 2021 and 2022, these stocks have lost steam and been a significant drag on index returns. At the same time, China has been the worst performing country so far this year, shining a light on such concentrated exposures in the index.

MSCI Emerging Markets Index Top 5 Names

	Weight as of 9/30/2022	CY 2021 Return	YTD 2022 Return
Taiwan Semiconductor	5.7%	12.1%	-39.4%
Tencent Holdings	3.7%	-19.2%	-40.1%
Samsung Electronics	3.1%	-9.1%	-42.8%
Alibaba Group Holding	2.6%	-42.7%	-34.9%
Meituan	1.6%	-23.9%	-27.0%
Total % in the Top 5	16.8%		

For diversification and broad emerging markets exposure, look to small cap

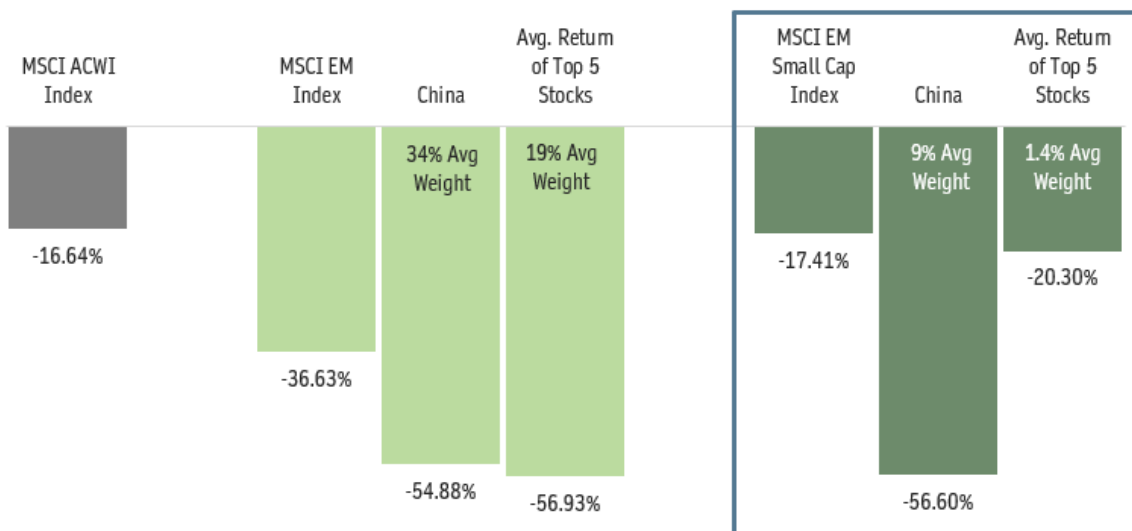
The drawdown in emerging markets started on February 17, 2021, and since then, the MSCI EM Index is down 36.6% through 9/30/2022. Global equities have broadly come under pressure during this period as deteriorating global growth, widespread inflation, and interest rate volatility have weighed on investor sentiment.

China has been among the hardest hit countries and accounts for more than half of the decline of the MSCI EM Index. China’s regulatory crackdown on technology and for-profit education stocks in mid-2021 had a ripple effect on Chinese equities beyond just mega cap stocks. Additionally, China’s economy has been stifled by its zero-COVID policy, slowing property market, and softening in global trade. In the drawdown, Chinese stocks in the MSCI EM Index collectively were down over 54% in the period. At more than a third of its weight, this shined a spotlight on China’s outsized exposure in the index.

Conversely, the MSCI EM Small Cap Index has held in better thanks to its more diversified exposures. The small cap index has more exposure to India, Taiwan, and Korea. Single-stock risk is also mitigated as the top five holdings make up just 1.4% of its weight.

Outsized exposure to China has weighed heavily on the MSCI EM Index

Returns in the Current EM Drawdown Period, 2/17/2021 - 9/30/2022



With little clarity on future Chinese government policy, it is evident that Beijing’s authority is unlimited and therefore diversification seems prudent. An allocation to emerging markets small cap stocks can help dilute the concentration risks present in many emerging markets portfolios and offer a complementary source of returns and exposures.

Top 5 Country Exposures as of September 30, 2022

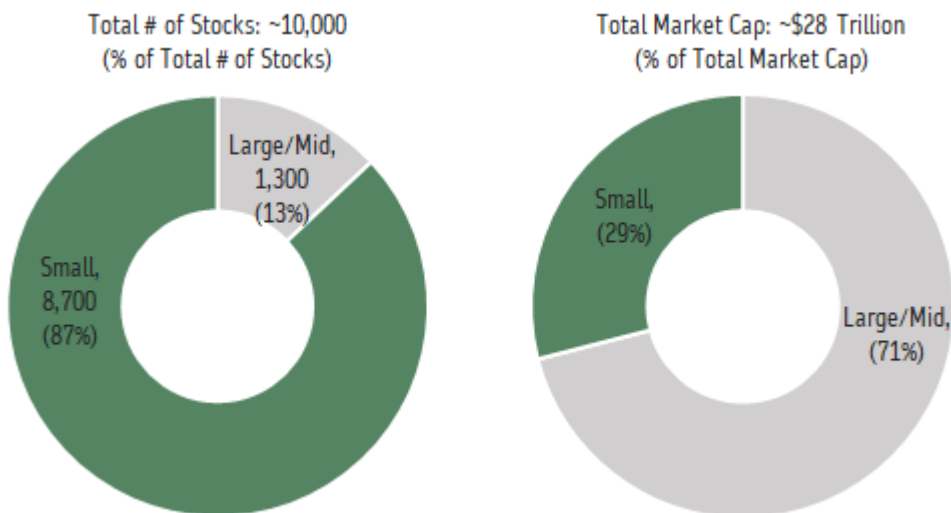
	MSCI EM Index	MSCI EM Small Cap Index	Relative
China	31.3	8.3	23.0
India	15.3	25.6	-10.3
Taiwan	13.8	19.7	-5.9
Korea	10.7	12.6	-2.0
Brazil	5.8	6.9	-1.1

Emerging markets small cap is fertile ground for active management

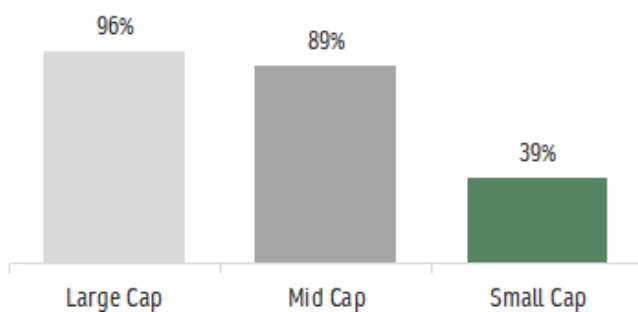
Looking at the full investable universe of emerging markets securities, small cap offers a vast opportunity set where the potential for overlooked and mispriced stocks is far greater than in large cap. As such, active managers have been able to capitalize on these opportunities to add consistent and meaningful alpha. The asset class, therefore, should be evaluated in consideration of the significant contributions from active managers.

We estimate the investable universe of emerging markets small cap equities to include approximately 8,700 public companies with market capitalizations between \$100 million and \$4 billion – that’s 87% of emerging markets stocks, ten times the number of large and mid cap combined. On a market cap basis, in aggregate small cap stocks represent 29% of the emerging markets asset class.

Most emerging markets stocks are small cap



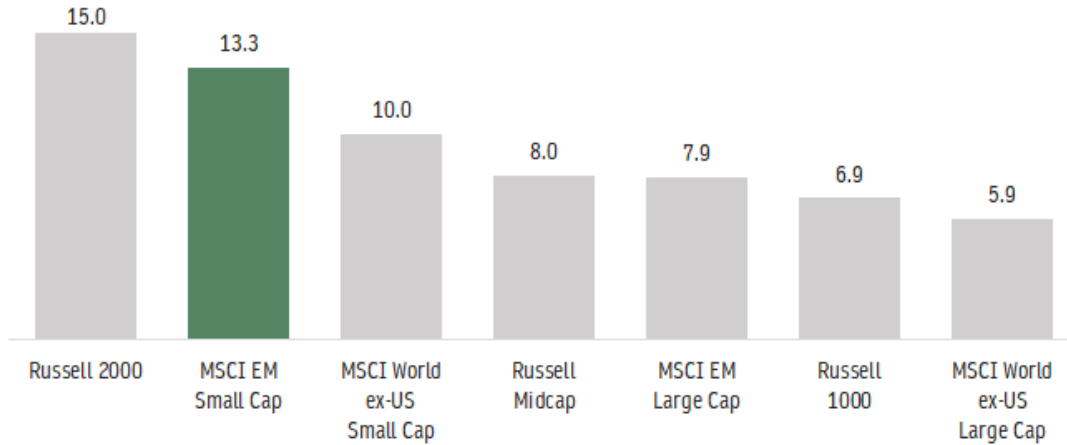
More than half of all emerging markets small cap companies have no analyst coverage



Information inefficiencies due to lack of analyst coverage amplify opportunity for managers to exploit mispricing. With 8,700 stocks in the investable universe, research coverage is considerably light. On average, emerging markets small cap stocks are covered by 2 analysts relative to large cap at 20 analysts. In fact, more than half of all emerging markets small cap companies have no sell-side analyst coverage at all.

Additionally, the asset class has a consistently higher degree of cross-sectional volatility compared to other equity asset classes, which is to say, these stocks tend to act very differently from one another. Small companies typically address specific markets and sell a narrow set of products and services. Their success or failure is more often driven by company-specific factors, and the result is a wide range of outcomes. The higher level of cross-sectional volatility in small cap highlights a rich environment for active managers to identify companies that are positioned to outperform.

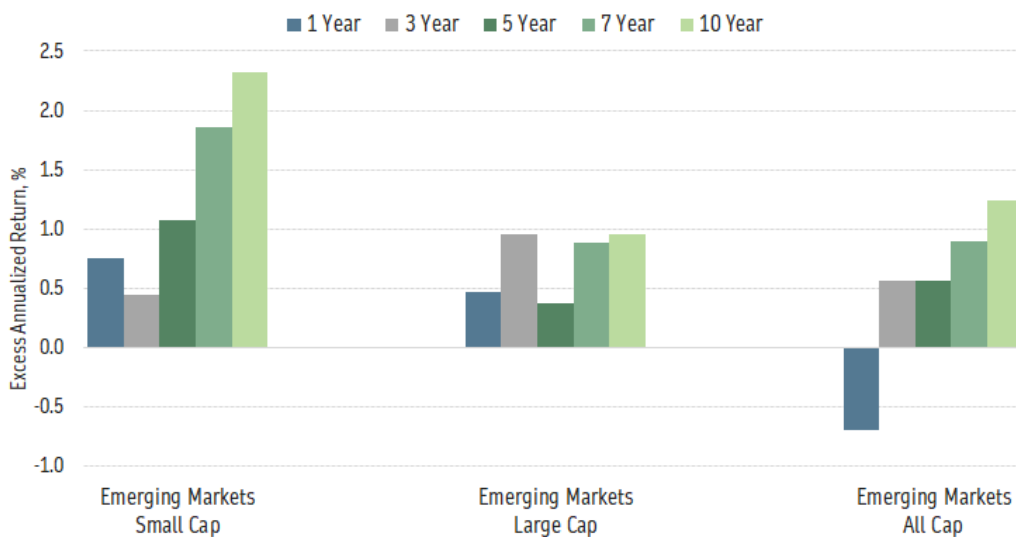
Higher cross-sectional volatility highlights the active management opportunity



Skilled, active managers have been able to exploit these types of situations to generate consistent excess returns beyond what might be expected in a large cap strategy

Indeed, skilled, active managers have been able to exploit these types of situations to generate consistent excess returns beyond what might be expected in a large cap strategy. Hence, a dedicated, actively managed emerging markets small cap strategy can help capture the full potential of the asset class, whereas an all cap approach risks significantly diluting this possible alpha and an indexed approach potentially misses it altogether. eVestment manager performance confirms that emerging markets small cap managers have been able to add more alpha than their large cap or all cap peers over longer-term time periods.

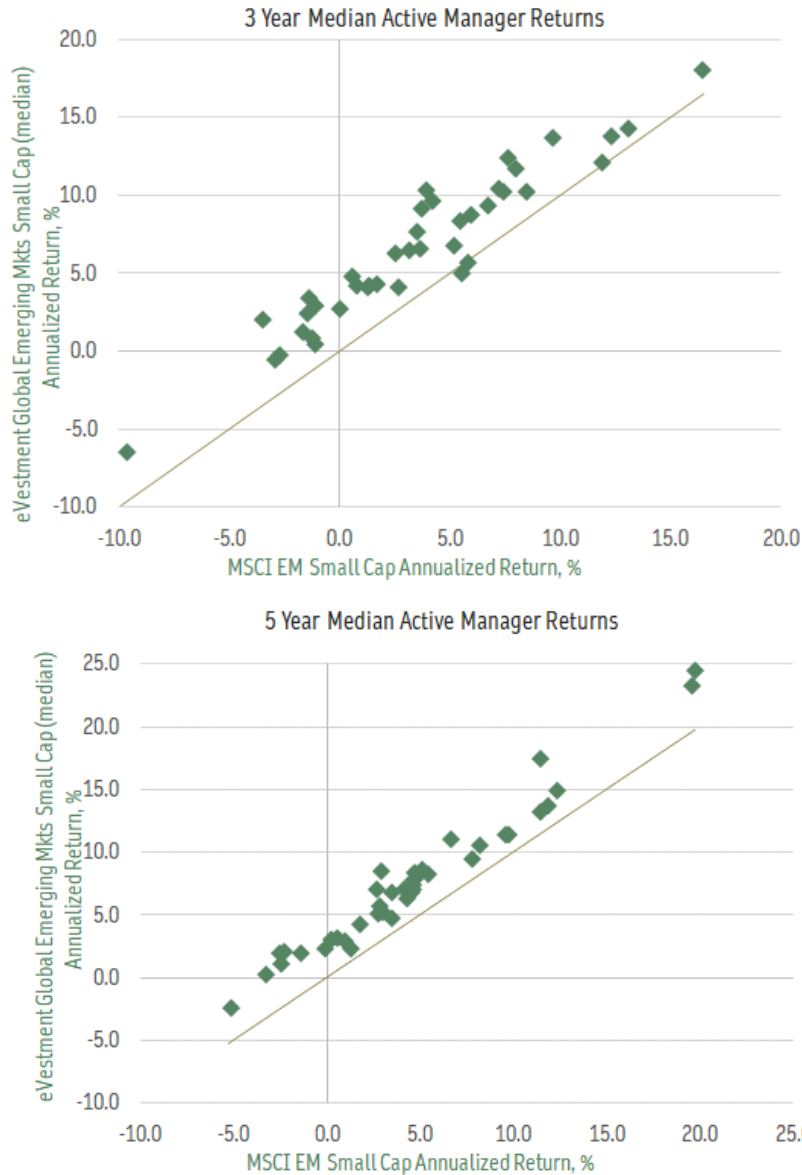
Emerging markets small cap managers have had higher excess returns than their large or all cap peers over longer time periods



Source: eVestment median manager excess returns are for each respective universe and associated benchmark as of September 30, 2022, gross of fees. The eVestment Emerging Markets Small Cap universe is relative to the MSCI EM Small Cap Index, the eVestment Emerging Markets Large Cap universe is relative to the MSCI EM Index, and the eVestment Emerging Markets All Cap universe is relative to the MSCI EM IMI Index.

Active managers have consistently added value in emerging markets small cap

Looking at rolling 3- and 5-year periods of active manager excess returns shows the consistency of this outperformance. Over the last decade, rolling 3-year periods show the median emerging markets small cap manager outperformed the MSCI EM Small Cap Index 95% of the time, adding +297 basis points of annualized excess return on average. For the same time frame, rolling 5-year periods show the median manager outperformed 100% of the time, adding +298 basis points of annualized excess return on average.



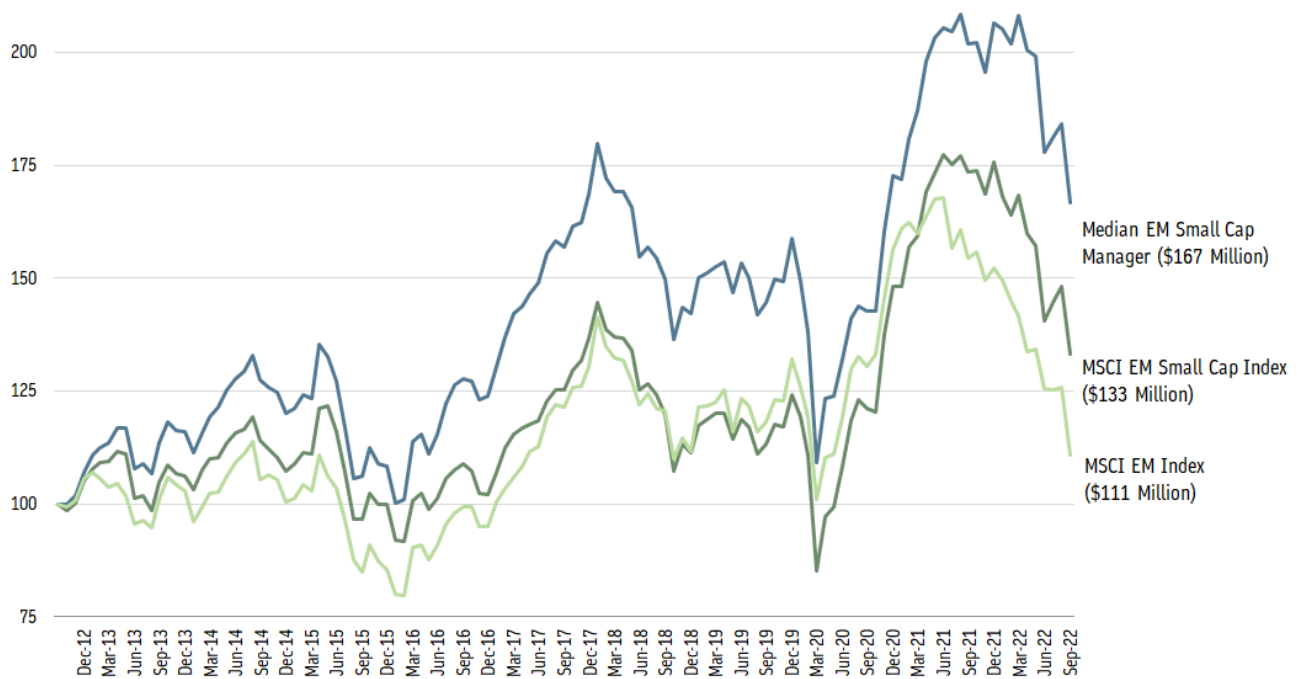
Source: MSCI, eVestment. Evestment median manager returns for quarterly rolling periods ending 9/30/2022, calculated using the Emerging Markets Small Cap universe and relative to the MSCI EM Small Cap Index, gross of fees. Please see important disclosures at the end of this document.

Compelling Risk-Reward Opportunity

From a total return perspective, the MSCI Emerging Markets Small Cap Index has only slightly edged large cap for the trailing 10-year period, but the median emerging markets small cap manager has added significant value above both benchmarks. The chart below demonstrates that this success has materialized into a meaningful impact on investor dollars.

Active management alpha has had a meaningful impact on investor dollars

Cumulative Growth of \$100 Million



Source: MSCI, eVestment. eVestment median EM Small Cap manager ranked on the trailing 10-year annualized return as of September 30, 2022, gross of fees. Please see important disclosures at the end of this document.

This begs the question, why have asset allocators been chronically under-invested in an area where active managers have found so much success? The perceived high risk associated with emerging markets small cap companies might be one reason. It is true that volatility may be marginally higher for small cap relative to large cap, however, it is not to the degree that some may think. Additionally, higher Sharpe ratios for emerging markets small cap indicate this risk is well-compensated.

Higher Sharpe ratios for small cap indicate higher risk is well-compensated

	3 Year			5 Year			7 Year			10 Year		
	Return	Std. Dev. (%)	Sharpe Ratio	Return	Std. Dev. (%)	Sharpe Ratio	Return	Std. Dev. (%)	Sharpe Ratio	Return	Std. Dev. (%)	Sharpe Ratio
Median EM Small Cap Manager	5.03%	22.80	0.19	2.34%	19.67	0.19	6.64%	18.06	0.31	5.34%	17.03	0.28
MSCI EM Small Cap Index	5.53%	24.02	0.21	1.25%	20.61	0.01	4.68%	18.69	0.20	2.91%	17.26	0.13
MSCI EM Index	-2.07%	19.18	-0.14	-1.81%	17.68	-0.17	3.88%	16.99	0.17	1.05%	16.08	0.02

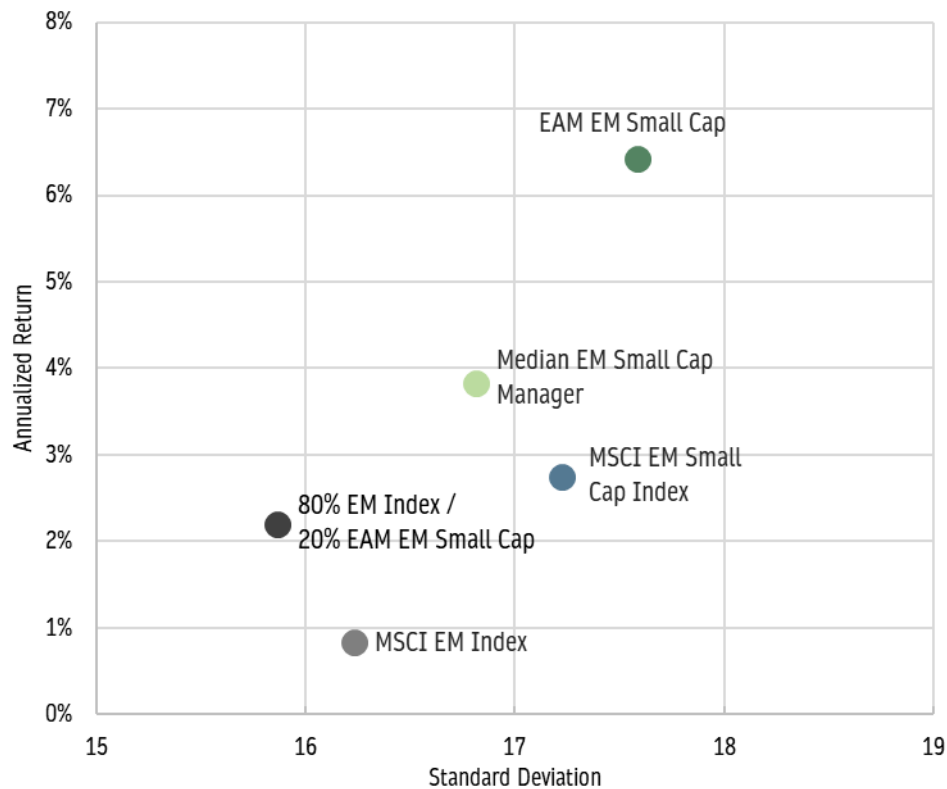
Source: eVestment, MSCI. Median manager annualized return and risk are calculated gross of fees. Please see important disclosures at the end of this document

Risk is not as high as may be perceived

In fact, since inception of our strategy in 2012, active managers, including EAM, have outperformed, demonstrating better returns and with similar volatility to the MSCI Emerging Markets Index. Further, over this period, adding a 20% EAM Emerging Markets Small Cap allocation to a portfolio indexed to the MSCI Emerging Markets Index would have yielded an additional 138 basis points annually, and with incrementally lower risk.

Risk-Return Profile of Emerging Markets

Since Inception of EAM EM Small Cap Composite, April 2012 – September 2022



Emerging markets small cap has outperformed large cap with similar volatility

Source: MSCI, eVestment. eVestment median EM Small Cap manager ranked on annualized return for the period April 1, 2012 through September 30, 2022, net of fees. Corresponding standard deviation is annualized for the same period. EAM Emerging Markets Small Cap strategy returns are for the composite, net of the maximum fee. Please see important disclosures at the end of this document.

Active managers can provide downside protection

Of particular concern for investors are periods of market drawdowns, when 'risk assets' typically lag. The 2008 financial crisis marked the largest decline in index history, in which the MSCI EM Index fell -61.6% from November 2007 through February 2009, while the MSCI EM Small Cap Index retreated -65.2% for the same period. Since then, the EM Small Cap Index has experienced five bear markets, which are typically defined as periods when the index falls by more than 20%. In each of them prior to the most recent period, small cap fell by as much or more than the broad EM Index. However, we see that the median active manager provided cushion against small cap's underperformance, to the tune of over 255 basis points on average over those periods.

Equally as important, active managers have demonstrated the ability to add considerable value in the subsequent rally periods. In the most recent rally, however, small cap equity managers globally (including EM) struggled to find footing in the extreme market shifts of the pandemic recovery. If history is any guide, this is an anomaly, and active managers can be expected to add alpha as markets continue to normalize.

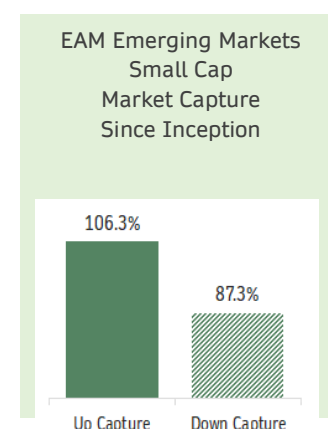
EAM's ability to add value in both up and down markets is evidenced by our favorable market capture statistics. Since inception of our strategy in April 2012, the EAM Emerging Markets Small Cap strategy has demonstrated an up-market capture of 106.3%, while also offering downside protection with down-market capture of 87.3%.

Active managers have added value in both up and down markets

Drawdown/Recovery periods when the EM Small Cap Index was down >20%

Drawdown Periods					
	Length (months)	MSCI EM Index	MSCI EM Small Cap Index	Median EM Small Cap Manager	Small Cap Manager Alpha
Nov'07 - Feb'09	16	-61.6%	-65.2%	-63.0%	2.28%
May'11 - Dec'11	7	-22.5%	-28.4%	-23.2%	5.17%
Jun'15 - Feb'16	9	-24.8%	-24.6%	-20.6%	3.99%
Feb'18 - Oct'18	9	-22.2%	-25.8%	-24.1%	1.71%
Jan'20 - Mar'20	3	-23.6%	-31.4%	-29.2%	2.15%
Jul'21 - Sept'22	15	-33.9%	-24.9%	-24.9%	0.02%
Average	10	-31.4%	-33.4%	-30.8%	2.55%

Subsequent Rally					
	Length (months)	MSCI EM Index	MSCI EM Small Cap Index	Median EM Small Cap Manager	Small Cap Manager Alpha
Mar'09 - Apr'11	26	152.9%	206.4%	221.5%	15.17%
Jan'12 - May'15	41	19.0%	41.5%	55.3%	13.75%
Mar'16 - Jan'18	23	77.1%	57.8%	64.0%	6.19%
Nov'18 - Dec'19	13	20.0%	15.7%	19.4%	3.67%
Apr'20 - Jun'21	15	66.4%	108.2%	99.6%	-8.62%
Average	24	67.1%	85.9%	91.9%	6.03%



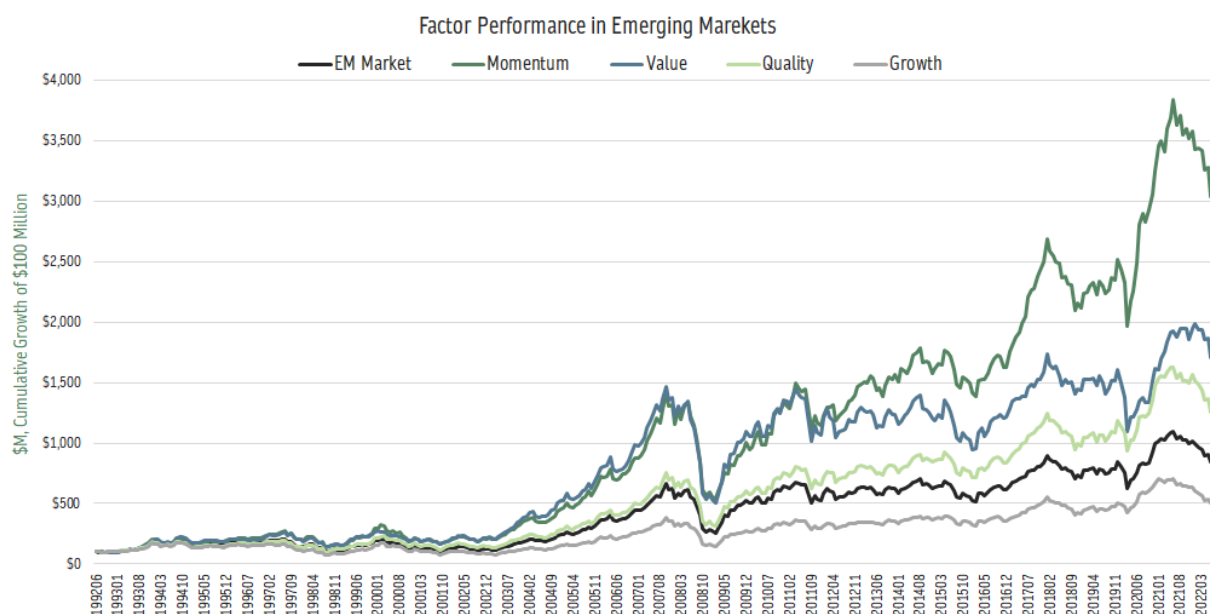
EInvestment median EM Small Cap manager ranked on cumulative return for each period cited, gross of fees. EAM EM Small Cap market capture is for the composite since inception April 2012 - September 2022, gross of fees, versus the MSCI EM Small Cap Index. Please see important disclosures at the end of this document.

Manager Selection: What Factor Exposures Work Best in Emerging Markets

We have shown that an allocation to emerging markets small cap provides a compelling, complementary exposure for allocators that either have a large cap bias or are looking for additional alpha opportunity. When selecting an emerging markets small cap strategy, it is important to keep in mind that the investment approach matters, and style/factor biases can significantly impact results.

We conducted a study using historical Fama-French data to look at factor performance and risk within the emerging markets universe. While all factors go through periods of underperformance, our results show remarkable persistence in the outperformance of the momentum factor. Since the start of our data set in July 1992 through September 2022, cumulative growth of momentum is more than double that of value, quality, and growth in the EM market. Over the same period, momentum wins on a risk-adjusted basis with the highest Sharpe ratio and information ratio among each of the factors. This data would suggest that selecting a manager with the added tailwind of momentum exposure may prove beneficial over time.

In emerging markets, outperformance of the Momentum factor has been remarkably persistent



On a risk-adjusted basis, Momentum outperforms other factors

	Momentum	Value	Quality	Growth	Market
Return (Annualized)	12%	10%	8%	5%	7%
Trailing 1-Year Return (Annualized)	-18%	-18%	-26%	-31%	-26%
Trailing 3-Year Return (Annualized)	9%	3%	2%	-1%	0%
Trailing 5-Year Return (Annualized)	5%	2%	1%	-1%	0%
Volatility (Annualized)	21%	22%	21%	21%	21%
Tracking Error (to Market)	6%	6%	4%	5%	--
Sharpe Ratio	0.45	0.33	0.30	0.14	0.23
Information Ratio (to Market)	0.87	0.45	0.39	-0.41	--
T-Stat (Excess Returns)	4.42	2.60	1.85	-2.24	--

Source data: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

Analysis is for the period July 1992 – September 2022. The emerging markets Market returns include the full universe of securities. The factors displayed are referenced by Ken French as follows: Value (High Book/Market), Momentum (High Prior Return), Growth (Low Book/Market), and Quality (High Operating Profitability).

EAM's Expertise in Emerging Markets Small Cap

EAM has been able to navigate the large selection universe of emerging markets small cap stocks by utilizing a systematic approach to deliver more consistent and predictable return streams. Our Informed Momentum approach combines stock selection, tailored risk management, and efficient implementation to effectively deliver the momentum premium. This approach is the foundation of our firm and has been applied consistently across all EAM's strategies since inception in 2007. Historically, our success is shown by positive inception-to-date alpha through 9/30/2022 for all EAM's strategies, which span the small cap equity universe worldwide.

Strong inception-to-date alpha	Benchmark-like volatility with beta at or below 1.0	Favorable upside and downside capture ratios	Excess return correlations complement traditional styles	Consistent exposure to stock-specific risk and momentum
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Composite Performance as of 9/30/2022

	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year	ITD*
EAM Emerging Markets Small Cap (Gross)	-3.82%	-28.46%	-26.54%	8.07%	2.50%	5.00%	6.75%	7.32%
EAM Emerging Markets Small Cap (Net)	-4.02%	-28.91%	-27.16%	7.16%	1.63%	4.11%	5.85%	6.42%
MSCI EM Small Cap Index	-5.25%	-24.23%	-23.23%	5.54%	1.25%	4.68%	2.91%	2.74%
MSCI EM Small Cap Growth Index	-5.62%	-28.13%	-26.08%	6.02%	1.38%	3.42%	2.40%	2.37%
MSCI EM Index	-11.57%	-27.16%	-28.11%	-2.07%	-1.81%	3.88%	1.05%	0.82%
MSCI All Country World Index	-6.82%	-25.63%	-20.66%	3.75%	4.44%	7.42%	7.28%	7.01%

*ITD performance is for the period since inception April 1, 2012 – September 30, 2022. See important disclosures at the end of this document.

Risk Statistics

	EAM Emerging Markets Small Cap	MSCI EM Small Cap Index
Annualized Return (Gross)	7.32%	2.74%
Annualized Return (Net)	6.42%	2.74%
Alpha	4.92%	-
Tracking Error	8.68%	-
Standard Deviation	17.5%	17.2%
Information Ratio	0.53	-
Sharpe Ratio	0.38	0.12
Beta	0.89	1.00
R-Squared	0.77	1.00
Up Market Capture	106.3%	-
Down Market Capture	87.3%	-

Risk statistics for the EAM Emerging Markets Small Cap strategy are for the period since inception, April 1, 2012 – September 30, 2022, gross of fees. Please see important disclosures at the end of this document.

About EAM

EAM Investors is solely focused on delivering alpha for clients in global equity markets. Our approach to investing leverages our collective insight within a systematic process designed to deliver consistent and predictable outcomes. We currently manage \$2.3 Billion on behalf of our clients.

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Important Disclosures

Past performance does not ensure future results, and there is no assurance that the portfolios will achieve their investment objectives.

Gross and net returns are presented net of brokerage commissions and include income from interest and dividends as well as capital gains less applicable withholdings. The returns do not reflect the deduction of other taxes a typical investor may accrue or custodial fees. The U.S Dollar is the currency used to express performance. Net returns are net of the maximum annual management fees of 0.85% for the EAM Emerging Markets Small Cap portfolio.

All periods greater than one year are annualized. Inception-To-Date returns for the EAM Emerging Markets Small Cap portfolio is from the period beginning April 1, 2012.

The MSCI Emerging Markets Small Cap Index includes small cap representation across 25 Emerging Markets countries (EM) and is designed to measure small cap equity market performance in the global emerging markets. The MSCI Emerging Markets Small Cap Index has been chosen as a benchmark to the EAM Emerging Markets Small Cap strategy because the Advisor believes that it is the most appropriate broad-based securities index available to be used for comparative purposes given the investment strategy of the portfolios. The MSCI Emerging Markets Small Cap Growth Index captures small cap securities exhibiting overall growth style characteristics across 25 EM countries. The MSCI Emerging Markets Index captures mid and large cap securities across 25 EM countries. The MSCI All Country World Index includes large and mid cap representation across 23 Developed Markets and 24 Emerging Markets countries. The MSCI Emerging Markets Small Cap Growth Index, the MSCI Emerging Markets Index and the MSCI All Country World Index are being presented for informational purposes only.

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The portfolios are actively managed and holdings are subject to change. We believe the information presented is reliable, but we do not guarantee its accuracy. The opinions expressed will evolve as future events unfold. The investment risk of the portfolios may be increased by the portfolios' ability to invest in smaller company stocks, and IPOs. Investing in growth stocks involves certain risks, in part, because the value of securities is based upon future expectations that may or may not be met. Small company stocks are generally riskier than large company stocks due to greater volatility and less liquidity.

Risk statistics for the EAM Emerging Markets Small Cap portfolio are calculated for the period beginning April 1, 2012 through September 30, 2022.

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