The Half-Discovered Continent

U.S. Equities beyond the S&P 500®

"The real voyage of discovery consists not in seeking new landscapes but in having new eyes"

- Marcel Proust, *La Prisonnière*

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EXECUTIVE SUMMARY

- Mid- and small-cap U.S. equities represent a significant piece of the global market, but they are overlooked by many international investors, particularly in Europe.
- Historically, the S&P MidCap 400® and S&P SmallCap 600® have outperformed many global equity markets. However, the performance of many active funds investing in mid- and small-cap U.S. equities has been disappointing.
- With index-linked vehicles such as exchange-traded funds (ETFs) arising in recent years to offer low-cost, passive exposures to mid and small caps, global investors may find it timely to consider a passive allocation.
- We examine the benefits of exploring the U.S. equities market beyond large caps from a European investor's perspective and with a focus on S&P Dow Jones Indices' S&P MidCap 400 and S&P SmallCap 600.

INTRODUCTION

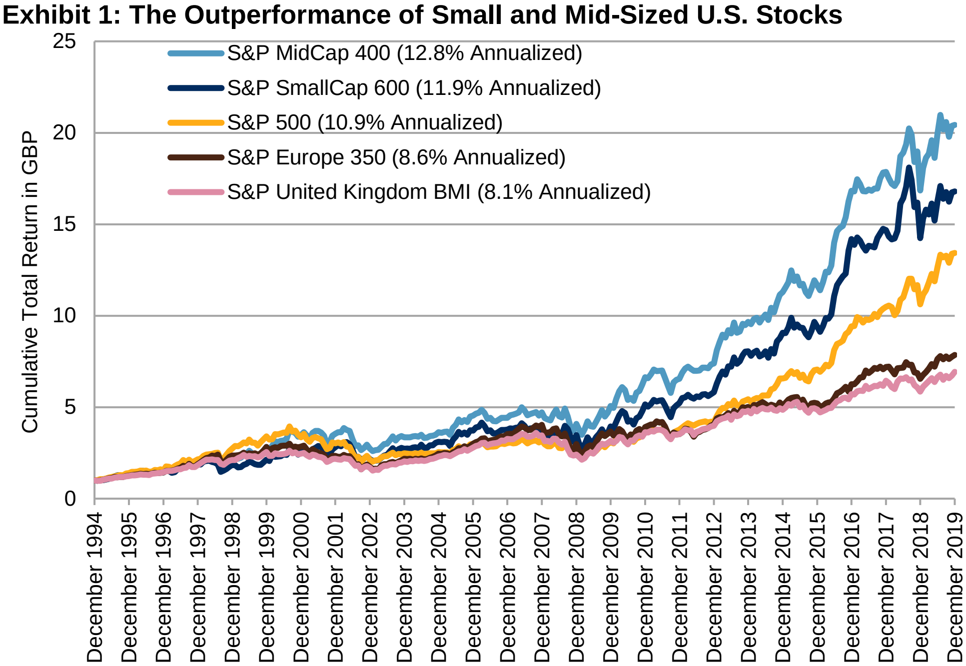
Investors the world over have made allocations to U.S. stocks, which include some of the world's largest companies. Ex-U.S. investors appear to have explored little beyond the so-called "blue chips," however.

As shown later, European fund investors, in particular, have minimal exposure to small or mid-sized U.S. equities. This lack of interest is puzzling, not least as they represent significant market segments in absolute terms; **the S&P MidCap 400 alone has a market capitalization similar to the entire French stock market**, while, in combination, the S&P MidCap 400 and S&P SmallCap 600 are roughly the same size as the UK's stock market.

The S&P MidCap 400 alone has a market capitalization similar to the size of the entire French stock market.

Why would this be? Historical performance is unlikely to be the deterrent to European investors; the S&P MidCap 400 and S&P SmallCap 600 significantly outperformed UK and pan-European equity indices over the past 25 years. Exhibit 1 illustrates their performance graphically (index performance is shown in pounds sterling, while returns in other currencies are provided later in Exhibit 7).

Exhibit 1: The Outperformance of Small and Mid-Sized U.S. Stocks



Source: S&P Dow Jones Indices LLC. Data from December 1994 to December 2019. Index performance based on total return in GBP. 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.

UNDERREPRESENTATION OF U.S. MID AND SMALL CAPS IN INTERNATIONAL PORTFOLIOS

The S&P MidCap 400 and S&P SmallCap 600 have significantly outperformed UK and pan-European equity indices.

Many investors across the world have a so-called “home bias,” meaning that they invest a higher proportion of their portfolio in domestic assets than might be expected given the relative size of the international opportunity set.[1]

Based on the capitalizations of the various single-country equity markets included in the S&P Global BMI,[2] U.S. equities currently account for slightly more than half of the global stock market. If international investors were to allocate to U.S. equities in proportion to their capitalizations, they might therefore hold around half of their portfolio in U.S. stocks. In practice, most do not.

[1] Coeurdacier, Nicolas; Rey, Hélène (2013). "Home Bias in Open Economy Financial Macroeconomics," Journal of Economic Literature.

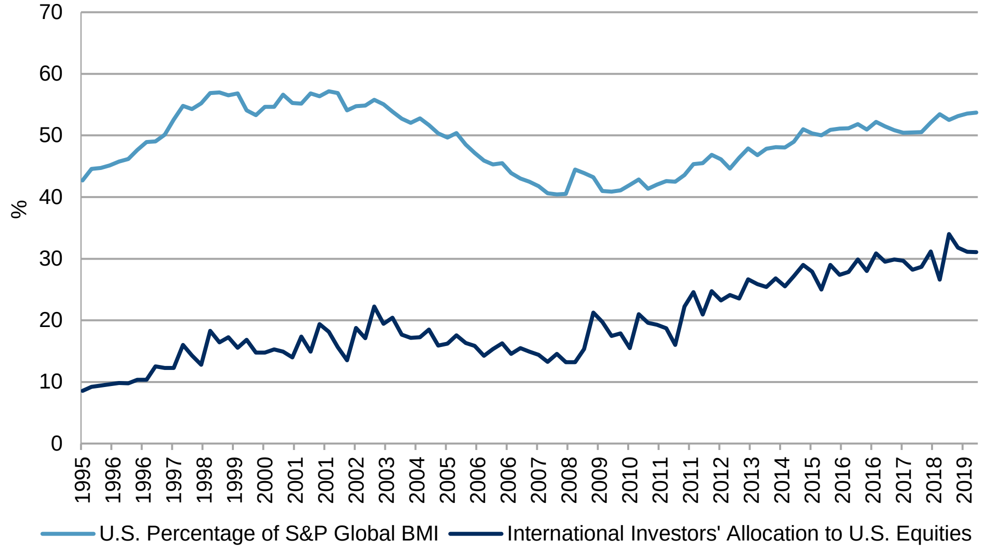
[2] The S&P Global BMI is a broad-based index representing the global equities market, including over 11,000 stocks from 25 developed markets and 25 emerging markets around the world.

U.S. stocks make up around half of the global equity market.

Exhibit 2 provides an estimate of the aggregate allocation made by international investors to U.S. equities (as a percentage of their overall equity allocations) compared with the U.S. percentage of the S&P Global BMI's total capitalization on a quarterly basis since 1995.[3] Although international investors have increasingly participated in the U.S. equities market, in aggregate, they still remain around 20% underweight relative to the U.S. share of global equity capitalization.

In practice, many international investors are underweight.

Exhibit 2: International Investors Are Underallocated to U.S. Equities



Source: S&P Dow Jones Indices LLC, U.S. Federal Reserve. Data from March 1, 1995, to May 1, 2019. Chart is provided for illustrative purposes.

Aggregate, international flows in equities offer a broad perspective. From the narrow perspective of the assets in **European-domiciled funds**, further details emerge.

European funds offer a more granular perspective on ownership.

Using the Morningstar Europe fund database, Exhibit 3 illustrates the allocations of assets in European-domiciled equity funds (managed actively or passively), along with their geographic focus according to Morningstar. To proxy the separate interest from UK and continental investors, Exhibit 3 also shows the proportions for fund share classes denominated in pounds sterling and euros, respectively.

For comparison, the final chart of Exhibit 3 illustrates the capitalizations of each market segment within the S&P Global BMI, using Morningstar's definition of "large," "mid," and "small" caps as representing the largest 70%, the next 20%, and the smallest 10% of stocks by total segment capitalization, respectively.

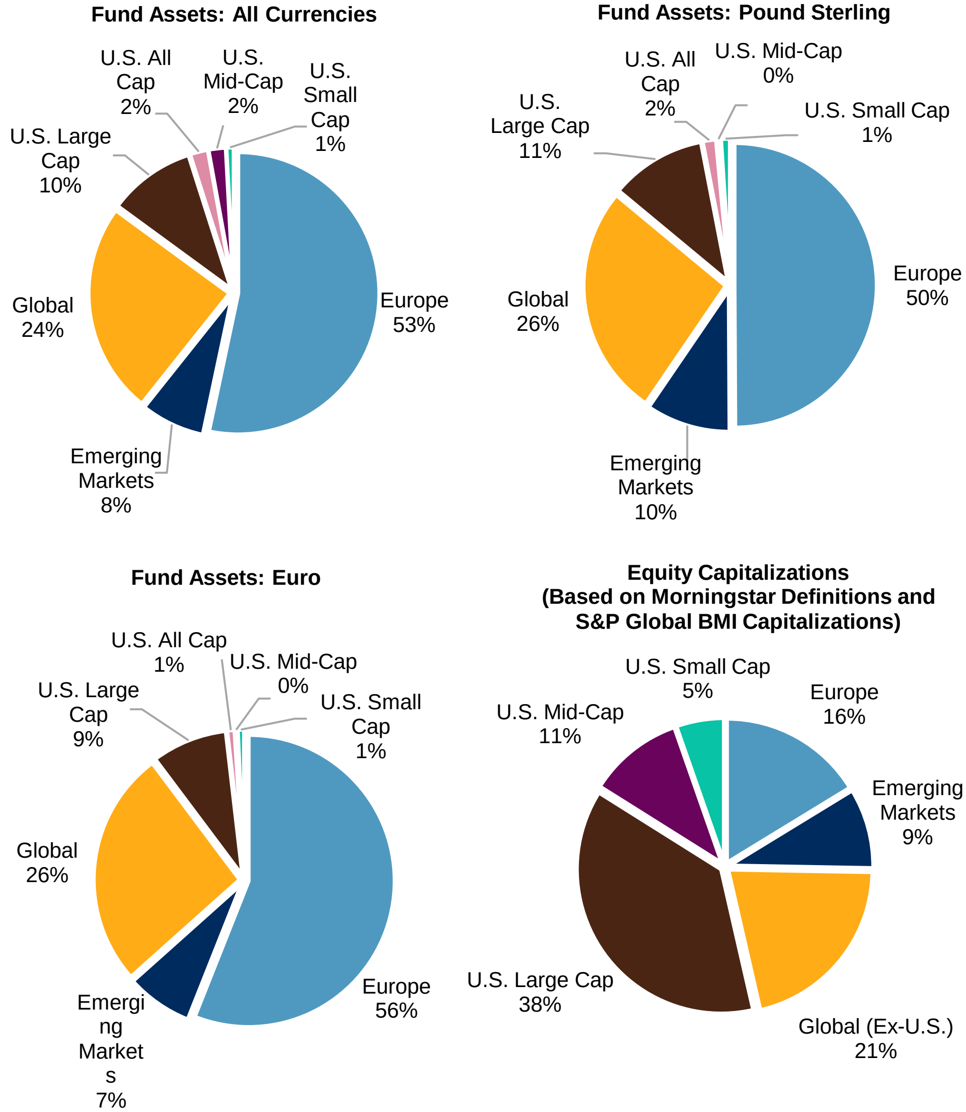
[3] The estimate of international equity allocations is made by comparing data on foreign ownership reported in U.S. national accounts compared with the capitalizations of S&P DJI's ex-U.S. global indices. See Appendix B for details.

U.S. equities appear to be underweighted in aggregate by European fund investors.

Of what little allocations have been made to U.S. equities, a disproportionate majority has been made to large-cap funds.

Small- and mid-cap U.S. equities are particularly underrepresented in the assets of European funds relative to their native market size.

Exhibit 3: European Fund Investors Have Almost No Allocations to U.S. Mid-Caps



Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2019. Charts are provided for illustrative purposes.

Exhibit 3 shows that European funds' assets are allocated *at most* around one-third to U.S. equities (with the maximum occurring if the funds characterized as investing in "global" equities are almost entirely invested in the U.S.). **Of what little allocations have been made explicitly to U.S. equities, a disproportionate majority has been made to large-cap funds.** With relatively few assets in comparison with large-cap funds *and* small-cap funds, **mid-cap funds appear to be particularly overlooked.** Their allocations are within a rounding error of 0%.

In summary, U.S. equities appear to be underweighted in aggregate by international investors, and small- and mid-cap U.S. equities are particularly underrepresented in the assets of European funds relative to their native market size. **This presents a potential opportunity for international**

investors to gain access to an otherwise significant and liquid market that has been perhaps overlooked by their peers.

The S&P Composite 1500 combines the S&P 500, the S&P MidCap 400, and the S&P SmallCap 600.

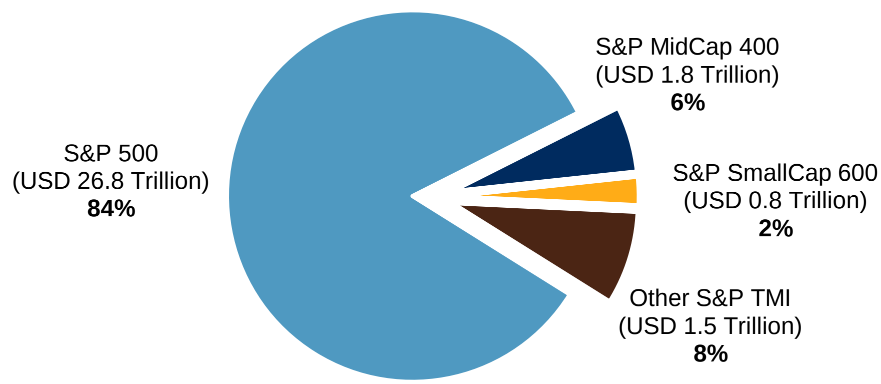
THE LARGE-, MID-, AND SMALL-CAP SEGMENTS OF THE S&P COMPOSITE 1500®

Providing a parent universe for a range of benchmark indices representing the U.S. equities market, the S&P Composite 1500 combines the S&P 500, S&P MidCap 400, and S&P SmallCap 600. Together, the S&P Composite 1500 covers approximately 92% of the current total U.S. equity market capitalization of USD 40 trillion.

Exhibit 4 illustrates the capitalization of each index in the context of the total universe of float-weighted U.S. equities (as represented by the S&P Total Market Index), along with the capitalizations of those stocks included in each index, and those excluded from the S&P Composite 1500.

Exhibit 4: S&P Composite 1500 Coverage of the Total U.S. Equities Market

The S&P Composite 1500's methodology requires a company to be profitable at the point of inclusion.



Source: S&P Dow Jones Indices LLC. Data as of December 2019. Charts are provided for illustrative purposes.

The profitability criterion has historically proved beneficial to performance.

Every index is not created equal. The "other" 8% in Exhibit 4 is not just stocks too small to join the S&P Composite 1500; in fact, only 1% are too small. In order to be included in the S&P Composite 1500, companies must meet the criteria described in a published methodology.[4] Among other requirements, the methodology requires a company to be profitable at the point of inclusion, a condition that has historically proved particularly important to the performance of the mid- and small-cap indices.[5] The S&P 500, S&P MidCap 400, and S&P SmallCap 600 are also limited to a fixed number of companies, as their names suggest, so even if its stock meets all the requirements, it may not be included.

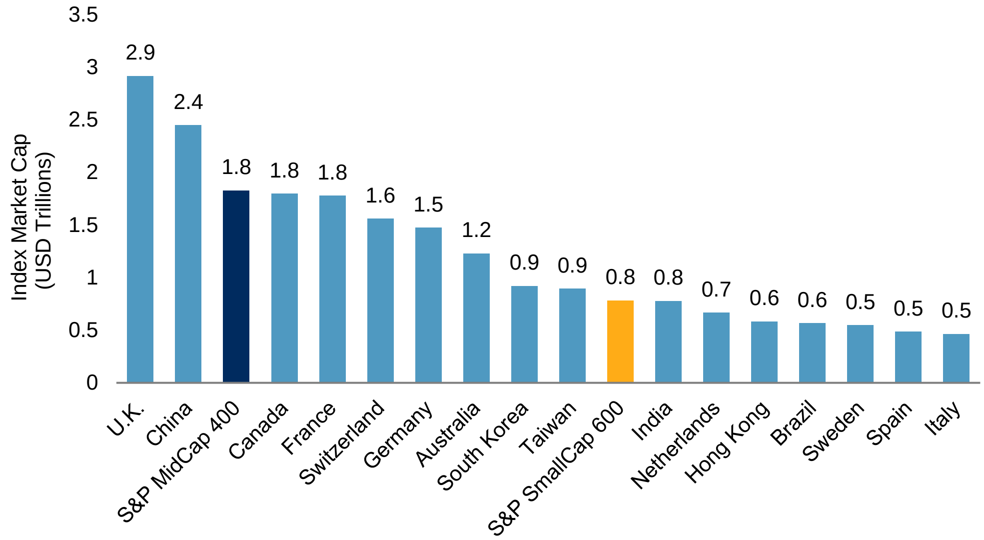
[4] S&P DJI's U.S. Equity Index Methodology is available at https://spdji.com/documents/methodologies/methodology-sp-us-indices.pdf; a summary of the key requirements is provided in Appendix B.

[5] Comparisons of S&P DJI's small- and mid-cap indices to other benchmarks, and the importance of earnings criteria to their historical outperformance, are considered in "A Tale of Two Small-Cap Benchmarks: 10 Years Later" and "The S&P MidCap 400: Outperformance and Potential Applications."

The S&P MidCap 400 and S&P SmallCap 600 represent a significant piece of the global equity markets…

Although they represent just 8% of U.S. equity market capitalization, **the S&P MidCap 400 and S&P SmallCap 600 represent a significant piece of the global equity markets**. Their combination is comparable in size to that of the S&P United Kingdom BMI—S&P DJI's broad-based index for the world's third-largest equity market—while the total capitalization of the S&P MidCap 400 and S&P SmallCap 600 is comparable to that of several other major economies, as illustrated in Exhibit 5.

Exhibit 5: The S&P SmallCap 600 and S&P MidCap 400 Represent Equity Segments Comparable to Those of Major Economies



…with their combination being comparable in size to that of the S&P United Kingdom BMI.

Source: S&P Dow Jones Indices LLC. Data as of December 2019. Chart is provided for illustrative purposes.

INDEXING WORKS BEYOND LARGE CAPS

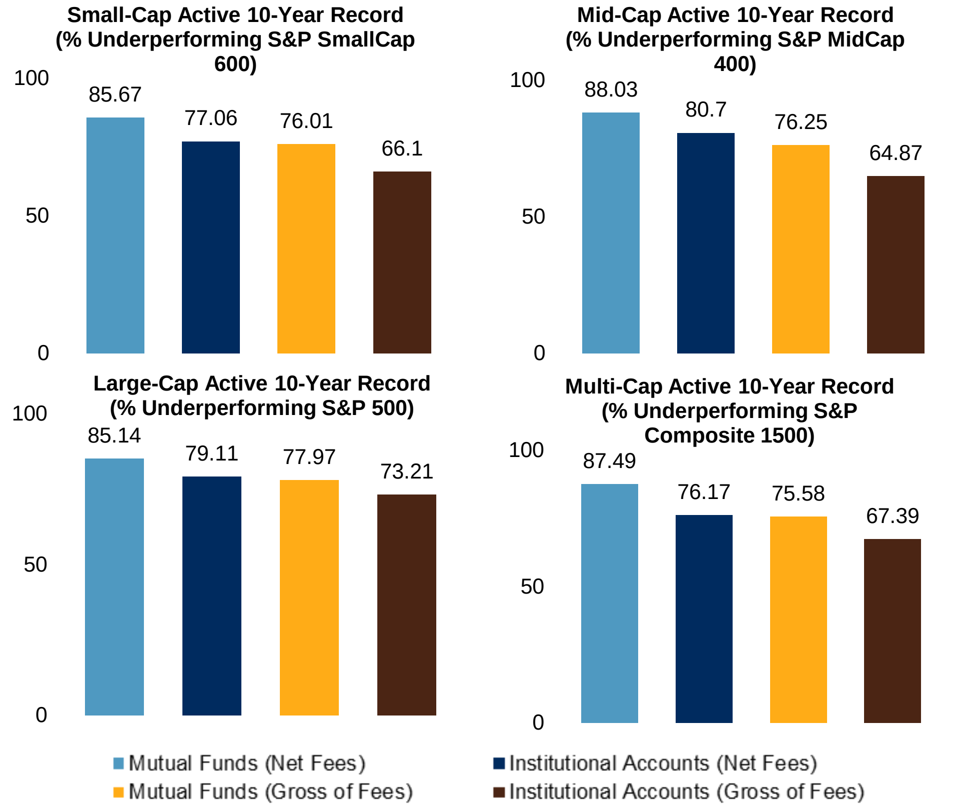
When considering an allocation to any market segment, a choice must be made between actively engaging in security selection (targeting the best prospects) and selecting a broad exposure—such as might be delivered by a passive, index-tracking portfolio.

Smaller companies have traditionally been supposed to offer fertile grounds for "stock pickers." One argument made in support of this is that a relative lack of analyst coverage provides managers willing to conduct their own research with the opportunity to obtain informational advantages. However, the costs of researching and trading individual small stocks can be high, and the historical record of actively managed portfolios and funds tracking mid-sized and smaller U.S. companies does not suggest that outperformance is easy.

Exhibit 6 illustrates some summary figures taken from the most recent S&P DJI SPIVA® (S&P Index Versus Active) Institutional Scorecard, which tracks the performance of actively managed mutual funds and institutional accounts in the U.S. compared with a relevant benchmark.[6] Over the 10 years ending in 2018, whether managed separately or within a fund, whether gross or net of fees, and whether focused on large-, small-, or mid-cap stocks, underperformance was more likely than outperformance.

The historical record of actively managed portfolios and funds tracking mid-sized and smaller U.S. companies does not suggest that outperformance is easy.

Exhibit 6: A Majority of Actively Managed Funds and Accounts Underperformed S&P DJI's U.S. Equity Benchmarks



Source: S&P Dow Jones Indices LLC. Data as of December 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Over the 10 years ending in 2018, for actively managed mutual funds and institutional accounts in the U.S., underperformance was more likely than outperformance.

Of course, *some* active funds outperformed, even after fees. However, finding the potentially few active managers who will do so in the future can be a challenging task.[7] Provided that the indices could be tracked at a relatively low cost, **a passive investment linked to S&P DJI's U.S. equity benchmarks for small- and mid-cap equities would have historically delivered better-than-average performance**, frequently qualifying among the top quartile of active funds.

The relatively high underperformance rate of actively managed U.S. small- and mid-cap funds is not unusual, or even unexpected. Similar reports

[6] We use the SPIVA Institutional Scorecard instead of the SPIVA Europe Scorecard because (c.f. Exhibit 3) there are remarkably few European-domiciled, actively managed funds focused on small and mid-sized U.S. equities. Where there is sufficient data—in particular for pan-U.S. equity funds domiciled in Europe—the record of active management is similar. See the latest SPIVA Institutional Scorecard and SPIVA Europe Scorecard for more details, and learn more about SPIVA at: https://spdji.com/spiva/#/.

[7] S&P DJI's "Persistence Scorecards" show that past outperformance appears to be a particularly unreliable guide to picking funds that will outperform in the future. The latest scorecard is available at https://spdji.com/indexology/core/persistence-scorecard

produced by S&P DJI for other periods and geographies have offered similar results.[8] **These results are not statistical oddities. They occur for good reasons, which are likely to persist.**[9]

ACCESSING AND TRADING PRODUCTS LINKED TO THE S&P MIDCAP 400 AND S&P SMALLCAP 600

One cannot invest in an index, but the cost of replicating indices has fallen along with increasing competition from asset managers to offer passive exposures. An increasing range of index funds, futures, and ETFs continue to bring the notion of an investable index closer to a practical reality, and they typically carry lower costs than actively managed funds.

A broad ecosystem of market participants tracking the same index can help reduce the costs of establishing a passive exposure in the mid- and small-size segments.

The costs of trading small stocks are typically higher than the cost of trading large stocks, but the costs of trading products tracking the S&P MidCap 400 and S&P SmallCap 600 can be less than would be supposed from their less-liquid constituents. We estimated that over a trillion U.S. dollars in economic exposure was traded in products linked to the S&P MidCap 400 in the 12 months ending June 2019.[10] This corresponds to around USD 4 billion in average daily trading volume in products tracking the mid-cap index; by comparison, the average S&P MidCap 400 *constituent* had a daily traded value of USD 125 million over the same period.

A broad ecosystem of market participants tracking the same index can help reduce the costs of establishing a passive exposure in the mid- and small-size segments. European investors can choose to invest in locally domiciled ETFs tracking the S&P SmallCap 600 or the S&P MidCap 400 and compare their performance to the underlying index, as well as to futures, options, and ETFs listed and traded globally.

[8] Similar reports produced by S&P DJI for the U.S., Canadian, Indian, Asian, Australian, Japanese, South African, and Latin American fund markets have offered similar results. The reports may be found at https://spdji.com/spiva/#/.

[9] Anu Ganti and Craig J. Lazzara, "Shooting the Messenger," S&P DJI, December 2017.

[10] The values traded in products linked to various indices, and a discussion of the ecosystem that connects trading in products tracking the same indices, may be found in "A Window on Index Liquidity" (S&P DJI, 2019). Trading volumes in the average S&P MidCap 400 constituent sourced from Bloomberg LLC for the period June 2018-June 2019.

DIFFERENTIAL RETURNS FROM SMALL CAPS AND MID-CAPS

Over the long term, the S&P MidCap 400 and the S&P SmallCap 600 outperformed the S&P 500, but the smaller-cap indices displayed higher volatility.

Since they represent baskets of stocks from the same country, S&P DJI's U.S. large-, mid-, and small-cap indices often display correlated performances. However, their returns are far from identical and may even have the opposite sign; for example, in six of the past 25 years, at least one of the three indices has gained while another has declined.[11] **Over the long term, the S&P MidCap 400 and the S&P SmallCap 600 outperformed the S&P 500**, **but the smaller-cap indices displayed higher volatility.**

Exhibit 7 offers summary performance statistics for the three indices—with figures reported for price and total return indices (including reinvested dividends), in pounds sterling, euros, and U.S. dollars. Corresponding statistics for the S&P United Kingdom BMI and S&P Europe 350® are included for purposes of comparison.

Exhibit 7: U.S. Small- and Mid-Cap Indices 25-Year Outperformance

POUND STERLING	**S&P 500**	**S&P MIDCAP 400**	**S&P SMALLCAP 600**	**S&P EUROPE 350**	**S&P U.K. BMI**
Price Return (Annualized)	8.83%	11.25%	10.73%	5.25%	4.16%
Total Return (Annualized)	10.95%	12.82%	11.95%	8.59%	8.05%
Volatility (Annualized)	15.10%	17.25%	18.43%	15.44%	12.98%
Total Return/Volatility (Annualized)	0.73	0.74	0.65	0.56	0.62
EURO	**S&P 500**	**S&P MIDCAP 400**	**S&P SMALLCAP 600**	**S&P EUROPE 350**	**S&P U.K. BMI**
Price Return	8.57%	10.97%	10.46%	4.99%	3.91%
Total Return	10.68%	12.55%	11.67%	8.33%	7.79%
Volatility	15.78%	17.59%	18.86%	15.16%	14.13%
Return/Volatility	0.68	0.71	0.62	0.55	0.55
U.S. DOLLAR	**S&P 500**	**S&P MIDCAP 400**	**S&P SMALLCAP 600**	**S&P EUROPE 350**	**S&P U.K. BMI**
Price Return	8.12%	10.51%	10.00%	4.56%	3.48%
Total Return	10.22%	12.08%	11.21%	7.88%	7.34%
Volatility	14.53%	16.85%	18.26%	17.07%	15.35%
Return/Volatility	0.70	0.72	0.61	0.46	0.48

Source: S&P Dow Jones Indices LLC. Data from December 1994 to December 2019. 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.

Smaller companies face different challenges and opportunities to large companies. Traditionally, smaller companies have attracted

[11] Source: S&P DJI LLC. Based on annual total returns in U.S. dollars over the period from 1994 to 2019. The corresponding statistics are seven and six of the past 25 years for pounds sterling and euros, respectively.

The S&P SmallCap 600 and S&P MidCap 400 have higher weights in the industrials and materials sectors and are underweight to technology relative to the S&P 500.

investors seeking the potential for higher growth, albeit potentially at a higher risk of failure. The largest companies are less at risk of disappearing overnight, but they may have more limited growth prospects. The "small size effect," or "size factor," has long been of interest to academics and is now a common variable in equity risk models.[12] However, **the performance of S&P DJI's indices rely on more than just their size**.

Over their history, the performances of the S&P MidCap 400 and S&P SmallCap 600 have been distinguished from those of large-cap indices and other mid- or small-cap indices by several key return drivers. These include:

- The requirement to be profitable gives S&P DJI's U.S. index constituents a persistent tilt toward most definitions of a "quality" factor.[13]
- The S&P SmallCap 600 and S&P MidCap 400 have different sector allocations than the S&P 500. Currently, the large-cap index has a higher weight in technology, while the small- and mid-cap indices have higher weights in the industrial and materials sectors.[14]
- Companies in the S&P 500 are more international and usually generate a higher proportion of revenues from international sales compared with mid-caps and small caps.[15]
- Because it is capitalization weighted and because company sizes tend to have an uneven distribution, large-cap indices such as the S&P 500 can become relatively concentrated. In comparison, the mid- and small-cap indices are more diversified.[16]

The recent performance of the three indices offers a reminder that, while diversification may sometimes be called "the only free lunch" in investing, **concentration is not *always* a bad thing**. Of all major benchmarks, the S&P 500 was one of the best performing in 2019, in part because of its concentration in a few now-dominant names.[17] On the other hand, an averaging out of single-company risk may be another reason why the

[12] The so-called "size effect" was first identified in Banz, Rolf W. "The Relationship between Return and Market Value of Common Stocks," *Journal of Financial Economics* (1981). More famously, Eugene Fama and Kenneth French used company size along with two other variables (value and market exposure) to begin a long debate on rewarded factors in equities. Among more recent examples of papers on the size effect, Asness, Clifford, et al. Size Matters, if You Control Your Junk, Journal of Financial Economics (2018), is pertinent, given the inclusion of profitability criteria in S&P DJI's U.S. indices.

[13] Factor and sector exposures in the S&P MidCap 400 and S&P Small Cap 600 are examined in Bellucci, Preston, and Soe (The S&P MidCap 400: Outperformance and Potential Applications) and Brzenk, Hao, and Soe (A Tale of Two Small-Cap Benchmarks: 10 Years Later), op cit.

[14] S&P DJI's monthly U.S. Sector Dashboard provides a summary of the latest sector weights in each index.

[15] https://www.indexologyblog.com/2018/02/28/how-global-are-the-sp-500-the-sp-midcap-400-and-the-sp-smallcap-600-style-indices/

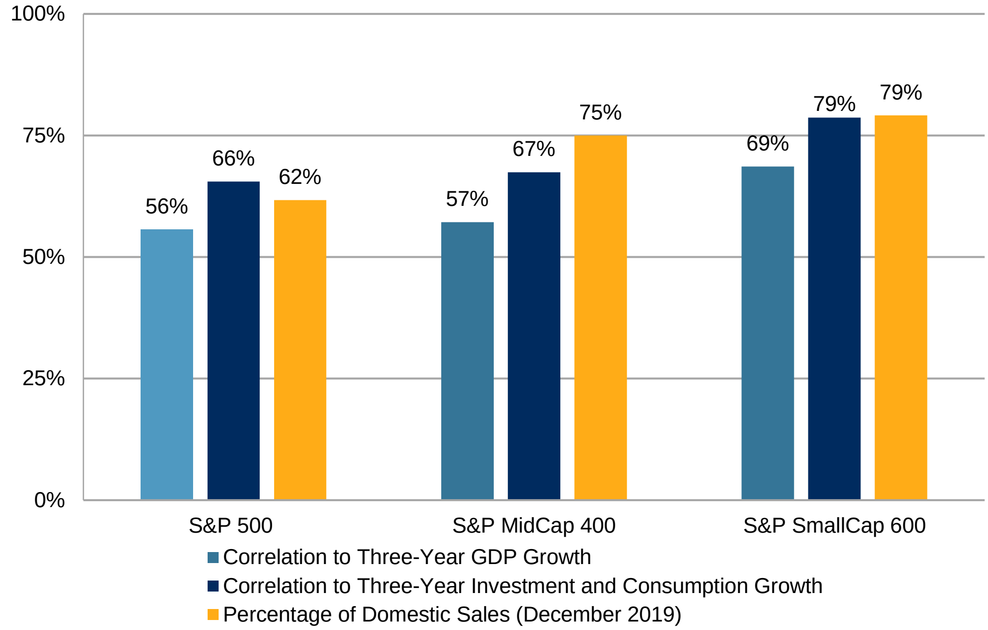
[16] C.f. "Outperformance in Equal Weight Indices" (2018).

[17] The importance of large-cap outperformance in 2019 is examined in https://www.indexologyblog.com/2020/01/07/from-hard-to-beat-to-nigh-on-impossible/. "Fooled by Conviction" (2016) offers cautions regarding the potential risks from concentration.

smaller-cap indices can show higher correlations to broader economic data, which might be preferred by investors taking a "macro" perspective.

Exhibit 8 shows the historical correlations between three-year quarterly U.S. GDP growth and the total returns of the S&P 500, S&P SmallCap 600, and S&P MidCap 400. It also shows the correlation to the components of domestic product contributed by private investment and consumption and—for reference—the aggregate percentage of index constituent sales made domestically.

Exhibit 8: Small Caps and Mid Caps Were More Highly Correlated to Domestic GDP Growth



Source: S&P Dow Jones Indices LLC, U.S. Bureau of Economic Analysis. Data from December 1994 to December 2019. Past performance is no guarantee of future results. Percentage of domestic sales calculated via index-weighted average among constituents. Table is provided for illustrative purposes.

The mid- and small-cap sections may offer a more direct exposure to domestic growth than the larger stocks.

One reason why international investors maintain investments in U.S. equities is to benefit from U.S. economic growth, which has remained relatively firm in comparison with other developed and emerging markets in recent years. **The mid- and small-cap sections may offer more direct exposure to domestic growth than the larger stocks**.

CONCLUSION

Historically, the higher costs of investing in smaller companies may have prevented international investors exploring this option further.

International investors have long participated in the U.S. stock market, and it is natural that their attention might be biased toward larger, more famous companies and benchmarks. Historically, the higher costs of investing in smaller companies may have prevented international investors from exploring further. Another reason may have been the performance of actively managed funds.

For an investor already owning a portfolio large U.S. companies, mid- and small-sized companies offer a way to deconcentrate and add diversification. Companies without a "blue-chip" classification generally have higher risks, higher potential for growth, and a more domestic focus. **Small and mid-sized companies have distinct characteristics, and so do their benchmarks**.

Using the S&P SmallCap 600 and S&P MidCap 400 has become cheaper, easier, and more popular.

As low-cost, passive solutions become available**, active management becomes an option instead of a necessity**. Thanks to products such as ETFs, futures, and index funds, using the S&P SmallCap 600 and S&P MidCap 400 to define investment performance has become cheaper, easier, and more popular. A wide range of market participants brings scrutiny to the underlying index and allows investors to benchmark their experience against an array of alternatives. In the future, such **passive solutions may help international investors to explore more of the U.S. stock market**.

APPENDIX A

Notes to *Exhibit 2: International Allocation to U.S. Equities*

We can make an estimate of the average non-U.S. investor's percentage allocation to U.S. equities using published U.S. government data on international capital flows in comparison with S&P DJI's index capitalizations.

The value of total, direct ownership of U.S. stocks by the rest of the world was reported by the U.S. government in its national accounts as USD 7.5 trillion as of Q3 2019.[18]

Calculating the "average" international investor's percentage allocation to U.S. stocks requires us to compare this figure with the amount held in other global equities.

The total capitalization of all non-U.S. stocks in the S&P Global BMI was USD 25.4 trillion at the end of Q3 2019, of which we may estimate that U.S. investors owned a total of USD 8.8 trillion—provided we use the value of foreign equity holdings by U.S. investors also reported in the national accounts.[19]

Subtracting U.S. ownership leaves a total of USD 16.6 trillion in equities held by non-U.S. investors in non-U.S. equities and an estimate for the average U.S. equity allocation held by international investors of 31%. Extending the calculation back quarterly provides the series in Exhibit 2.

APPENDIX B

Exhibit 9: Criteria to Be Considered for Initial Inclusion in the S&P Composite 1500

CRITERIA	DETAIL
Security Type	Common stock in a U.S.-domiciled and listed corporation
Market Capitalization[1]	Unadjusted company market capitalizations of at least • USD 8.2 billion or more for the S&P 500, • USD 2.4-8.2 billion for the S&P MidCap 400, and • USD 600 million-2.4 billion for the S&P SmallCap 600
Freely Tradable Shares	Float-adjusted market capitalization at least 10% of the company's total and at least 50% of the minimum market capitalization threshold
Liquidity	Annual dollar trading volume at least equal to the float-adjusted market capitalization and more than 250,000 shares traded in the previous six months
Financial Viability	The sum of the earnings in the most recent four quarters must be positive, as should the most recent quarter
Governance	Stocks and companies with multiple share class structures are not eligible to join the index[20]
Seasoning	IPOs must wait at least 12 months before index inclusion

Source: S&P Dow Jones Indices LLC. Data as of Jan. 31, 2020. Table is provided for illustrative purposes.

[18] Source: "Financial Accounts of the United States", U.S. Federal Reserve.

[19] The USD 8.8 trillion includes direct ownership of international shares and shares in international investment funds.

[20] When this rule was introduced in 2017, existing index constituents were allowed to remain. For further details, see the full index methodology, available at https://spdji.com/documents/methodologies/methodology-sp-us-indices.pdf.

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