

## Building Better International Small-Cap Benchmarks

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### INTRODUCTION

Since the documentation of the size premium,<sup>a</sup> market participants have increasingly seen small-cap stocks as a distinct asset class and have started to maintain a dedicated, separate allocation apart from large caps. In recent years, research has shown that quality is the prominent driver of returns in the small-cap space.<sup>b</sup>

Asness et al. found that the variability of the size effect mainly stemmed from the volatile performance of low-quality, or junk, small-cap firms. When junk or low quality is controlled for, the size premium becomes more robust in nature and is found across industries, time periods, and 23 different markets.

Based on evidence found in “[A Tale of Two Benchmarks: Five Years Later](#)” and effectiveness across regions in Asness et al., we investigated whether quality has earned a similar premium in international small-cap benchmarks. We tested a number of profitability metrics and found that for international small-cap universes, companies with positive earnings, or higher profitability ratios, incorporated as an inclusion requirement outperformed portfolios without such a requirement. The results were consistent regardless of the profitability metric used and region tested.

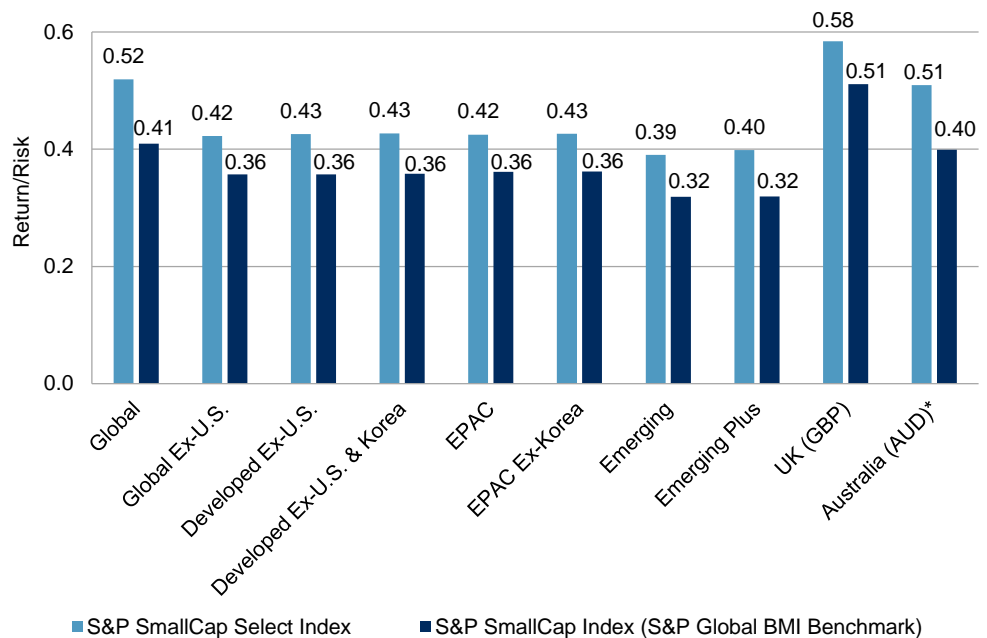
In order to capture the positive earnings return premia seen in the profitability metrics testing results, the [S&P Global SmallCap Select Index Series](#) was launched in late 2018. The series is designed to measure the performance of small-cap companies with positive earnings, with most based on the [S&P Global BMI](#) universe. The series includes indices representing multiple regions, such as global, global ex-U.S., developed ex-U.S., and emerging markets. It provides several key benefits over traditional small-cap benchmarks, including improved risk-adjusted returns (see Exhibit 2), low tracking error, and enhanced liquidity. We additionally found that the series raises the bar for active manager performance measurement relative to the traditional small-cap benchmarks (see Exhibit 19).

<sup>a</sup> Fama and French [1993]

<sup>b</sup> Brzenk and Soe [2015] and Asness et al [2018]

**Exhibit 1: Historical Return/Risk Ratios**

*The series includes indices representing multiple regions...*



*...and provides key benefits including improved risk-adjusted returns, low tracking error, and enhanced liquidity.*

Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 1999, to Dec. 31, 2018. \*Data for Australia from Dec. 31 2002, to Dec 31, 2018. Index performance based on total return in USD for all regional indices, except the UK, which is in GBP, and Australia, which is in AUD. See Exhibit 6 for corresponding benchmarks. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

**EARNINGS RETURN PREDICTABILITY**

A profitability requirement—even something as simple as screening out unprofitable companies using earnings per share (EPS)—could have a positive return impact for an international small-cap benchmark.

To determine if profitability is a driver of performance in the international small-cap space, we explored six common measures of profitability. These are EPS,<sup>1</sup> asset turnover, gross profit margin, gross profitability, return on assets (ROA), and return on equity (ROE).<sup>2</sup> We compared the six-month forward returns of companies with positive (or higher) profits to ones with negative (or lower) profits. To check if geographical differences played a role, we tested the metrics across four universes, including global, global ex-U.S., developed ex-U.S., and emerging markets.

Monthly, we ranked companies in each universe and grouped them into quintiles, with the most profitable (highest) companies placed into the Quintile 1 and least profitable (lowest) companies placed into Quintile 5. For EPS, we placed companies in two groups, companies with positive earnings and companies with negative earnings. We equally weighted companies within each group to avoid size bias and calculated returns in local currency to avoid currency effect. Exhibit 3 shows the average of the forward six-month returns for each metric from November 1999 to April 2018.

*A profitability requirement could have a positive return impact for an international small-cap benchmark.*

**Exhibit 2: Average Six-Month Forward Return Summary**

	EPS	ASSET TURNOVER	GROSS PROFIT MARGIN	GROSS PROFITABILITY	ROA	ROE
<b>GLOBAL</b>						
Quintile 1	4.54	4.94	4.06	5.16	4.27	4.65
Quintile 2	1.31	5.03	4.42	4.89	4.73	4.85
Quintile 3		4.48	4.27	4.43	4.85	4.47
Quintile 4		3.36	4.59	4.27	4.53	4.14
Quintile 5		2.22	3.05	1.36	1.63	1.70
<b>Q1 - Q2</b>	<b>3.23</b>	<b>2.73</b>	<b>1.00</b>	<b>3.79</b>	<b>2.64</b>	<b>2.95</b>
<b>GLOBAL EX-U.S.</b>						
Quintile 1	4.19	4.18	3.71	4.07	3.73	4.33
Quintile 2	1.01	4.44	4.01	4.43	4.33	4.41
Quintile 3		4.24	3.96	4.17	4.46	4.09
Quintile 4		3.39	4.33	4.49	4.51	3.91
Quintile 5		2.57	3.27	1.83	1.78	1.83
<b>Q1 - Q5</b>	<b>3.18</b>	<b>1.61</b>	<b>0.45</b>	<b>2.24</b>	<b>1.95</b>	<b>2.50</b>
<b>DEVELOPED EX-U.S.</b>						
Quintile 1	3.78	3.80	3.20	3.79	3.19	3.68
Quintile 2	0.62	4.16	3.74	4.08	3.90	4.07
Quintile 3		4.13	3.51	3.96	4.05	3.71
Quintile 4		2.50	4.28	3.89	4.07	3.60
Quintile 5		1.96	2.65	1.33	1.33	1.30
<b>Q1 - Q5</b>	<b>3.16</b>	<b>1.84</b>	<b>0.54</b>	<b>2.46</b>	<b>1.86</b>	<b>2.38</b>
<b>EMERGING</b>						
Quintile 1	5.56	5.59	5.88	5.83	4.82	6.01
Quintile 2	3.29	6.06	5.77	5.63	5.93	5.87
Quintile 3		5.35	4.99	5.97	5.86	5.23
Quintile 4		5.56	4.82	5.37	6.45	5.08
Quintile 5		4.47	4.87	3.42	3.94	4.28
<b>Q1 - Q5</b>	<b>2.27</b>	<b>1.12</b>	<b>1.01</b>	<b>2.42</b>	<b>0.88</b>	<b>1.73</b>

We explored six common measures of profitability to determine if it is a driver of performance.

Higher-ranked groups had higher future returns across all universes and metrics.

Future excess return differentials between the top and bottom quintiles across different time horizons were statistically significant.

Source: S&P Dow Jones Indices LLC, FactSet. Data from Nov. 30, 1999, to April 30, 2018. Fundamental data is lagged by 90 days from the data reference date. Index performance based on total return in local currency. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

The results show that the higher-ranked groups generally had higher future returns than the lower-ranked groups across all four universes and all six metrics. The Quintile 1 minus Quintile 5 return spread (Quintile 1 minus Quintile 2 for EPS) particularly demonstrated the potential return enhancement when getting rid of the junk (Quintile 2 for EPS and Quintile 5 for all others). Capturing this premium can be achieved several ways. One is to go long on Quintile 1 while shorting Quintile 5, earning the return spread; another is to simply drop the bottom quintile from the basket.

Future excess return differentials between the top and bottom quintiles across different time horizons were statistically significant. Exhibit A1 in the appendix reports the information coefficients and accompanying t-statistics for 1-, 3-, 6-, 12-, 24-, and 36-month periods for the universes. The positive information coefficients indicate the potential predictive power of the profitability metrics tested. The t-statistics were statistically significant for most of the metrics for the longer time horizons (six months and above).

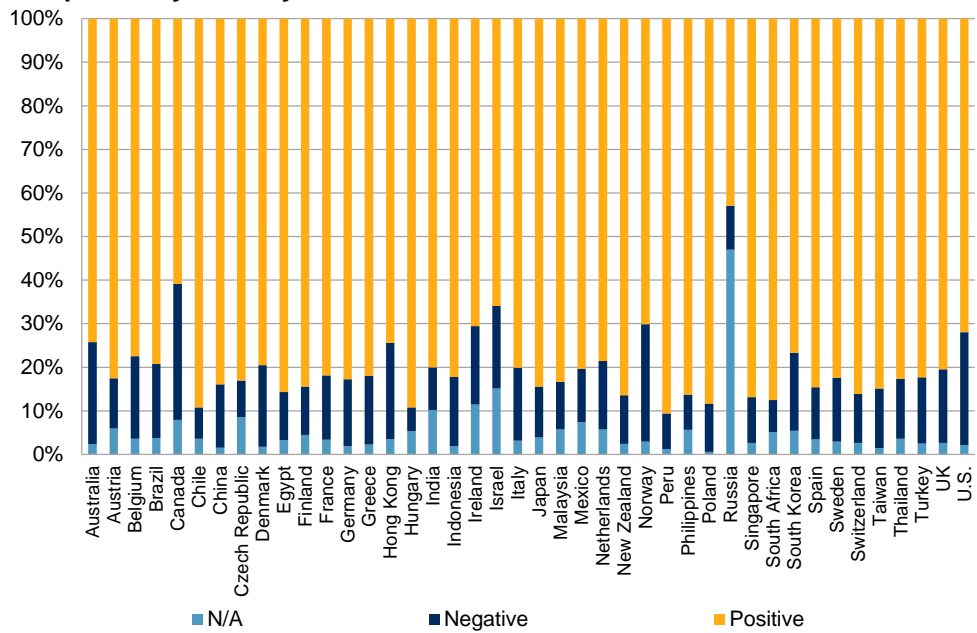
Next, we looked at the EPS metric on an individual country basis. While all profitability proxies were effective in producing outperformance, we settled

*All profitability proxies were effective in producing outperformance...*

on using EPS to group companies, as it is intuitive and most closely resembles the profitability inclusion requirement in the S&P U.S. Equities methodology.

Exhibit 3 shows the percentage of small-cap companies with positive, negative, or not available EPS data for each country, sampled each month. To make the figures comparable across countries, Exhibit 4 includes only countries that have been in the S&P Global BMI universe for the entire testing period. We found that across all countries, small-cap companies with positive earnings were more prevalent than those with negative earnings.

**Exhibit 3: Percentage of Positive and Negative Earnings Small-Cap Companies by Country**



*...but we settled on using EPS to group companies*

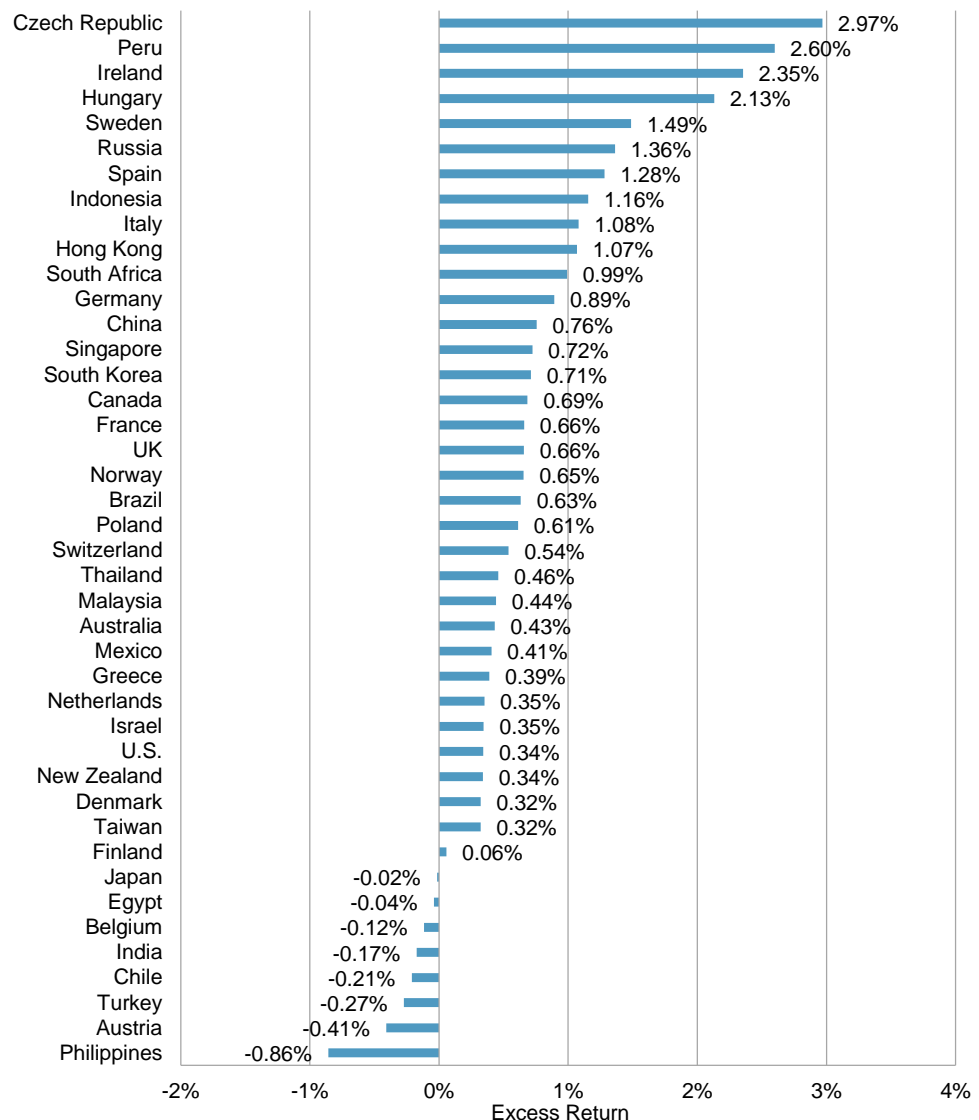
Source: S&P Dow Jones Indices LLC, FactSet. Data from Nov. 30, 1999, to April 30, 2018. Entire period average of counts taken at each month's end. Fundamental data is lagged by 90 days from the data reference date. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

*Across all countries, small-cap companies with positive earnings were more prevalent than those with negative earnings.*

Exhibit 4 shows the average one-month excess return of positive earnings companies to negative earnings companies for each country in the S&P Global BMI universe. We once again limited the countries to those that had been in S&P Global BMI for the entire testing period (Exhibit A3 reports the remaining countries that have only spent part of the time in the S&P Global BMI Series). The testing period is the same as Exhibit 3, and excess return is computed as the average sum of one-month forward returns in local currency.

**Exhibit 4: Excess Return of Profitable over Unprofitable Small-Cap Companies**

*Profitable companies outperformed unprofitable ones in 34 of 42 countries in the S&P Global BMI universe...*



Source: S&P Dow Jones Indices LLC, FactSet. Data from Nov. 30, 1999, to April 30, 2018. Index performance based on total return in local currency. Entire period average of counts taken at each month's end. Fundamental data is lagged by 90 days from the data reference date. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

*...with no observed geographical or country bias.*

On average, profitable companies outperformed unprofitable companies in over 80% (34 out of 42) of the countries in the S&P Global BMI universe. We did not see any geographical or country bias, which leads us to conclude that excess returns being earned by profitable small-cap securities is potentially a global phenomenon.

**S&P SMALLCAP SELECT INDEX SERIES OVERVIEW**

Based on the findings in the previous section, we constructed international small-cap indices that use a positive earnings screen rule in the methodology. The S&P SmallCap Select Index Series, first launched in

*The S&P SmallCap Select Index Series aims to efficiently capture this earnings premium.*

*The most important methodology criteria for the index series is the inclusion criteria based on earnings.*

*To reduce turnover and find companies with consistent earnings, they must post two consecutive years of positive EPS to be included in the series.*

December 2018 with additional indices launched in April 2019, aims to efficiently capture this earnings premium. With the exception of the S&P/ASX Small Ordinaries Select Index, the indices use the small-cap classification from the S&P Global BMI universe, with indices covering the regions shown in Exhibit 5.

**Exhibit 5: The S&P SmallCap Select Index Series and Benchmarks**

BENCHMARK	S&P SMALLCAP SELECT INDEX
S&P Global SmallCap	S&P Global SmallCap Select Index
S&P Global Ex-U.S. SmallCap	S&P Global Ex-U.S. SmallCap Select Index
S&P Developed Ex-U.S. SmallCap	S&P Developed Ex-U.S. SmallCap Select Index
S&P Developed Ex-U.S. & Korea SmallCap	S&P Developed Ex-U.S. & Korea SmallCap Select Index
S&P EPAC SmallCap	S&P EPAC SmallCap Select Index
S&P EPAC ex-Korea SmallCap	S&P EPAC ex-Korea SmallCap Select Index
S&P Emerging SmallCap	S&P Emerging SmallCap Select Index
S&P Emerging Plus SmallCap	S&P Emerging Plus SmallCap Select Index
S&P United Kingdom SmallCap	S&P United Kingdom SmallCap Select Index
S&P/ASX Small Ordinaries	S&P/ASX Small Ordinaries Select Index

Source: S&P Dow Jones Indices LLC. Table is provided for illustrative purposes.

The most important methodology criteria for the indices that differentiates them from traditional small-cap benchmarks is the way companies are included and excluded based on earnings. Since the EPS metric most closely resembles the earnings requirement for the [S&P SmallCap 600](#), we decided to use it as the earnings requirement metric for the S&P SmallCap Select Index Series.

In order to reduce turnover and also to find companies with consistent earnings (i.e., to avoid companies posting unsustainable positive earnings for one year), companies must post two consecutive years of positive EPS to be included in the index series.<sup>1,3</sup> To reduce excessive turnover, current constituents are removed from the index series only when they report two consecutive years of negative earnings.

To enhance the tradability and liquidity profile of the index series, within each country, the bottom 20% of companies by float market cap and liquidity are removed from the final index composition.<sup>4</sup> Liquidity is defined as the median daily value traded for the past six months. Making exclusions within each country helps minimize deviations from the benchmark weights; in contrast, removing the bottom 20% of securities across the entire universe would penalize smaller (in terms of equity market size) and less liquid countries more than larger countries.

The index series is float market-cap weighted and rebalanced semiannually in June and December.<sup>5</sup> The market-cap weighting mechanism allows the earnings requirement to be the main driver in return differences between the S&P SmallCap Select Indices and their respective benchmarks.

Exhibit 6 reviews characteristics of the index series in terms of constituent counts, market capitalization, and liquidity compared with the benchmarks.

*The index series covers typically 60%-65% of the benchmarks in terms of constituent counts.*

*In terms of market-cap coverage, the series captures closer to 75%-85% of the benchmark.*

*The indices have had higher median float market caps and median liquidities than the broader universes.*

**Exhibit 6: Characteristics Compared to Benchmark**

INDEX	SECURITY COUNT	SECURITY COUNT COVERAGE (%)	MEDIAN FLOAT MARKET CAP (USD MILLIONS)	MARKET CAPITALIZATION COVERAGE (%)	MEDIAN LIQUIDITY (USD MILLIONS)
<b>GLOBAL</b>					
Benchmark	8,332	-	358.24	-	1.58
Select Index	5,014	60.18	583.3	81.52	2.67
<b>GLOBAL EX-U.S.</b>					
Benchmark	5,947	-	280.87	-	0.99
Select Index	3,668	61.68	436.83	81.84	1.61
<b>DEVELOPED EX-U.S.</b>					
Benchmark	3,869	-	355.39	-	1.41
Select Index	2,375	61.39	555.24	82.94	2.17
<b>DEVELOPED EX-U.S. &amp; KOREA</b>					
Benchmark	3,260	-	433.85	-	1.43
Select Index	2,065	63.34	644.7	83.93	2.3
<b>EPAC</b>					
Benchmark	3,598	-	346.73	-	1.4
Select Index	2,242	62.31	539.29	84.06	2.18
<b>EPAC EX-KOREA</b>					
Benchmark	2,989	-	430.64	-	1.44
Select Index	1,932	64.64	631.06	85.19	2.32
<b>EMERGING</b>					
Benchmark	2,078	-	206.28	-	0.39
Select Index	1,293	62.22	277.29	77.79	0.71
<b>EMERGING PLUS</b>					
Benchmark	2,687	-	187.43	-	0.56
Select Index	1,603	59.66	261.5	75.66	0.89
<b>UK</b>					
Benchmark	265	-	1,004.77	-	2.66
Select Index	166	62.64	1,410.86	80.68	3.97

Source: S&P Dow Jones Indices LLC, FactSet. Data as of Dec. 31, 2018. Table is provided for illustrative purposes.

The S&P SmallCap Select Index Series covers typically 60%-65% of the S&P Global BMI benchmarks in terms of constituent counts. However, in terms of market-cap coverage, the series captures closer to 75%-85% of the benchmark market cap. Given that the S&P SmallCap Select Index Series removes the lowest 20% of eligible companies by market cap to enhance portfolio tradability, the indices had higher median float market cap and median liquidity than the broader universe.



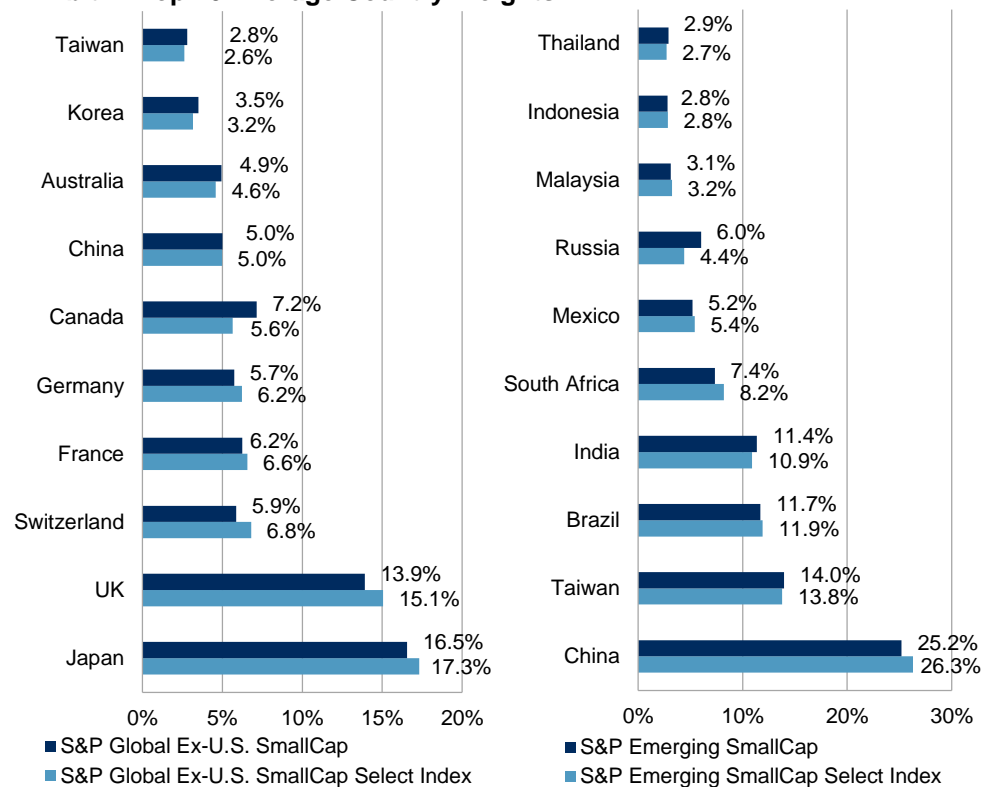
In the remaining sections of the paper, we will primarily use the [S&P Global Ex-U.S. SmallCap Select Index](#) and [S&P Emerging SmallCap Select Index](#) to illustrate how the index series compares with conventional S&P Global BMI SmallCap benchmarks.

### COUNTRY AND SECTOR WEIGHTS

The average country weights in the S&P SmallCap Select Index Series have generally aligned with the underlying benchmark country weights, thereby avoiding active country bets (see Exhibit 7). For the top 10 countries in the S&P Global Ex-U.S. SmallCap Select Index, the largest underweight was in Canada, with an average weight of 5.6% compared with the benchmark’s 7.2% weight. Canada has had an outsized percentage of negative earnings companies relative to other countries. For emerging market countries, Russia had the largest underweight relative to the benchmark, at 1.6%.

*Average country weights in the indices have generally aligned with the underlying benchmark country weights.*

**Exhibit 7: Top 10 Average Country Weights**



*For the top 10 countries in the global ex-U.S. region, the largest underweight was in Canada...*

*...which also had an outsized percentage of negative earnings companies relative to other countries.*

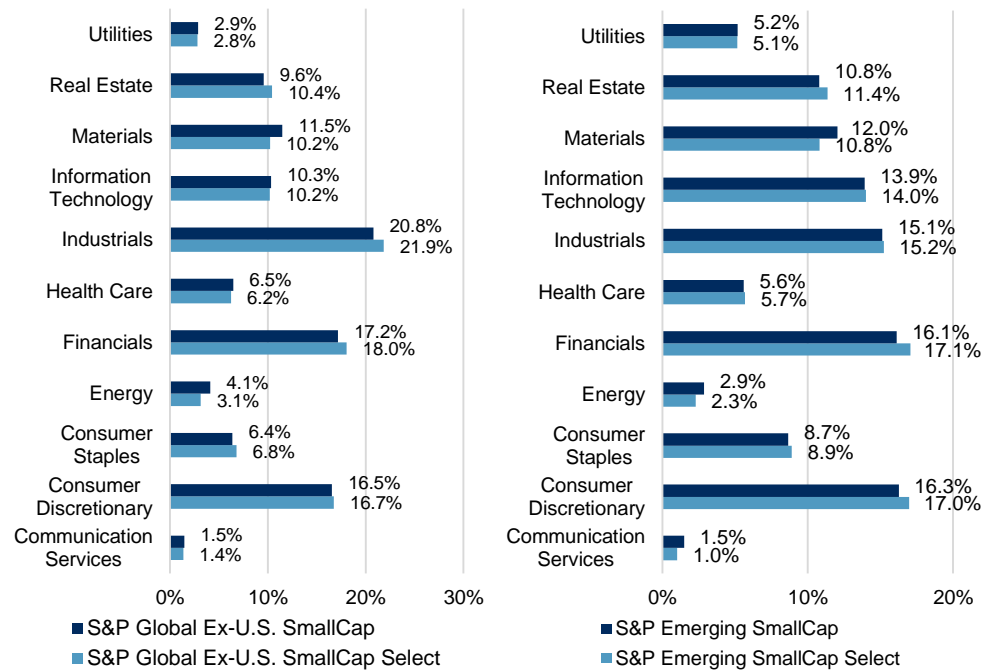
Source: S&P Dow Jones Indices LLC. Data from June 22, 2009, to Dec. 24, 2018. Charts are provided for illustrative purposes and reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

As we observed for average country weights, the sector weights for the S&P SmallCap Select Indices shown in Exhibit 8 were generally in line with the benchmark weights.



**Exhibit 8: Average Sector Weights**

*Sector weights for the S&P SmallCap Select Indices were generally in line with the benchmark weights.*



Source: S&P Dow Jones Indices LLC. Average of rebalance date data from June 22, 2009, to Dec. 24, 2018. Charts are provided for illustrative purposes and reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

**TURNOVER**

*For the S&P SmallCap Select Indices, turnover can be driven by changes in the underlying benchmarks.*

Turnover is an important consideration in the construction of benchmark indices. For the S&P SmallCap Select Indices, portfolio turnover can be driven by changes in the underlying benchmarks, such as additions and deletions. Turnover also comes from other inclusion and exclusion criteria, including positive earnings, market cap, and liquidity. Exhibit 9 shows the historical annual turnover for the S&P SmallCap Select Indices and corresponding benchmarks for the prior 10 calendar years.

*Turnover also comes from other inclusion and exclusion criteria, including positive earnings, market cap, and liquidity.*

YEAR	S&P GLOBAL EX-U.S. SMALLCAP SELECT INDEX	S&P GLOBAL EX-U.S. SMALLCAP	S&P EMERGING SMALLCAP SELECT INDEX	S&P EMERGING SMALLCAP
2009	17.61	11.10	29.00	20.03
2010	22.02	13.41	35.70	23.73
2011	20.23	13.55	31.68	24.64
2012	19.16	12.19	27.60	19.05
2013	20.04	13.41	36.86	29.51
2014	17.83	12.67	29.25	18.75
2015	19.60	14.36	29.16	21.33
2016	15.53	10.98	20.99	15.14
2017	17.07	11.88	26.66	18.46
2018	18.39	12.30	28.94	18.58
Average	18.75	12.59	29.58	20.92

Source: S&P Dow Jones Indices LLC. Data from Jan. 1, 2009, to Dec. 31, 2018. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

*The turnover for the select indices was higher than for their respective benchmarks.*

Unsurprisingly, the turnover for the select indices was higher than for their respective benchmarks. For global ex-U.S., the average annual turnover was 18.75% for the select index, compared with 12.59% for the benchmark. Emerging markets had a similar proportional increase in turnover for the S&P SmallCap Select Index, with an average annual turnover of 29.58% compared with 20.92% for the benchmark.

## FACTOR EXPOSURES

Using a fundamental factor risk model, we showed the average active exposures of the S&P SmallCap Select Indices compared with their respective benchmarks over the past 10 years. Calculated on a monthly basis, the style exposures revealed which factors the indices had the strongest tilt to and whether the tilts were in line with the objective of the index series.

*For global ex-U.S., the average annual turnover was 18.75% for the select index, compared with 12.59% for the benchmark.*

**Exhibit 10: Average Active Factor Exposures**

FACTOR	S&P GLOBAL EX-U.S. SMALLCAP SELECT INDEX VERSUS S&P GLOBAL EX-U.S. SMALLCAP	S&P EMERGING SMALLCAP SELECT INDEX VERSUS S&P EMERGING SMALLCAP
Profitability	0.15	0.13
Earnings Yield	0.12	0.12
Dividend Yield	0.08	0.09
Growth	0.06	0.09
Size	0.05	0.04
Liquidity	0.03	0.07
Medium-Term Momentum	0.01	0.04
Leverage	-0.02	-0.04
Exchange Rate Sensitivity	-0.03	0.01
Market Sensitivity	-0.04	0.00
Value	-0.07	-0.05
Volatility	-0.08	-0.03

*The style factor most relevant to the S&P SmallCap Select Indices was the profitability factor.*

Source: S&P Dow Jones Indices LLC, FactSet, Axioma. Data from Dec. 31, 2008, to Dec. 31, 2018. The Axioma World-Wide Fundamental Equity Risk Model MH 4 model is used for the global ex-U.S. index comparison and the Axioma Emerging Fundamental Equity Risk Model MH 4 model is used for the emerging index comparison. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Among all the fundamental risk factors, the most relevant style factor to the S&P SmallCap Select Indices was profitability. Both indices had positive average active exposures to the factor; the S&P Global Ex-U.S. SmallCap Select Index had an active exposure of 0.15 and the S&P Emerging SmallCap Select Index had an active exposure of 0.13.

*The indices exhibited fairly strong active exposure to earnings yield and dividend yield.*

Because the indices tilt toward companies with positive earnings, they also exhibited fairly strong active exposure to earnings yield (earnings/price) and dividend yield (dividend/price). Companies with negative earnings typically are less able to pay out dividends; therefore, excluding negative earnings companies increased the dividend yield of the portfolio relative to a benchmark. Additionally, screening out unprofitable companies from a benchmark can potentially lead to higher earnings yield by affecting the numerator (increase) and denominator (decrease).

The effect of the market-cap and liquidity rules on the overall portfolios resulted in better portfolio liquidity (positive exposure to the liquidity factor) and size (positive exposure to the size factor). The primary objective of the index series is to eliminate unprofitable companies and the risk analysis shows that the highest active factor bet for both universes was to the profitability factor.

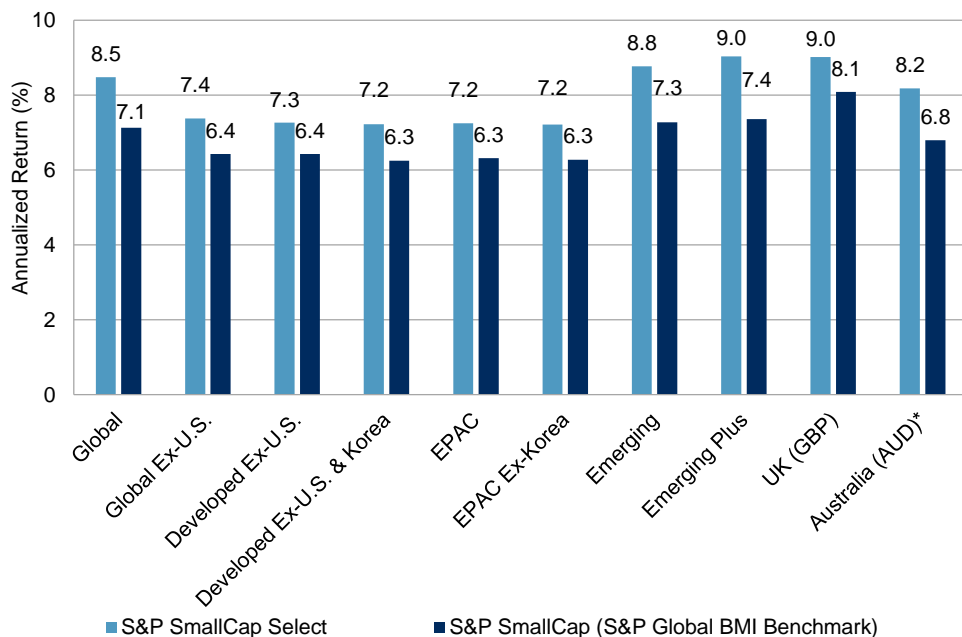
## HISTORICAL PERFORMANCE

*The historical performance has shown desirable risk/return characteristics...*

In this section, we review the historical performance of the S&P Global Ex-U.S. SmallCap Select Index and S&P Emerging SmallCap Select Index versus their respective benchmarks. We also included the most relevant MSCI benchmarks for additional comparison. The historical performance has shown desirable risk/return characteristics, such as higher long-term returns, reduced volatility, and lower tracking error relative to the traditional S&P DJI small-cap benchmarks.

Although we only show detailed analysis on two indices in the series, the results were similar across different regions. Exhibit 11 summarizes the long-term returns for the S&P SmallCap Select Indices relative to their respective benchmarks.

**Exhibit 11: Long-Term Annualized Returns**



*...such as higher long-term returns, reduced volatility, and low tracking error relative to traditional benchmarks.*

Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 1999, to Dec. 31, 2018. \*Data for Australia from Dec. 31 2002, to Dec 31, 2018. Index performance based on total return in USD for all regional indices, except the UK, which is in GBP, and Australia, which is in AUD. See Exhibit 6 for corresponding benchmarks. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

*The S&P SmallCap Select Indices outperformed across all regions.*

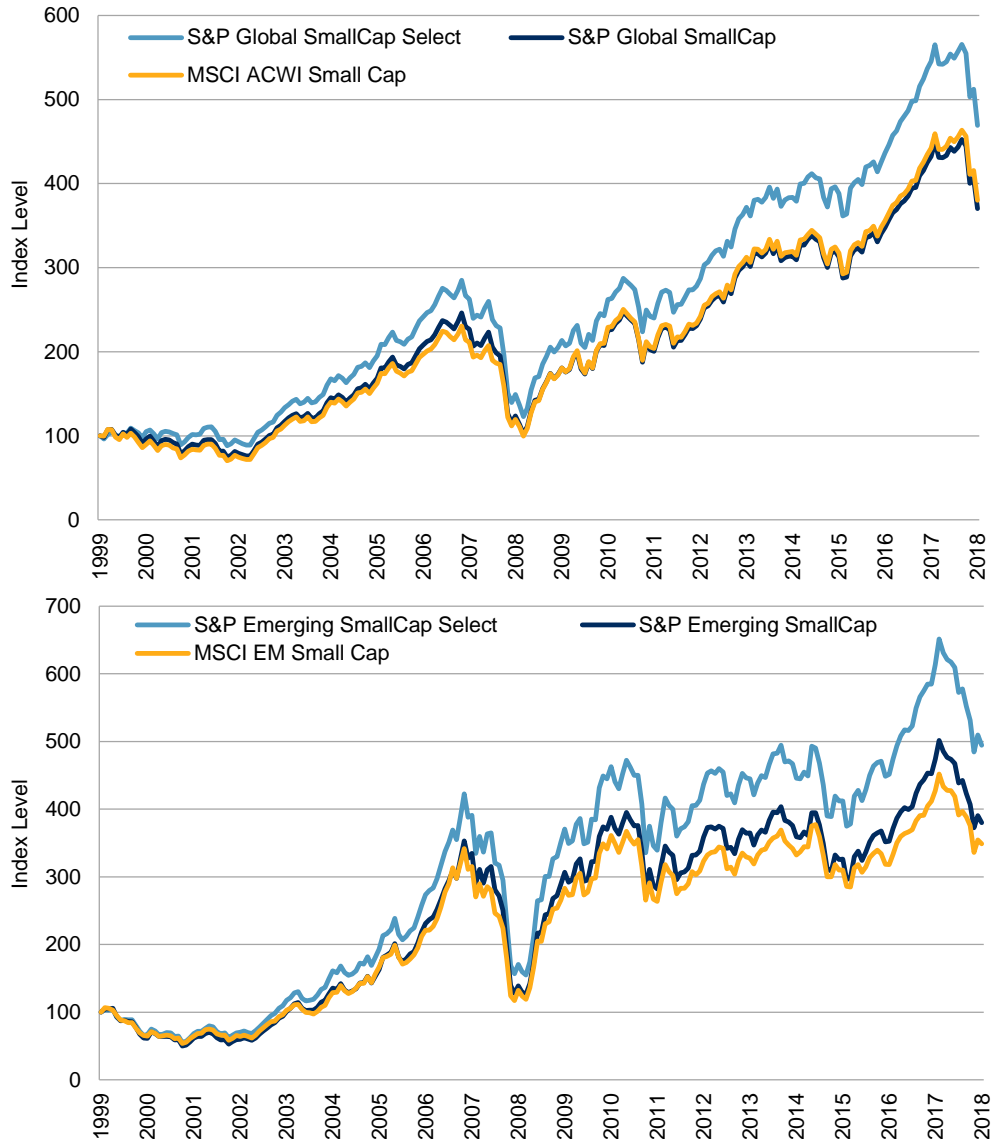
The S&P SmallCap Select Indices outperformed across all regions, ranging from 0.9% to 1.6% outperformance per year over the period studied. The highest outperformance was in emerging markets, with the S&P Emerging SmallCap Select Index outperforming by 1.5% per year and the S&P Emerging Plus SmallCap Select Index, which is the emerging market universe plus South Korea, outperforming by 1.6% per year.

To further explore return differentials between the S&P SmallCap Select Indices and the traditional small-cap benchmarks, we again focused on

analyzing the global ex-U.S. and emerging market portfolios. Exhibit 12 charts the cumulative total return performance of the S&P SmallCap Select Indices, their respective S&P DJI benchmarks, and MSCI benchmarks from year-end 1999 to year-end 2018.<sup>7</sup>

**Exhibit 12: Cumulative Total Returns**

*The highest outperformance was in emerging markets...*



*...with the emerging and emerging plus indices outperforming by 1.5% and 1.6% per year, respectively.*

Source: S&P Dow Jones Indices LLC, FactSet. Data from Dec. 31, 1999, to Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Charts are provided for illustrative purposes and reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Exhibit 12 demonstrates that the S&P SmallCap Select Indices outperformed the benchmarks over time. Exhibit 13 shows a risk/return summary across multiple time horizons.

Exhibit 13: Risk/Return Profile

*The S&P Global Ex-U.S. SmallCap Select Index outperformed both benchmarks across all horizons.*

*Over the 19-year period, it outperformed the S&P DJI and MSCI benchmarks by 0.95% and 1.38%, respectively.*

*Outperformance was stronger in emerging markets, with the select index outperforming the S&P DJI and MSCI benchmarks by 1.49% and 1.97% per year.*

PERIOD	GLOBAL EX-U.S.			EMERGING		
	S&P GLOBAL EX-U.S. SMALLCAP SELECT INDEX	S&P GLOBAL EX-U.S. SMALLCAP	MSCI ACWI EX USA SMALL CAP	S&P EMERGING SMALLCAP SELECT INDEX	S&P EMERGING SMALLCAP	MSCI EMERGING MARKETS SMALL CAP
<b>ANNUALIZED RETURN (%)</b>						
1-Year	-17.88	-18.64	-17.89	-19.47	-19.74	-18.30
3-Year	4.66	4.12	4.20	6.26	5.23	3.99
5-Year	3.30	2.43	2.33	2.13	0.81	1.26
10-Year	10.72	10.06	10.41	11.22	10.58	10.19
15-Year	8.42	7.68	7.68	10.04	9.24	8.47
19-Year	7.38	6.43	6.30	8.77	7.28	6.80
<b>ANNUALIZED VOLATILITY (%)</b>						
3-Year	12.54	12.69	12.54	14.77	14.51	14.22
5-Year	11.80	12.02	11.89	15.13	14.96	14.11
10-Year	16.66	17.09	17.02	20.88	20.88	20.27
15-Year	17.72	18.23	18.23	22.70	22.75	22.54
19-Year	17.45	17.98	17.99	22.48	22.81	22.14
<b>RETURN/RISK</b>						
3-Year	0.37	0.33	0.33	0.42	0.36	0.28
5-Year	0.28	0.20	0.20	0.14	0.05	0.09
10-Year	0.64	0.59	0.61	0.54	0.51	0.50
15-Year	0.48	0.42	0.42	0.44	0.41	0.38
19-Year	0.42	0.36	0.35	0.39	0.32	0.31
<b>TRACKING ERROR TO S&amp;P DJI BENCHMARK (%)</b>						
3-Year	0.92	-	-	0.98	-	-
5-Year	0.91	-	-	1.09	-	-
10-Year	1.02	-	-	1.35	-	-
15-Year	1.07	-	-	1.79	-	-
19-Year	1.31	-	-	2.51	-	-

Source: S&P Dow Jones Indices LLC, FactSet. Data from Dec. 31, 1999, to Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

The S&P Global Ex-U.S. SmallCap Select Index outperformed the S&P Global Ex-U.S. SmallCap and MSCI ACWI ex USA Small Cap across all time horizons. The long-term (19-year) annualized outperformance was 0.95% compared with the S&P DJI benchmark and 1.38% relative to the MSCI index. Outperformance was stronger in the emerging market universe, with the select index outperforming the S&P DJI traditional benchmark by 1.49% per year and the MSCI benchmark by 1.97% per year for the same period. Additionally, the risk-adjusted return ratios showed

*Additionally, the risk-adjusted return ratios showed superior results for the S&P SmallCap Select Indices.*

superior results for the S&P SmallCap Select Indices relative to the traditional S&P DJI and MSCI benchmarks.

Exhibit 14A reports the global ex-U.S. indices total returns on a calendar-year basis from 2000 to 2018, and Exhibit 14B reports the same for the emerging market indices.

**Exhibit 14A: Global Ex-U.S. Calendar-Year Returns (%)**

YEAR	S&P GLOBAL EX-U.S. SMALLCAP SELECT INDEX	S&P GLOBAL EX-U.S. SMALLCAP	MSCI ACWI EX USA SMALL CAP
2000	-7.24	-12.58	-17.90
2001	-13.73	-14.66	-14.37
2002	-5.22	-6.89	-5.43
2003	51.52	55.01	58.17
2004	30.54	29.28	29.68
2005	22.30	21.99	23.02
2006	31.39	30.83	27.22
2007	11.48	12.37	11.11
2008	-48.03	-49.85	-50.01
2009	53.14	56.84	63.50
2010	21.31	22.95	25.58
2011	-15.32	-17.40	-18.21
2012	22.34	20.35	18.96
2013	22.27	20.71	20.13
2014	-1.57	-3.11	-3.69
2015	4.27	3.09	2.95
2016	4.14	4.56	4.29
2017	34.04	32.71	32.12
2018	-17.88	-18.64	-17.89

*For global ex-U.S., the S&P SmallCap Select Index outperformed the S&P DJI and MSCI benchmarks in 14 of 19 years.*

Source: S&P Dow Jones Indices LLC, FactSet. Data from Dec. 31, 1999, to Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.



**Exhibit 14B: Emerging Market Calendar-Year Returns (%)**

YEAR	S&P EMERGING SMALLCAP SELECT INDEX	S&P EMERGING SMALLCAP	MSCI EMERGING MARKETS SMALL CAP
2000	-32.81	-38.51	-35.40
2001	1.84	0.50	0.45
2002	2.93	-3.14	-1.26
2003	67.04	68.73	60.79
2004	36.97	34.12	25.02
2005	20.05	20.43	29.52
2006	41.45	41.64	32.59
2007	42.82	44.87	42.57
2008	-56.31	-58.47	-58.10
2009	117.10	120.55	114.32
2010	24.86	26.56	27.47
2011	-26.63	-27.35	-26.96
2012	28.66	27.25	22.60
2013	1.83	1.70	1.35
2014	0.18	-1.63	1.34
2015	-7.56	-9.17	-6.57
2016	9.60	8.08	2.56
2017	35.93	34.36	34.22
2018	-19.47	-19.74	-18.30

*The S&P Emerging SmallCap Select Index outperformed the S&P Emerging SmallCap in 13 of 19 years...*

Source: S&P Dow Jones Indices LLC, FactSet. Data from Dec. 31, 1999, to Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

*...and the MSCI Emerging Markets Small Cap in 14 of 19 years.*

For the global ex-U.S. universe, the S&P SmallCap Select Index outperformed the S&P DJI and MSCI benchmarks in 14 out of 19 years (74%). The S&P Emerging SmallCap Select Index also outperformed the S&P Emerging SmallCap in 13 of 19 years (68%) and the MSCI index in 14 of 19 years.

The S&P SmallCap Select Indices performed better in down markets, when a “flight-to-quality” sentiment may take over (see Exhibit 15).

*The S&P SmallCap Select Indices performed better in down markets, where a “flight-to-quality” sentiment may take over.*

Exhibit 15: Hit Rates and Average Excess Returns		
PERIOD	S&P GLOBAL EX-U.S. SMALLCAP SELECT INDEX	S&P EMERGING SMALLCAP SELECT INDEX
<b>HIT RATE: PERCENTAGE OF MONTHS OUTPERFORMED BENCHMARK (%)</b>		
All Months	55.26	60.09
Up Months	45.52	56.52
Down Months	69.15	65.56
<b>AVERAGE MONTHLY EXCESS RETURN OVER BENCHMARK (%)</b>		
All Months	0.066	0.109
Up Months	-0.033	0.035
Down Months	0.206	0.223

Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 1999, to Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

The S&P Global Ex-U.S. SmallCap Select Index outperformed the benchmark in 55% of all months since year-end 1999. The index underperformed the benchmark in up markets more often than not; however, it outperformed 69% of the time in down months by an average of 0.21% per month. For the S&P Emerging SmallCap Select Index, outperformance relative to the benchmark occurred in both up and down markets. Markedly, the index outperformed 66% of the time in down markets, by an average of 0.22%.

*The S&P Global Ex-U.S. SmallCap Select Index outperformed the benchmark in 55% of all months since year-end 1999.*

We used Brinson attribution to decompose total return differentials between allocation and selection effects, first grouped by country and then grouped by sectors. We ran the analysis on an annual basis from year-end 2009 to year-end 2018 and reported the average annual effects. Exhibits 16A and 16B show the country-based attribution; for each index, the top 10 countries by weight at year-end 2018 were reported, with the remaining countries grouped together in the “All Other Countries” group.

**Exhibit 16A: S&P Global Ex-U.S. SmallCap Select Index Annual Average Country Attribution**

COUNTRY	VARIATION IN AVERAGE WEIGHT (%)	ALLOCATION EFFECT (%)	SELECTION EFFECT (%)	TOTAL EFFECT (%)
UK	1.38	0.08	0.08	0.16
Japan	0.62	0.04	-0.05	-0.01
France	0.27	0.01	0.06	0.07
Switzerland	0.98	0.03	0.01	0.05
Germany	0.54	0.01	-0.02	-0.00
Canada	-1.61	0.02	0.09	0.11
Australia	-0.45	0.02	0.09	0.11
China	-0.07	0.00	0.08	0.08
Spain	0.16	-0.01	0.02	0.01
Netherlands	-0.08	0.00	-0.01	-0.01
All Other Countries	-0.05	0.02	0.22	0.24
Total	-	0.22	0.57	0.80

*For global ex-U.S., the country allocation effect accounted for 0.22% of the total excess return on average...*

Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 2009, to Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

*...with 9 of the top 10 countries showing positive allocation effects.*

**Exhibit 16B: S&P Emerging SmallCap Select Index Annual Average Country Attribution**

COUNTRY	VARIATION IN AVERAGE WEIGHT (%)	ALLOCATION EFFECT (%)	SELECTION EFFECT (%)	TOTAL EFFECT (%)
Taiwan	-0.20	-0.04	0.07	0.03
China	0.87	-0.04	0.47	0.43
Brazil	0.25	-0.02	0.24	0.22
South Africa	0.85	0.02	0.07	0.09
India	-0.43	0.03	0.04	0.07
Mexico	0.25	-0.04	-0.11	-0.14
Malaysia	0.10	0.00	0.05	0.05
Russia	-1.41	-0.00	-0.11	-0.11
Chile	0.14	0.00	0.02	0.02
Thailand	-0.15	-0.00	0.04	0.04
All Other Countries	-0.00	0.08	0.17	0.25
Total	-	-0.01	0.96	0.94

*For emerging markets, the selection effect drove positive excess returns, with an average of 0.96% per year.*

Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 2009, to Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

For global ex-U.S., the country allocation effect accounted for 0.22% of the total excess return on average, with 9 of the top 10 countries showing positive allocation effects. The total selection effect was a source of positive excess returns as well, on average contributing 0.57% of the total 0.80%. For the emerging market universe, the selection effect similarly drove positive excess returns relative to the benchmark, with an average of

0.96% per year. The average allocation effect was essentially a wash at -0.01%, with an average total effect of 0.94% per year.

Exhibits 17A and 17B report the sector-based attribution for both universes compared with the traditional S&P DJI small-cap benchmarks.

*The average allocation and selection effects positively contributed to overall excess returns for the two universes...*

*...with most of the excess return stemming from the selection effect.*

**Exhibit 17A: Global Ex-U.S. SmallCap Select Index Annual Average Sector Attribution**

SECTOR	VARIATION IN AVERAGE WEIGHT (%)	ALLOCATION EFFECT (%)	SELECTION EFFECT (%)	TOTAL EFFECT (%)
Communication Services	-0.10	0.00	-0.00	-0.00
Consumer Discretionary	0.45	0.01	-0.03	-0.02
Consumer Staples	0.45	0.00	0.00	0.00
Energy	-1.01	0.13	0.17	0.31
Financials	0.83	-0.00	0.09	0.09
Health Care	-0.20	-0.02	0.04	0.02
Industrials	1.06	0.01	0.16	0.17
Information Technology	-0.16	-0.02	0.09	0.07
Materials	-1.27	0.04	0.08	0.11
Real Estate	0.20	0.00	-0.00	0.00
Utilities	-0.06	0.00	0.00	0.01
Unassigned	-0.20	0.02	0.01	0.03
Total	-	0.17	0.62	0.79

Source: S&P Dow Jones Indices LLC. Annual average data from Dec. 31, 2009, to Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

**Exhibit 17B: Emerging SmallCap Select Index Sector Annual Average Attribution**

SECTOR	VARIATION IN AVERAGE WEIGHT (%)	ALLOCATION EFFECT (%)	SELECTION EFFECT (%)	TOTAL EFFECT (%)
Communication Services	-0.37	-0.01	0.00	-0.01
Consumer Discretionary	0.90	-0.01	0.02	0.01
Consumer Staples	0.41	-0.01	0.06	0.05
Energy	-0.49	0.05	0.10	0.16
Financials	1.11	0.02	0.14	0.16
Health Care	0.28	0.04	0.03	0.06
Industrials	0.08	0.01	0.30	0.31
Information Technology	-0.06	-0.06	0.26	0.20
Materials	-1.19	0.01	-0.21	-0.20
Real Estate	0.05	0.02	0.00	0.02
Utilities	0.08	-0.00	0.05	0.04
Unassigned	-0.78	0.11	0.04	0.16
Total	-	0.16	0.80	0.96

Source: S&P Dow Jones Indices LLC. Annual average data from Dec. 31, 2009, to Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

*We can conclude that the outperformance was not simply a manifestation of active sector bets.*

*For the global ex-U.S. and emerging market universes, 9 of 11 sectors produced positive average excess returns.*

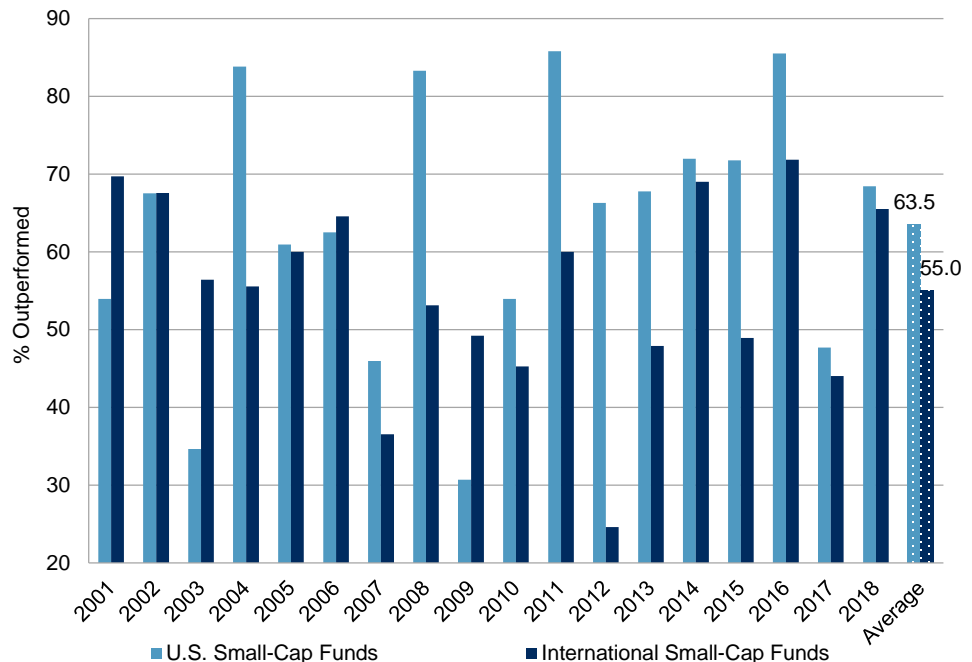
The average allocation effect and selection effect positively contributed to the overall excess returns for the two universes, with most of the excess return stemming from the selection effect. Therefore, we can conclude that the outperformance seen relative to the benchmark was not simply a manifestation of active sector bets. Additionally, for the global ex-U.S. universe, 9 of 11 sectors produced positive average excess returns. Communication Services and Consumer Discretionary were the two sectors that detracted from average excess returns, albeit at trivial levels. In emerging markets, 9 of the 11 sectors also had positive average excess return, with the Materials sector detracting the most from performance by an average of 0.20%.

### BENCHMARKING ACTIVE INTERNATIONAL SMALL-CAP STRATEGIES

International small caps is one area where active managers are thought to have an advantage in providing alpha over industry benchmarks. Indeed, when comparing the performance of active U.S. small-cap fund managers to international small-cap managers, a higher percentage of international managers outperformed the respective universe benchmark in the majority of years since 2001 (see Exhibit 18). However, one critical difference between the U.S. and international small-cap benchmarks is that the S&P SmallCap 600 has a positive earnings inclusion requirement, whereas the international benchmark does not.

*International small caps is one area where active managers are thought to have an advantage in providing alpha over industry benchmarks.*

**Exhibit 18: Percentage of Small-Cap Managers Underperforming Their Benchmarks**



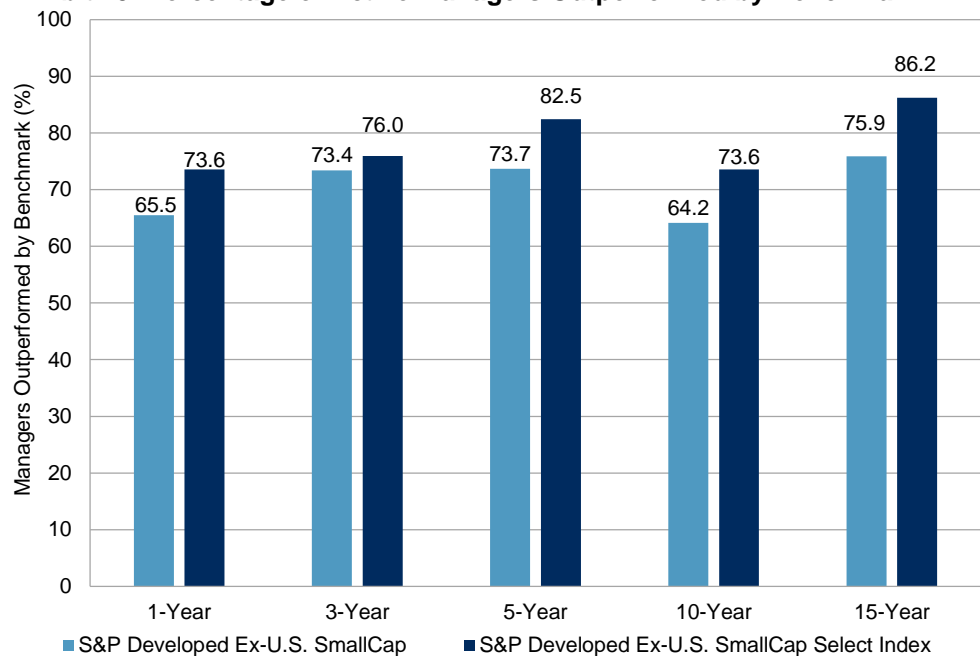
Source: [SPIVA® U.S. Scorecard Year-End 2018](#), S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. U.S. small-cap funds were compared to the S&P SmallCap 600, while international small-cap funds were compared to the S&P Developed Ex-U.S. SmallCap. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

*Most active strategies in the international small-cap space likely incorporate some form of quality measure in their stock selection process*

However, most active strategies in the international small-cap space likely incorporate some form of quality measure in their stock selection process. Therefore, in performance comparisons, it makes sense to use a benchmark that is similarly adjusted. In this section, we review how active managers have fared relative to benchmarks in the international small-cap equity category, both with a positive earnings inclusion requirement and without one. In addition, we look at fee differentials between passive and active products for the category.

Research conducted earlier in 2019 by S&P DJI<sup>c</sup> looked at how active U.S. fund managers that focus on international small caps fared relative to the traditional S&P DJI small-cap benchmark and the S&P SmallCap Select Index. Exhibit 19 shows the comparative results for the period ending at year-end 2018.

**Exhibit 19: Percentage of Active Managers Outperformed by Benchmark**



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2018. Index performance based on total return in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

*While international small-cap active managers underperformed the traditional small-cap benchmarks...*

*...an even higher percentage underperformed the S&P SmallCap Select Index*

The data highlights that, while international small-cap active managers underperformed the traditional small-cap benchmarks, an even higher percentage underperformed the S&P SmallCap Select Index—which has been found to hold true across all time horizons. Hence, the S&P SmallCap Select Index Series, which resembles the S&P SmallCap 600 in that it requires positive earnings for a company to be included, raises the bar for active funds to outperform.

<sup>c</sup> Preston [2019]

*For primary share classes, expense ratios for passive funds were almost one full percent lower on average than retail mutual funds.*

Exhibit 20 looks at expense ratios for U.S. ETFs and mutual funds categorized as focusing on international small-cap equities, breaking them down as passive and active. For active mutual funds, we separately report retail and institutional share classes. Expense ratios are first reported on an average basis of the primary share class for each fund, with primary share classes determined by largest net assets. The second column reports the weighted average expense ratio, which includes all share classes of a fund, with individual share classes weighted by net assets.

**Exhibit 20: Average Expense Ratios for Passive and Active International Small-Cap Funds**

CATEGORY	AVERAGE EXPENSE RATIO – PRIMARY SHARE CLASSES (%)	WEIGHTED AVERAGE EXPENSE RATIO – ALL SHARE CLASSES (%)
Passive ETFs and Mutual Funds	0.28	0.28
Active Retail Mutual Funds	1.26	1.21
Active Institutional Mutual Funds	1.05	0.71

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of April 30, 2019. Table is provided for illustrative purposes.

*The indices have demonstrated positive excess returns across various international universes...*

We found that for primary share classes, expense ratios for passive funds were almost one full percent lower on average than retail mutual funds (0.28% versus 1.26%). With typically higher investment thresholds, institutional active funds were unsurprisingly lower than their retail counterparts, but still above the expense ratios of passive funds. The average active fund manager in the international small-cap equity category failed to outperform either the traditional or earnings-screened passive small-cap benchmark, while also charging materially higher management fees. Therefore, the S&P SmallCap Select Index Series may provide suitable passive alternatives to active management for market participants seeking exposure to international small-cap equities.

**CONCLUSION**

*...and may provide suitable passive alternatives to active management.*

Following the well-documented quality premium in the U.S. small-cap space, the S&P SmallCap Select Index Series incorporates a profitability measure to capture similar premia in the global small-cap space. Merely cutting out unprofitable companies can lead to positive excess returns relative to standard small-cap benchmarks, as shown by the simple, transparent methodology of the index series. Across the various international universes, the S&P SmallCap Select Indices historically delivered 0.9% to 1.6% annual outperformance relative to the standard small-cap benchmarks (see Exhibit 12). Even after removing the smallest and least-liquid companies, the index series still maintained an average market-cap coverage of 75%-85% relative to the benchmark without substantially higher turnover. The indices lend themselves to use in passive investment vehicles or as benchmarks for active strategies.



## APPENDIX

Exhibit A1: Excess Return Information Coefficients (IC) and T-Statistics (T-Stat)												
MEASURE	1-MONTH		3-MONTH		6-MONTH		12-MONTH		24-MONTH		36-MONTH	
	IC	T-STAT	IC	T-STAT	IC	T-STAT	IC	T-STAT	IC	T-STAT	IC	T-STAT
<b>GLOBAL</b>												
EPS	0.04	3.53***	0.06	5.13***	0.08	6.98***	0.10	8.98***	0.12	10.37***	0.13	10.44***
Asset Turnover	0.02	1.83*	0.03	2.64***	0.04	3.42***	0.05	4.4***	0.07	5.74***	0.08	6.32***
Gross Profit Margin	0.02	1.36	0.02	1.86*	0.03	2.06**	0.03	2.04**	0.03	2.41**	0.03	2.19**
Gross Profitability	0.03	2.72***	0.05	3.91***	0.06	4.87***	0.07	5.84***	0.09	7.20***	0.09	7.36***
ROA	0.03	2.77***	0.04	3.77***	0.06	4.75***	0.07	5.69***	0.08	6.69***	0.08	6.87***
ROE	0.03	2.83***	0.05	3.95***	0.06	5.08***	0.07	6.2***	0.08	6.85***	0.08	6.72***
<b>GLOBAL EX-U.S.</b>												
EPS	0.04	2.93***	0.06	4.03***	0.07	5.1***	0.09	6.37***	0.10	7.33***	0.10	7.17***
Asset Turnover	0.02	1.34	0.03	1.93*	0.03	2.47**	0.04	3.15***	0.05	4.01***	0.06	4.21***
Gross Profit Margin	0.01	0.99	0.02	1.34	0.02	1.52	0.02	1.53	0.03	*1.83	0.02	1.66*
Gross Profitability	0.03	1.89*	0.04	2.64***	0.05	3.24***	0.05	3.87***	0.07	4.75***	0.06	4.69***
ROA	0.03	2.14**	0.04	2.68***	0.04	3.02***	0.05	3.34***	0.05	3.84***	0.05	3.71***
ROE	0.03	2.41**	0.04	3.15***	0.05	3.68***	0.06	4.23***	0.06	4.56***	0.06	4.29***
<b>DEVELOPED EX-U.S.</b>												
EPS	0.04	2.67***	0.06	3.65***	0.08	4.63***	0.10	5.86***	0.11	6.75***	0.11	6.60***
Asset Turnover	0.02	1.17	0.03	1.74*	0.04	2.28**	0.05	2.99***	0.06	3.86***	0.07	4.20***
Gross Profit Margin	0.01	0.77	0.02	0.98	0.02	1.14	0.02	1.25	0.03	1.72*	0.03	1.68*
Gross Profitability	0.03	1.52	0.04	2.1**	0.04	2.65***	0.05	3.29***	0.07	4.25***	0.07	4.34***
ROA	0.03	1.94*	0.04	2.44**	0.05	2.76***	0.05	3.12***	0.06	3.58***	0.06	3.43***
ROE	0.03	2.12**	0.05	2.78***	0.05	3.25***	0.06	3.74***	0.07	4.02***	0.06	3.71***
<b>EMERGING</b>												
EPS	0.03	1.21	0.05	1.62	0.05	1.97**	0.07	2.36**	0.08	2.80***	0.08	2.87***
Asset Turnover	0.02	0.60	0.02	0.77	0.02	0.92	0.03	1.16	0.04	1.54	0.04	1.61
Gross Profit Margin	0.02	0.65	0.03	0.97	0.04	1.11	0.04	1.06	0.03	0.86	0.03	0.72
Gross Profitability	0.03	1.10	0.05	1.55	0.05	1.84*	0.06	2.1**	0.07	2.34**	0.07	2.32**
ROA	0.03	1.00	0.03	1.19	0.04	1.26	0.03	1.18	0.04	1.31	0.03	1.14
ROE	0.04	1.26	0.05	1.59	0.05	1.8*	0.06	2**	0.06	2.12**	0.06	1.92*

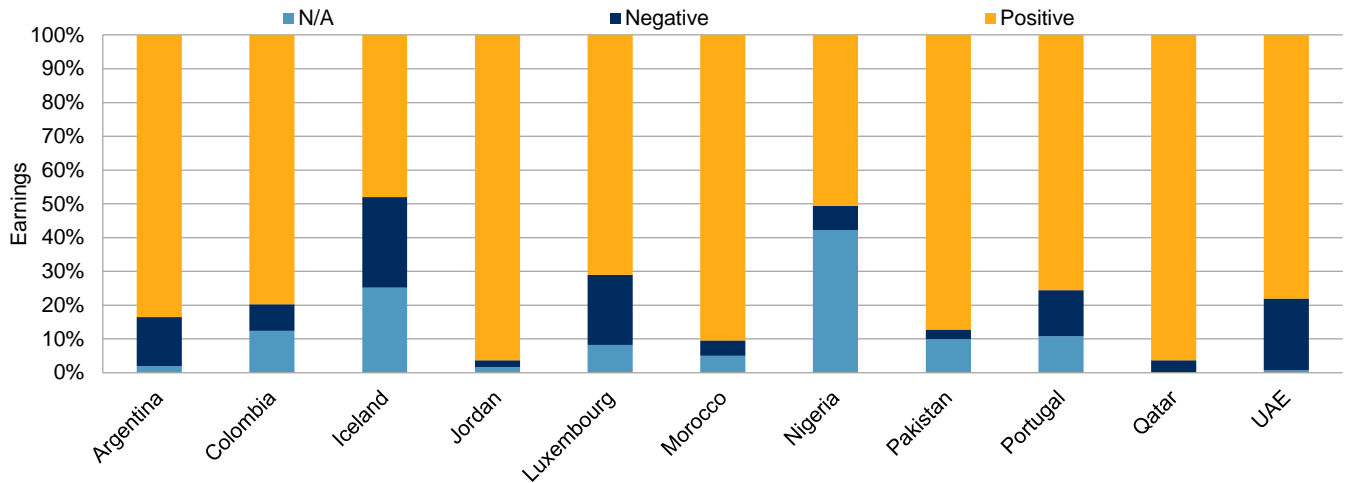
\*\*\* Statistical significance at .01

\*\* Statistical significance at .05

\* Statistical significance at .10

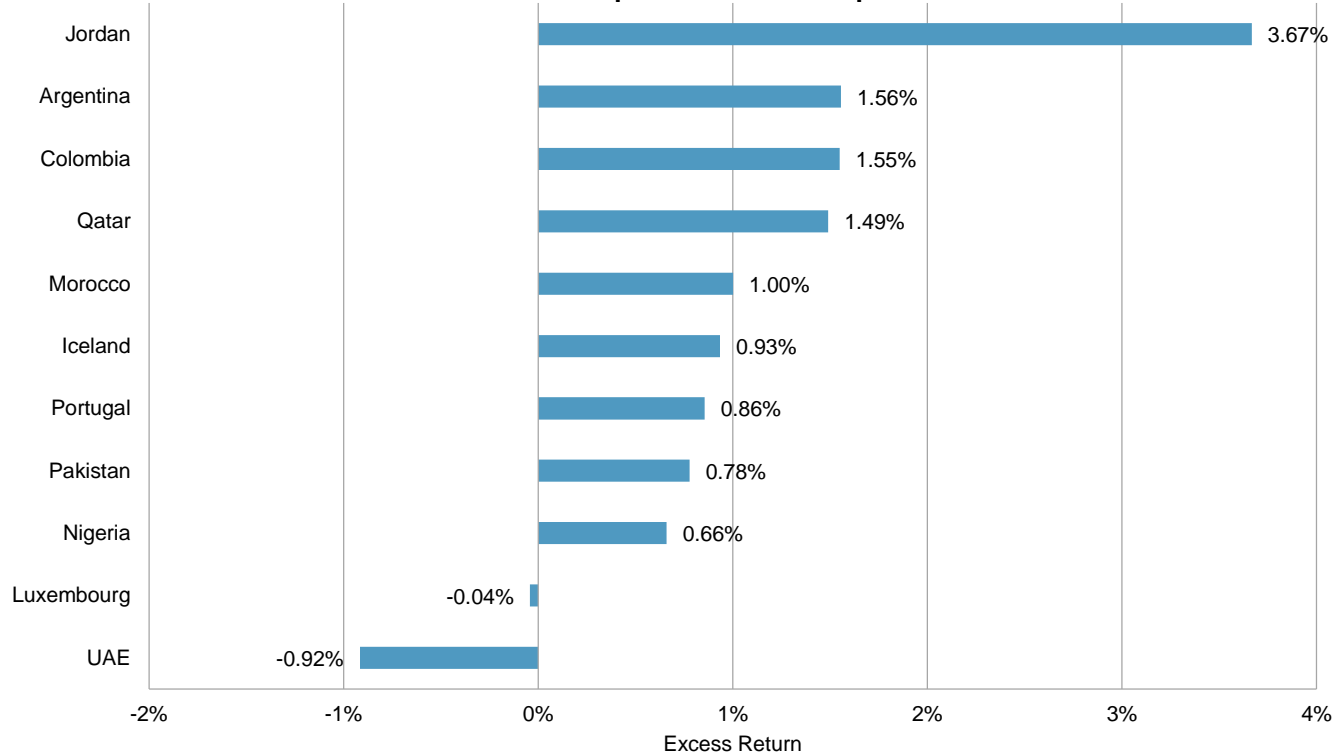
Source: S&P Dow Jones Indices LLC, FactSet. Data from Nov. 30, 1999, to April 30, 2018. Index performance based on total return in local currency. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

**Exhibit A2: Percentage of Positive and Negative Earnings Small-Cap Companies by Country – Additional Countries**



Source: S&P Dow Jones Indices LLC, FactSet. Data from Nov. 30, 1999, to April 30, 2018. Entire period average of counts taken at each month's end. Fundamental data is lagged by 90 days from the data reference date. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

**Exhibit A3: Excess Return of Profitable Over Unprofitable Small Caps – Additional Countries**



Source: S&P Dow Jones Indices LLC, FactSet. Data from Nov. 30, 1999, to April 30, 2018, however the time period for each country depends on when it was included in the S&P Global BMI Series, which can include multiple non-consecutive periods. Index performance based on total return in local currency. Entire period average of counts taken at each month's end. Fundamental data is lagged by 90 days from the data reference date. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

## ENDNOTES

1. For real estate investment trusts (REITs), funds from operations are used in place of EPS when available.
2. Ratio definitions: EPS is the last fiscal year net income divided by shares outstanding, asset turnover is net sales divided by the average of total assets, gross profit margin is gross income divided by net sales, gross profitability is gross income divided by total assets, ROA is gross income divided by the last two fiscal periods' average of total assets, and ROE is the trailing 12-month EPS divided by book value per share.
3. A year is defined as the past 12 months as of the rebalance reference date for companies and countries where available. If past 12-month data is not available for a company, then fiscal year annual earnings is used.
4. Note that this rule does not apply to the S&P/ASX Small Ordinaries Select Index.
5. The S&P/ASX Small Ordinaries Select Index follows a different rebalance schedule, with rebalances occurring semiannually in March and September.
6. The emerging market country universes of S&P DJI and MSCI are different over time. Most notably, South Korea is classified as a developed market by S&P DJI, while MSCI classifies the country as emerging. While this makes the comparison not fully apples-to-apples, the S&P Emerging Plus SmallCap Select Index, which adds South Korea to the emerging index, has historically performed better than the S&P Emerging SmallCap Select Index on absolute and relative to the respective benchmark bases.

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