

**ALLIANCEBERNSTEIN®**

SMALL WONDERS

CAPTURING THE POTENTIAL OF
US SMID-CAP STOCKS

Bruce Aronow

Chief Investment Officer—US Small- and Mid-Cap Growth Equities

James MacGregor

Chief Investment Officer—US Small- and Mid-Cap Value Equities

Samantha S. Lau

Co-Chief Investment Officer—US Small- and Mid-Cap Growth Equities

Shri Singhvi

Portfolio Manager—US Small- and Mid-Cap Value Equities

IN THIS PAPER: Investing in a portfolio of small- and mid-cap US stocks has attracted growing interest from investors because it targets a compelling sweet spot of risk-adjusted returns. It combines the high-risk, high-reward aspects of small-cap investing with the degree of stability that medium-size companies provide. Inefficiencies created by thin analyst coverage and distortions of the SMID benchmark are creating fertile ground for active managers.

POWERFUL POTENTIAL IN SMID STORIES

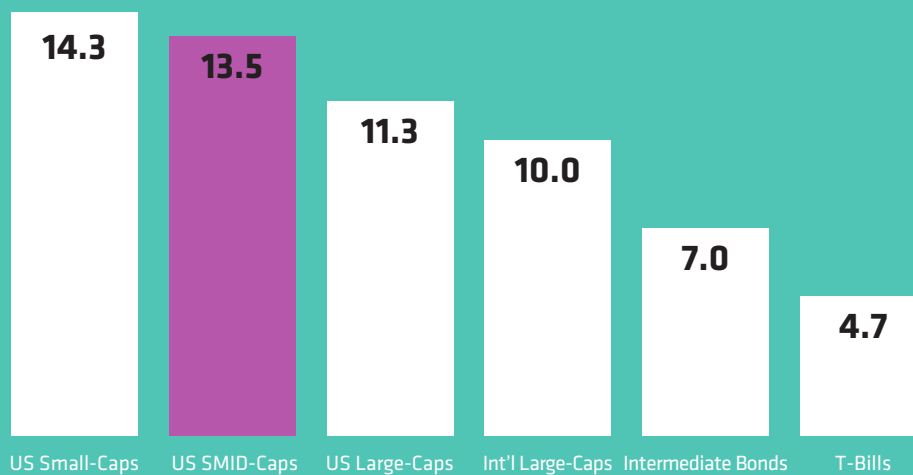
US smaller stocks have outperformed large-cap stocks consistently for decades (*Display 1*). But small-caps are usually more volatile, suffer from thin trading liquidity and are often more vulnerable than larger-cap companies to business downturns or macroeconomic slowdowns.

In this paper, we demonstrate the benefits of adding a layer of medium-size companies to a portfolio of smaller stocks. Through stories of individual companies, we illustrate the opportunities and risks, and highlight the importance of applying a bottom-up, active approach to SMID-cap investing. In our view, this approach can help investors identify SMID companies that are better equipped to weather unforeseen shocks to the economy or markets while providing added maturity, tested business models and higher financial resiliency.

In a world of lower expected returns and heightened uncertainty, we believe that SMID-cap stocks are an important component of an equity allocation that can help investors enjoy the high return potential of small-cap investing while taking the edge off the accompanying risk.

DISPLAY 1: SMALL- AND SMID-CAP STOCKS HAVE BEEN STRONG PERFORMERS OVER TIME

Annualized Index Returns, January 1, 1976*–September 30, 2017 (Percent)



Past performance is not a guarantee of future results.

As of September 30, 2017

US small-caps represented by deciles six to eight in the Center for Research in Security Prices (CRSP) universe of US stocks. US SMID-caps represented by deciles three to seven and US large-caps by deciles one and two. International large-cap stocks represented by the MSCI EAFE Index. Intermediate-term Treasury bonds represented by the three- to five-year Bank of America Merrill Lynch Bond Index

*Date first intermediate bond data was available

Source: Bank of America Merrill Lynch, CRSP, MSCI and the University of Chicago Booth School of Business. Used with permission

Panera Bread had a proven recipe for restaurant expansion and profits, and for years the markets ate it up. But in 2016 it seemed as if some investors were losing their appetite. Even with brisk sales and rising profitability from new in-store enhancements, Panera shares trailed the Russell 2500 Growth benchmark of small- and medium-size companies for much of the year.

The company's otherwise solid execution came at a time of broader market indigestion toward dining businesses and shifting consumer buying trends. Yet that didn't deter European holding company JAB from announcing in April 2017 that it would acquire Panera for \$7.5 billion, a premium of more than 50% over the share price at the end of the previous year.

For Panera shareholders, the deal was a windfall that highlighted the advantages of a unique blend of small- and mid-cap equities. Known as SMID-cap stocks, the asset class includes both companies with smaller market capitalizations and stocks at the lower end of the mid-cap valuation range like Panera.

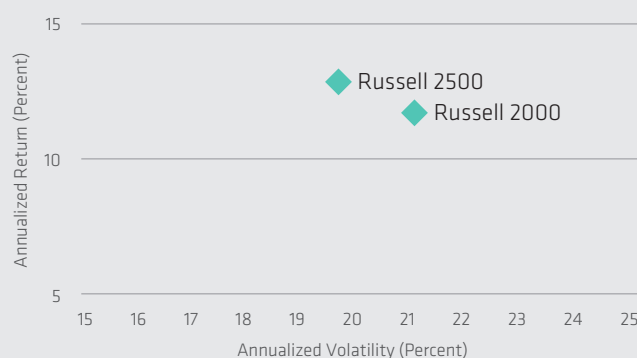
THE SMID SWEET SPOT

SMID-cap investing has attracted growing interest from investors because it targets a compelling sweet spot of risk-adjusted returns. It's based on the high-risk, high-reward aspects of small-cap stock investing, while blending in seasoned medium-size companies that partially offset the challenges and volatility experienced by their smaller peers. Panera was an example of a mid-cap company with a long résumé of earnings growth and seasoned management that was not fully appreciated by the market—and ultimately delivered rewards to investors.

Companies like Panera can help investors in a SMID-cap portfolio enjoy high-octane return potential with a degree of stability. Indeed, over three decades, the Russell 2500 Index—the most

DISPLAY 2: SMID-CAPS OFFER BETTER RISK-ADJUSTED RETURN POTENTIAL

January 1, 1979–September 30, 2017



As of September 30, 2017

Inception date of both indices was January 1, 1979.

Source: FactSet, Russell Investments and AllianceBernstein (AB)

common benchmark for SMID-cap shares—outperformed indices for both small- and large-cap stocks, but with less volatility than the Russell 2000 Index of US small-cap stocks (*Display 2*).

Market conditions are creating fertile ground in SMID-caps for active managers. Inefficiencies created by thin analyst research coverage and distortions of the SMID index widen the window for investors to take advantage of these stocks.

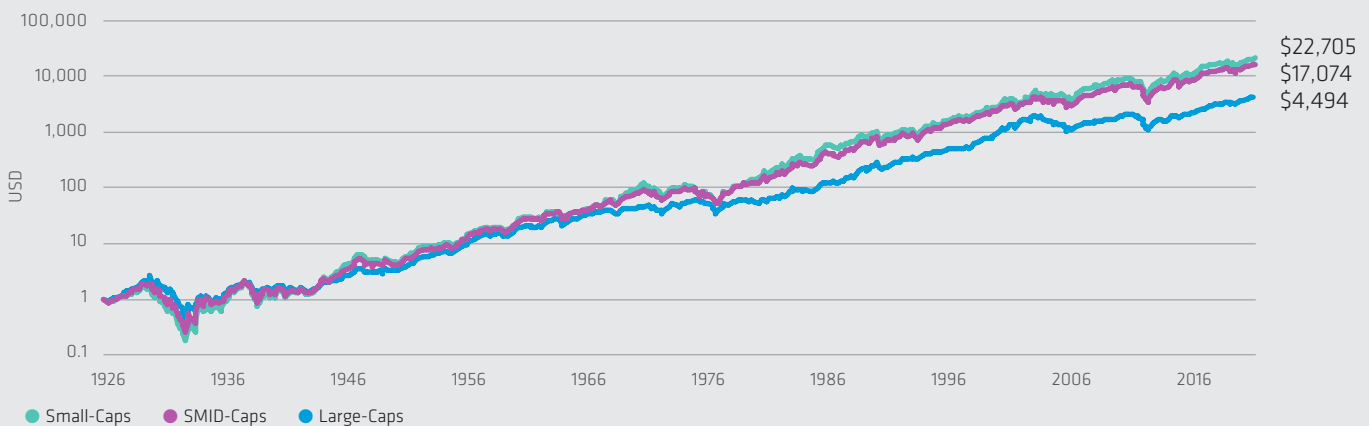
A RIFF ON SMALL-CAP INVESTING

SMID-cap investing is a variation on small-cap investing. Smaller companies have outperformed large-cap stocks consistently for decades. Despite smaller stocks' relatively obscure profile in the

Mid-caps benefit a SMID portfolio with their maturity and tested business models.

DISPLAY 3: SMALLER STOCKS HAVE BEEN STELLAR PERFORMERS HISTORICALLY

Growth of \$1 (February 1, 1926–September 30, 2017)



Past performance is not a guarantee of future results.

Through September 30, 2017

Small-caps represented by deciles six to eight in the CRSP universe of US stocks. SMID-caps represented by deciles three to seven and large-caps by deciles one and two
Source: CRSP and AB

universe of publicly traded equities, their annual returns have exceeded those of their large-cap peers by 150 basis points (b.p.) since 1945, and they have delivered a strong pattern of outperformance for nearly a century (*Display 3*).

But small-cap investing involves added challenges that can give investors pause. Smaller stocks are usually more volatile than larger stocks, and their businesses are often overlooked or misunderstood by the market. Thin trading liquidity makes it harder for traders to efficiently and cheaply build up or pare back their positions. And smaller companies are usually more vulnerable to business downturns or macroeconomic slowdowns.

Widening to a SMID-cap basket of shares allows investors to offset some of this risk while still reaping the returns of small-cap investing. Adding a layer of medium-size companies to a group of smaller companies improves the quality of the blend. Such companies are, on average, better equipped to weather unforeseen shocks to the

economy or financial markets. These mid-caps benefit a SMID portfolio with their maturity, tested business models and higher financial resiliency. Panera, for example, displayed formidable resilience amid a challenging environment for restaurants and retailers.

BIGGER UNIVERSE OF SMALLER STOCKS

Companies like Panera are included in the Russell 2500, which defines the contours of the SMID universe. The index comprises all 2,000 companies from the Russell small-cap index, along with 500 of the next highest mid-cap stocks.

SMID-cap doesn't include micro- or nano-cap stocks. At the low end of the small-cap universe, index constituents are valued at \$37 million. Adding the 500 mid-cap stocks to the mix brings the upper limit of the SMID market valuation to about \$11.8 billion (*Display 4, page 3*).

SMID-caps and small-caps have lots in common. Their performance patterns are very similar, according to a comparison of the returns of the Russell 2500 and 2000 indices. Companies in both groups are usually pure-plays, with a sharp focus on a niche market. Their average weighted market capitalizations may differ, with SMID-caps and small-caps at \$4.7 and \$2.2 billion, respectively, as of September 30, 2017, yet both are dwarfed by companies in the large-cap Russell 1000 Index.

For all their similarities with small-caps, mid-cap businesses put SMID-cap portfolios on a more solid footing. With better business plans and stronger balance sheets, these smaller mid-caps are generally much more profitable than small-caps, while yielding a higher return on investment (*Display 5*). SMID stocks may be more vulnerable to external shocks than their large-cap peers, but they

tend to be much more shock resistant than small-caps. Stronger business fundamentals provide mid-caps with much more insulation than small-caps from blows delivered by external “tail” events unrelated to their operations. That helps explain why the Russell 2500 SMID-cap index has lost slightly less than the Russell 2000 Index during five bear markets since 1979.

GROWING INFLOWS, ACTIVE OUTPERFORMANCE

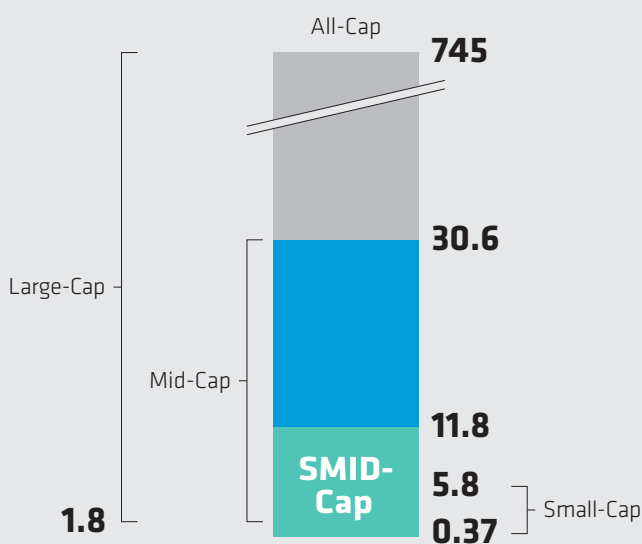
Investors have become much more aware of these benefits over the last two decades. The volume of assets under management in US SMID portfolios grew more than fivefold from 2001 to mid-2017. Though some of that growth is due to share appreciation, a larger portion can be attributed to fresh investment flows into SMID stocks.

The growing attraction is not only about performance patterns. SMID also helps investors optimize their allocations by providing a more even spread of exposure to large-, mid- and small-cap companies. Investing separately in those three categories can leave investors overexposed to mid-cap companies because large-cap funds include mid-cap shares as well. SMID investing helps avoid such a distortion.

When choosing a SMID-cap allocation, there are good reasons for investors to consider actively managed portfolios, in our view. Active investors in SMID-cap stocks have consistently outperformed the benchmark. From January 1990 through September 2017, the median SMID manager has turned in an annualized return of 13.2%,

DISPLAY 4: DEFINING THE CONTOURS OF SMID STOCKS

Market Capitalization of US Stocks (USD Billions)



As of June 30, 2017 (latest Russell indices reconstitution)
 All-cap universe represented by the Russell 3000 Index; large-cap stocks represented by the Russell 1000 Index; mid-cap stocks represented by the Russell Midcap Index; SMID-cap stocks represented by the Russell 2500 Index; small-cap stocks represented by the Russell 2000 Index. Security size based on a combination of the security's market cap and current index membership
 Source: Russell Investments and AB

DISPLAY 5: SMID ADDS A LAYER OF QUALITY

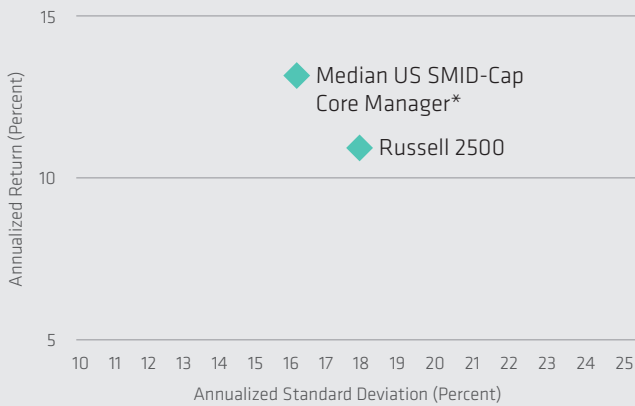
Comparison of Stock Fundamentals

	Russell 2000	Incremental Stocks in Russell 2500
Number of Stocks	2,010	499
Profitable Companies	69.8%	90.6%
Return on Equity	6.4 %	10.2%
Median Operating Margin	8.7%	13.3%
Forecast Long-Term Growth	13.0%	10.0%

As of June 30, 2017 (latest Russell indices reconstitution)
 Source: FactSet, Russell Investments and AB

DISPLAY 6: ACTIVE MANAGEMENT HAS BEEN EFFECTIVE

Return and Volatility: January 1, 1990–September 30, 2017



As of September 30, 2017

* eVestment US Small-Mid Cap Equity universe

Source: eVestment, Russell Investments and AB

beating the annualized return of the Russell 2500 by 224 b.p. (*Display 6*). And for the first nine months of 2017, active funds outperformed the Russell 2500 by 87 b.p.

We believe that the advantages of active investing in SMID-caps are becoming even more pronounced. Amid the rising popularity of SMID-cap investing, alpha potential is being enhanced by two increasing inefficiencies in the SMID market: a dearth of research coverage and distortions within stock indices.

ARID RESEARCH ENVIRONMENT CREATES OPPORTUNITY

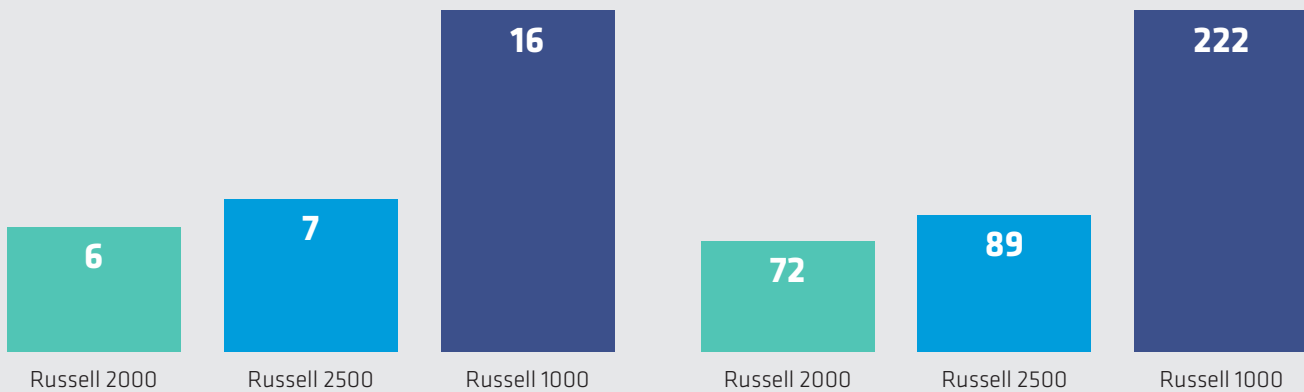
Research coverage makes a big difference in market opportunities. Companies that receive scant coverage are more likely to be misunderstood by investors—and mispriced. That means investors who conduct their own research on these companies can gain a big advantage.

Smaller companies generally receive relatively thin research attention compared to larger peers. On average, only about seven analysts cover each company in the Russell 2500, less than half the average analyst coverage of large-cap Russell 1000 stocks (*Display 7*).

DISPLAY 7: SCANT RESEARCH COVERAGE FOR SMALLER COMPANIES CREATES INEFFICIENCIES

Number of Analysts Covering Average Stock

Mindshare Index*



Past performance and historical analysis do not guarantee future results.

As of September 30, 2017

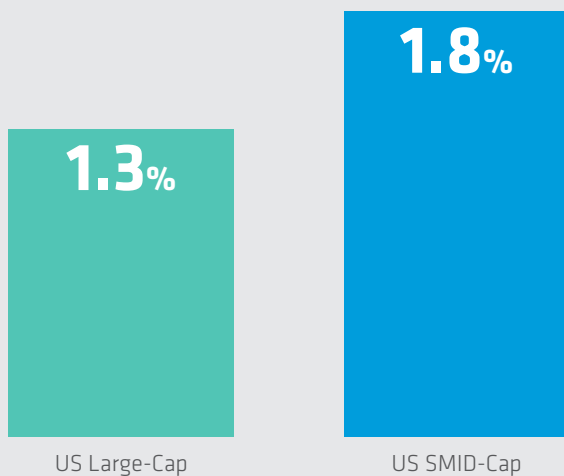
* The average number of analysts times the average number of research notes published by brokers plus the number of estimate changes for each index shown for the year ended December 31, 2016

Source: Bank of America Merrill Lynch, FactSet, Russell Investments, UBS and AB

Smaller companies' business outlooks are often misunderstood or ignored.

DISPLAY 8: ACTIVE SMID MANAGERS SHOW ALPHA ADVANTAGE

Top Quartile Active Manager Annual Excess Return (10 Years)



Past performance and historical analysis do not guarantee future results.

As of September 30, 2017

US large-cap based on eVestment US Large Cap Equity universe vs. S&P 500 Index; US SMID-cap based on eVestment US Small-Mid Cap Equity universe vs. Russell 2500. Returns are before fees.

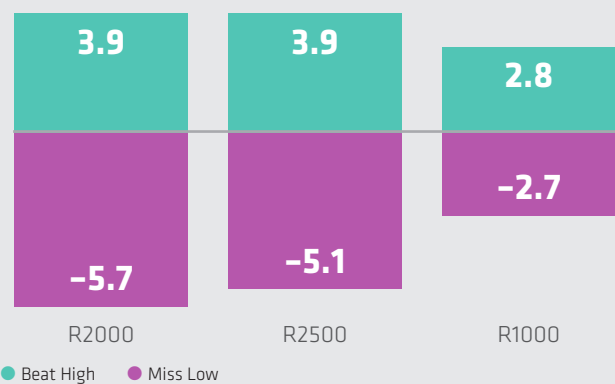
Source: eVestment, Russell Investments, S&P and AB

The disparity is even more pronounced when looking at the Mindshare Index, our proprietary measure that takes into account volume of research and earnings estimate changes. According to the Mindshare indicator, SMID-cap companies receive only about 40% of the research activity that large-cap companies receive.

Because of this research neglect, smaller companies' business outlooks are often misunderstood or ignored. The incomplete coverage results in a wider range of earnings forecasts than with large-caps, so investors who get their forecasts right have much to gain. This helps explain why the top quartile of active managers in SMID has outperformed the benchmark by 50 b.p. more than US large-cap peers over the last 10 years (*Display 8*).

DISPLAY 9: NEGATIVE SURPRISES HIT SMALLER STOCKS HARDER

Earnings Surprise Performance (Percent)*



Past performance and historical analysis do not guarantee future results.

As of September 30, 2017

Trailing 20 quarters

* Performance of stock from two days before to five days after quarterly earnings announcement

Source: Russell Investments and AB

HELEN OF TROY: TURNAROUND STORY

Over the years, only a small group of analysts has covered Helen of Troy, a manufacturer of personal care products under brand names like Revlon and Brut based in El Paso, Texas. In 2014, the company was in trouble. Although it had a successful track record of buying and reviving troubled consumer brands, its shareholders were frustrated because Helen of Troy was struggling to improve the returns from the products that it was acquiring. The shareholders also wanted the company to return more capital to investors.

A management shake-up marked a turning point. The board replaced the company's CEO with a new chief executive who dramatically improved production costs, product marketing and a fragmented corporate culture. From 2014 to 2015, Helen of Troy's profits rose dramatically. Its shares nearly doubled over a year and a half through June 2015.

Many investors ignored Helen of Troy when it was in crisis because of its small size. And with so few analysts covering the company, its recovery potential wasn't widely understood. But active investors with deep knowledge of the company's fundamentals were able to recognize a compelling value investment opportunity with a strong catalyst: the company had the resources to fix itself from within. It just needed better management.

Of course, thin analyst coverage also means there's more risk. The lack of research results in a relatively wide dispersion of earnings estimates, which contributes to more volatile share moves (see "Staying Alert to SMID Risks," *right*). So while the benefits of accurate research are greater for SMID-caps than large-caps, the downside for flawed analysis is more perilous. Earnings shortfalls are punished more severely than positive surprises are rewarded (*Display 9, page 5*). Despite the risks, we believe that the relative lack of information and the share instability still boost the prospects for an active manager with a differentiated view to add value.

NEW REGULATIONS TO FURTHER DRY UP RESEARCH

The landscape for SMID-cap research may be poised to become even more arid. European regulations aimed at boosting safety and transparency in financial markets are expected to prompt financial-services companies globally to spend less money on research.

Known as the second Markets in Financial Instruments Directive, or simply "MiFID II," the rules are set to take effect in 2018. The European regulations include a requirement for fund-management firms to provide more visibility of research costs, which are normally lumped together with trading commissions paid to brokers. That may prompt a dramatic contraction in analyst coverage, because bundling the costs in the past allowed broker research to be subsidized by other revenue-making activities.

Less coverage of smaller companies is good for active managers. In our view, it will create fertile ground for stock pickers to demonstrate their skill at identifying companies with underappreciated return potential.

INDEX DISTORTIONS CREATE OPPORTUNITIES

Active investors can exploit a second inefficiency in the SMID-cap share universe. In the last four years, the SMID-cap benchmark has become increasingly exposed to financials, real estate investment trusts and utility shares. Shares from these three sectors together accounted for almost 30% of the Russell 2500 at the end of October 2017, because of their strong performance over the last few years.

STAYING ALERT TO SMID RISKS CASE STUDY: UNDER ARMOUR

When investing in SMID-cap stocks, it's important to be aware of the risks. The same forces that underpin the outside return potential for smaller stocks also create hazards.

Consider the case of Under Armour (UA). For years, the mid-cap company was a market darling, as it transformed from a performance apparel group selling compression shorts and shirts in the US to a global athletic company selling apparel and footwear across multiple sports categories. Investors were excited about UA's footwear, international operations and expanding women's business. But trouble was brewing. As the company diversified and sales grew rapidly, profit margins fell.

In October 2015, UA's chief financial officer unexpectedly quit the company to join a start-up. Key growth segments and the core apparel business started to slow, driven by changing consumer preferences, product mishaps and a deteriorating US wholesale channel. And a key retail partner, Sports Authority, went bankrupt. In the third quarter of 2016, UA cut its profit forecast but remained upbeat. By the fourth quarter, sharply decelerating sales growth prompted a drastic cut to UA's sales and profit outlook for 2017.

UA's woes were magnified by a poor balance sheet. During its rapid growth phase before 2016, the company made acquisitions and capital investments, funded mostly by debt because of low profitability and negative cash generation. As a result, weakening sales amplified the damage to earnings.

After UA cut its outlook again in mid-2017, the shares slumped, falling to 77% below their peak (*Display*) by the end of October. The lesson for investors? Scrutinize the fundamental business and balance-sheet risks of every portfolio candidate thoroughly, because getting the analysis wrong on a SMID-cap stock can be very costly.

UNDER ARMOUR WAS PUNISHED SEVERELY FOR FAILURE

Under Armour Class A Share Price (USD)



Through October 31, 2017
Source: FactSet

The stocks have been fueled by investors' thirst for income-paying investments with high dividend yields. However, the business fundamentals of many companies in these sectors haven't really improved to support the gains.

Imbalances can be found in other parts of the benchmark—for example, in the healthcare sector. Biotech companies have claimed 6.6% of the Russell 2500 Index, more than 45% above the long-term average. However, investing in smaller biotech companies as a group can be problematic for SMID success; many of the businesses are not yet profitable and the sector hasn't outperformed during bull markets.

Such distortions in the SMID-cap benchmark afford active investors an opportunity to generate alpha by taking contrarian positions on the index and focusing on individual companies.

SENTIMENT AND SYNAGEVA

Synageva BioPharma shares enjoyed the same biotech investor enthusiasm that helped to distort the SMID index. The company's rosy growth prospects stemmed from its genetically engineered treatment for a rare and deadly enzyme deficiency—and a lack of competitors. Positive initial results from the treatment's Phase III trials in June 2014 amplified the optimism.

Despite those growth prospects, Synageva shares lacked stability. Any hiccup or delay in the clinical process had the potential to devastate the company's valuation. The stock exhibited extreme sensitivity to regulatory policy on clinical trials and to the fate of other companies in the biotech realm.

Instead of becoming bogged in episodic sentiment toward the biotech sector, managers who kept focused on Synageva's scientific know-how and competitive landscape were richly rewarded. Four years after its initial public offering, Synageva was acquired by Alexion in 2015. The \$8.4 billion deal represented a premium of

140% to Synageva's market capitalization before the acquisition announcement. What's more, the acquisition highlighted how active growth investors can exploit market inefficiencies and volatility in the SMID universe by staying focused on business fundamentals.

GROWTH AND VALUE: COMPLEMENTARY APPROACHES

Investors can capture the power of SMID stocks in various ways. Both growth and value investing offer different angles on smaller stocks, with complementary benefits.

Growth managers seek to determine if a company can live up to bullish market expectations about its earnings prospects. Since these companies are usually priced at a premium, businesses that fail to meet expectations face harsh punishment from investors. Positive surprises, on the other hand, generate share-price jumps.

Our strategy for picking SMID-cap growth standouts keys on identifying shifts in a business, such as a new marketing approach (like Panera Bread's in-store enhancements) or a new product cycle (like the Synageva disease treatment) with the potential to drive earnings faster than the market anticipates. To identify potential outperformers, we focus on positive earnings surprises and revisions, as well as stock price momentum. SMID companies that score high on these factors have delivered much stronger outperformance than similar large-cap stocks over the last two decades (*Display 10, page 8, left*).

Value investors can reap similar rewards by exploiting the inefficiencies in the SMID universe. Yet the value investing discipline will lead to different types of company stories, factors and inflection points.

Value investors seek companies whose stock has been weighed down excessively because of a controversy that clouds earnings expectations. The challenge is to identify which companies have been unfairly punished and are capable of returning to normal earnings—and when to get in position.

FINDING CATALYSTS FOR A RECOVERY

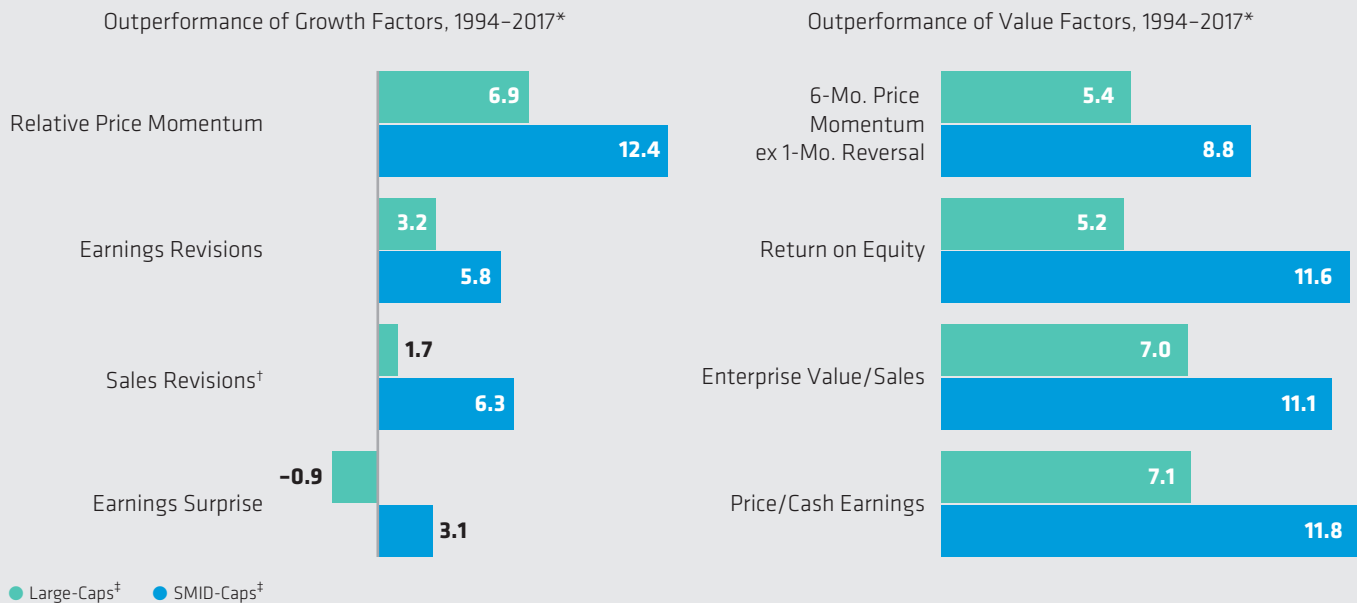
Our strategy for picking SMID value stocks involves two elements. We look for an attractive valuation based on earnings, sales or cash flow. SMID companies that are attractive based on these metrics tend to deliver much more robust alpha than their large-cap peers (Display 10, right). Adding to the mix a management change or a stock buyback can spur a market reassessment of a company's business fundamentals and value—as in the case of the turnaround at Helen of Troy.

To find stocks with the strongest long-term potential, it's essential to look beyond the raw metrics. Fundamental analysis of a company's business environment, competitive landscape and management capabilities completes the picture.

Spirit AeroSystems, a longtime maker of passenger jet parts for Boeing based in Wichita, Kansas, faced a crisis several years ago that made it an attractive value investment. Like many companies in the US manufacturing sector, it was grappling with cost overruns in 2012. It also needed to obtain better terms for its business with Boeing.

But after bringing in new management, Spirit was able to streamline manufacturing and significantly reduce costs. The company also renegotiated better sales terms with Boeing. The combination of leaner costs and improved revenue from Boeing boosted Spirit's profitability and infused the shares with a new spirit of their own.

DISPLAY 10: GROWTH AND VALUE SIGNALS HELP IDENTIFY SMID OPPORTUNITIES (PERCENT)



As of September 30, 2017

* Quintile 1 vs. quintile 5

† Due to data availability, the time frame measured is 2002–2017.

‡ Large-caps represented by Russell 1000. SMID-caps represented by Russell 2500

Source: FactSet, Russell Investments and AB

To identify value opportunities like Spirit or growth stocks like Synageva, investors need to draw on different types of metrics and focus on different sources of return potential. Yet there is a common denominator in our approach to both value and growth investing: a highly selective and disciplined focus in choosing SMID-cap stocks for a portfolio. And by diversifying between value and growth, investors can benefit from their uncorrelated performance patterns.

SMID SOLUTIONS FOR CHANGING MARKETS

In a world of lower expected returns and heightened uncertainty, we believe that SMID-cap stocks are an important component of an equity allocation. With returns across asset classes expected to be

much lower in the coming years, according to our forecasts, SMID stocks can help investors enjoy the high return potential of small-cap investing while taking the edge off the accompanying risk, in our view.

At the same time, investors are coping with heightened uncertainty about market valuations, macroeconomic growth and political risk. Selective approaches to SMID stocks can identify companies that are attractively valued or have unappreciated growth prospects, as well as long-term return potential that can transcend changes in the policy or political environment. Following the middle road to SMID-cap stocks is a great way to capture strong return potential—and to bridge the gaps in equity allocations.

NEW YORK

1345 Avenue of the Americas
New York, NY 10105
(212) 969 1000

LONDON

50 Berkeley Street, London W1J 8HA
United Kingdom
+44 20 7470 0100

SYDNEY

Level 32, Aurora Place, 88 Phillip Street
Sydney NSW 2000, Australia
+61 2 9255 1200

TORONTO

Brookfield Place, 161 Bay Street, 27th Floor
Toronto, Ontario M5J 2S1
(416) 572 2534

TOKYO

Marunouchi Trust Tower Main 17F
1-8-3 Marunouchi, Chiyoda-ku
Tokyo 100-0005, Japan
+81 3 5962 9000

HONG KONG

39th Floor, One Island East, Taikoo Place
18 Westlands Road
Quarry Bay, Hong Kong
+852 2918 7888

SINGAPORE

One Raffles Quay
#27-11 South Tower
Singapore 048583

References to specific securities are presented to illustrate the application of our investment philosophy only and are not to be considered recommendations by AllianceBernstein L.P. The specific securities identified and described herein do not represent all of the securities purchased, sold or recommended for the portfolio, and it should not be assumed that investments in the securities identified were or will be profitable.

Note to All Readers: The information contained here reflects the views of AllianceBernstein L.P. or its affiliates and sources it believes are reliable as of the date of this publication. AllianceBernstein L.P. makes no representations or warranties concerning the accuracy of any data. There is no guarantee that any projection, forecast or opinion in this material will be realized. Past performance does not guarantee future results. The views expressed here may change at any time after the date of this publication. This document is for informational purposes only and does not constitute investment advice. AllianceBernstein L.P. does not provide tax, legal or accounting advice. It does not take an investor's personal investment objectives or financial situation into account; investors should discuss their individual circumstances with appropriate professionals before making any decisions. This information should not be construed as sales or marketing material or an offer or solicitation for the purchase or sale of any financial instrument, product or service sponsored by AB or its affiliates. **Note to Canadian Readers:** This publication has been provided by AB Canada, Inc. or Sanford C. Bernstein & Co., LLC and is for general information purposes only. It should not be construed as advice as to the investing in or the buying or selling of securities, or as an activity in furtherance of a trade in securities. Neither AB Institutional Investments nor AB L.P. provides investment advice or deals in securities in Canada. **Note to European Readers:** This information is issued by AllianceBernstein Limited, a company registered in England under company number 2551144. AllianceBernstein Limited is authorised and regulated in the UK by the Financial Conduct Authority (FCA—Reference Number 147956). This information is directed at Professional Clients only and should not be relied upon by any other persons. **Note to Readers in Japan:** This document has been provided by AllianceBernstein Japan Ltd. AllianceBernstein Japan Ltd. is a registered investment-management company (registration number: Kanto Local Financial Bureau no. 303). It is also a member of the Japan Investment Advisers Association; the Investment Trusts Association, Japan; the Japan Securities Dealers Association; and the Type II Financial Instruments Firms Association. The product/service may not be offered or sold in Japan; this document is not made to solicit investment. **Note to Australian Readers:** This document has been issued by AllianceBernstein Australia Limited (ABN 53 095 022 718 and AFSL 230698). The information in this document is intended only for persons who qualify as "wholesale clients," as defined in the Corporations Act 2001 (Cth of Australia), and should not be construed as advice. **Note to Singapore Readers:** This document has been issued by AllianceBernstein (Singapore) Ltd. ("ABSL", Company Registration No. 199703364C). ABSL is a holder of a Capital Markets Services Licence issued by the Monetary Authority of Singapore to conduct regulated activity in fund management and dealing in securities. AllianceBernstein (Luxembourg) S.à.r.l. is the management company of the portfolio and has appointed ABSL as its agent for service of process and as its Singapore representative. This document has not been reviewed by the MAS. **Note to Hong Kong Readers:** This document is issued in Hong Kong by AllianceBernstein Hong Kong Limited (聯博香港有限公司), a licensed entity regulated by the Hong Kong Securities and Futures Commission. This document has not been reviewed by the Hong Kong Securities and Futures Commission. **Note to Readers in Vietnam, the Philippines, Brunei, Thailand, Indonesia, China, Taiwan and India:** This document is provided solely for the informational purposes of institutional investors and is not investment advice, nor is it intended to be an offer or solicitation, and does not pertain to the specific investment objectives, financial situation or particular needs of any person to whom it is sent. This document is not an advertisement and is not intended for public use or additional distribution. AB is not licensed to, and does not purport to, conduct any business or offer any services in any of the above countries. **Note to Readers in Malaysia:** Nothing in this document should be construed as an invitation or offer to subscribe to or purchase any securities, nor is it an offering of fund-management services, advice, analysis or a report concerning securities. AB is not licensed to, and does not purport to, conduct any business or offer any services in Malaysia. Without prejudice to the generality of the foregoing, AB does not hold a capital-markets services license under the Capital Markets & Services Act 2007 of Malaysia, and does not, nor does it purport to, deal in securities, trade in futures contracts, manage funds, offer corporate finance or investment advice, or provide financial-planning services in Malaysia.

AllianceBernstein Investments, Inc. - member of FINRA in the United States.

The [A/B] logo is a registered service mark of AllianceBernstein and AllianceBernstein® is a registered service mark used by permission of the owner, AllianceBernstein L.P.

© 2017 AllianceBernstein L.P., 1345 Avenue of the Americas, New York, NY 10105

