BARRON'S 400

10-Year Anniversary

September 2017

MarketGrader
RESEARCH & INDEXES

The key long-run objective of a lifetime of investing in stocks is to grow your capital, yet investors needlessly pursue a tortured and complicated path by focusing on the short-term, usually with poor results. With this in mind, we, at Market-Grader have come to believe that the further away investors stray from focusing on investment outcomes, the further away they'll be from achieving them. Broad market measures can play a significant role in helping investors focus on their objectives and it was in this spirit that ten years ago this month Barron's introduced the Barron's 400 Index (B400) as a yardstick of long-term capital appreciation of U.S. equities. Long-term capital appreciation being, of course, the key long-run objective of owning stocks. Consequently, now, with the benefit of a decade's experience publishing the index, a reflection on lessons learned seems appropriate as we assess how faithfully the index has fulfilled its stated objective and what investors may expect from it in the next decade.

On rereading the original story introducing B400, published on September 3, 2007, three thoughts came to mind. The first and most striking one was that we couldn't have picked a worse time to debut the index[1]. B400 went live for the public a scant five weeks before the market top that preceded one of the biggest drawdowns in its history, scarring an entire generation of investors in a way that inevitably altered the entire global investing landscape. Hindsight, though, has

a funny way of dulling the painful and highlighting the positive – especially for an optimist. In this case, in only a decade's worth of performance, it allows us today to take stock of an index designed for long-term capital appreciation that has experienced almost two full market cycles. To paraphrase Michael Santoli, former Barron's editor and author of the inaugural B400 article, the Barron's 400 Index was "built not as a mere reference point but as a money-making tool for investors." In no uncertain terms Barron's labeled the index a selection of "America's Most Promising Companies." However, given the timing, within a year the stock market would find itself in the grip of a prolonged decline that would take B400 from 321, the level when it first went live, to 273 on September 16, 2008, the day after Lehman Brothers filed for bankruptcy, a drop of 15%. However, this was only a precursor of things to come; when investors began to question the credibility of the world's financial system that fateful month, declines of 20% and 11% followed for the months of October and November 2008, respectively. It would be another four months before the bloodletting would stop, but not before B400 had fallen by 58% from peak to trough. By way of reference, both the S&P 500 and Russell 3000, representing over 96% of total U.S. stock market capitalization, fell by 57% also from their peaks to troughs. This savage market decline had taken down with it companies of all stripes, "America's Most Promising" included; in the process, though, it created the biggest buying opportunity in a generation for the few still willing to buy. More on this later.

1. B400 is a collaboration between Barron's and MarketGrader.

BARRON'S400

> **If you can't explain it simply, you don't understand it well enough.**
> Albert Einstein

The second thought that came to mind on rereading that 2007 article reminded us of the quote above, often attributed, not without dispute, to Albert Einstein. Regardless of whether those were his exact words, and clarifying that we are not equating B400 to the theory of relativity, Barron's introduction of B400 to its readers was clear and succinct. In introducing B400 Barron's didn't use terms like 'smart beta,' 'multi-factor models' or the myriad terms used today to describe indexes that employ selection and weighting methodologies other than market capitalization. Barron's did not claim in its introduction that one particular risk factor does better than another over market cycles (though some might do), nor did it present B400 as an unassailable, will-never-fall-index. Barron's reasoned, simply, that by selecting the most fundamentally sound companies in the broad universe of U.S. listed stocks, B400 stood to do a little better than the average, or the broad market itself, provided that such stocks were bought at a reasonable price; hardly the stuff of atomic scientists. Once again to paraphrase the author, "the index amounts to a twist on a growth-at-a-reasonable-price, or GARP approach." We will analyze how this has actually played out in the last decade below, but first our third thought on rereading the introductory Barron's story.

> **A common man marvels at uncommon things. A wise man marvels at the commonplace.**
> Confucius

The Barron's story introducing B400 was written in Barron's customary lucid and simple language and at the same time explained the intricate process behind the index's construction that is based on MarketGrader's stock grades. MarketGrader uses a proprietary methodology to regularly *grade* nearly all investable stocks in the U.S. The Barron's story captured the essence of MarketGrader's focus on analyzing,

interpreting and presenting the financial results of almost all U.S. public companies and their ability to deliver shareholder returns, not unlike what Barron's writers and editors have done for almost a century, though from a qualitative perspective, of course. Barron's 400 was thus dubbed a "stock picker's" index, a moniker we hardly dislike, with the caveat that the stock picking, or stock selection, is rules-based. We would add that B400 is an index that is not focused on eliminating stock market risk (is there such a thing?), or on hitting home runs by exploiting an advantage not available to the average investor. Rather, it is a collection of the country's best companies, all given an equal opportunity to contribute to the index's long-term performance regardless of size, sector or business model. It is, in other words, not a home-run hitter but an above average hitter of singles and doubles. The pages below will illustrate how this approach (performing a little better than average) has worked for investors, beginning at the outset of the biggest market meltdown in a century. The reader can judge the index's results—and the benefits of owning stocks for the long run—for himself.

Anatomy of a Decade – Ten Years in the Life of the Barron's 400 Index

A month—to the day—after Bear Stearns announced the liquidation of two hedge funds laden with mortgage-backed securities—whose troubles a year and a half earlier had augured the unraveling of one of the biggest manias in financial markets history—Barron's, one of the country's most venerated financial publications, was getting ready to unveil its new stock market index. On the issue of August 3, 2007 (the first after the aforementioned liquidation), no less than Alan Abelson, the widely admired author of the magazine's Up and Down Wall Street column at the time, wrote when referring to recent tremors in the mortgage market: "truth is that, far from subsiding or even being content demolishing the subprime market, the dark woes that have been savaging mortgage credit are proving highly infectious", going on to predict that this "would be strictly bad news not only for the early visible casualties like the mortgage finance outfits, investment banks and other mortgage-related companies and their stocks, but for the economy as a whole[2]." In a little more

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2. Alan Abelson, *The Roof Falls In* – Up and Down Wall Street, Barron's Magazine, August 3, 2007

than a year after his prescient column was published, Merrill Lynch, Lehman Brothers, Washington Mutual, Wachovia, AIG, Fannie Mae and Freddie Mac would have ceased to exist as investors knew them at the time, credit would have evaporated from the world's capital markets and banking systems and the global economy would find itself in the throes of a deep recession. And six months after that, U.S. stocks would have lost over half of their value, scarring an entire generation of investors for life. So, it was at the outset of this gathering storm that a month—to the day—after Abelson's column was published that the Barron's 400 Index would be introduced to investors in what can only be described today as a 'baptism by fire.'

Despite such inauspicious start, at the outset of one of the biggest drawdowns in stock market history, an investor who had put $1 into B400 on the day it launched would have seen it turn exactly into $2 after 10 years (excluding dividends)[3], which represents an annual return of 7.22%. That same $1 invested in the overall market, as measured by the Russell 3000 Index (which will be used throughout this document as a benchmark of the overall U.S. stock market) would have resulted in $1.71, an annual return of 5.53%. Meanwhile, an investor that had favored large U.S. stocks, as measured by the S&P 500 Index, would have seen their $1 grow to $1.68, a return of 5.31% per year. Considering the magnitude of the market's dislocations that followed the launch of the index and the palpable fear by investors who thought they might not again see the return of their principal in their lifetimes, a doubling of an investment made 10 years ago sounds today like the deal of the century, at least to those of us who lived through the frightful period now known as the Financial Crisis. How was this achieved?

3. Investors cannot invest directly in an index. This example is based on the price-only returns of each of these indexes and does not take into account potential management fees of a fund tracking each index or transaction costs associated with buying such funds. Source of prices: Bloomberg.

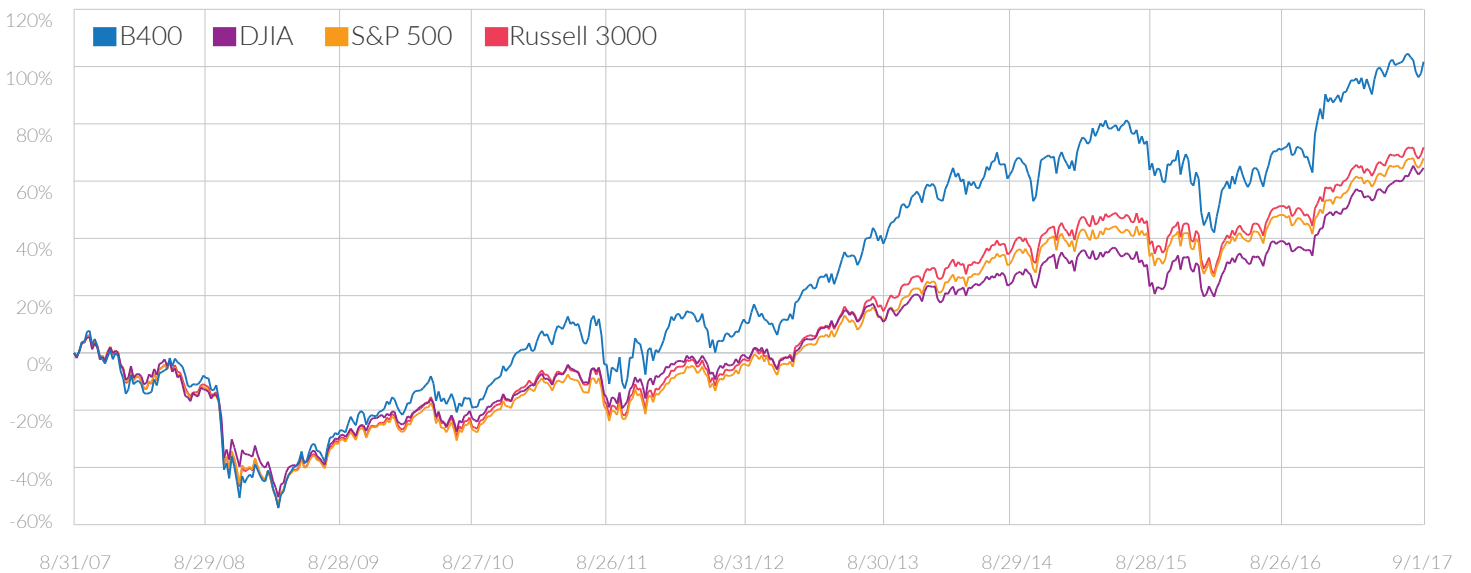**Figure 1A. Barron's 400 Index, 10-Year Performance vs. Select Benchmarks through Sept. 1, 2017**

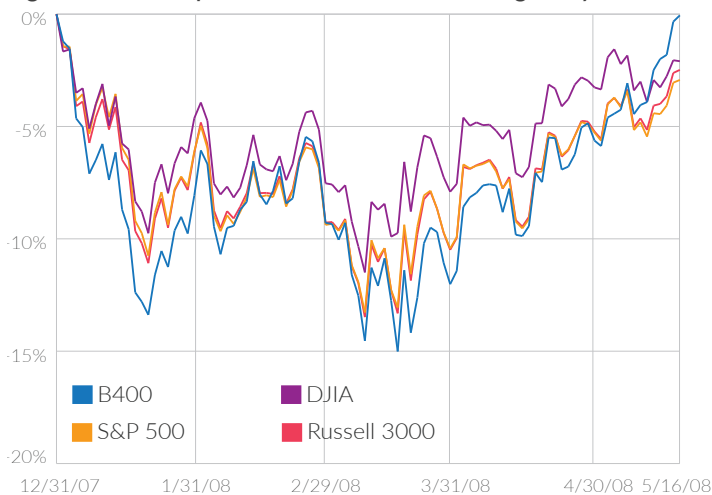**Figure 1B. Barron's 400 Index, 10-Year Price Returns vs. Select Benchmarks**

Annualized	B400	S&P 500	DJIA	Russell 1000	Russell 3000
1-Month	-1.25%	0.05%	0.26%	0.08%	-0.04%
3-Months	1.40%	2.48%	4.47%	2.50%	2.50%
1-Year	16.56%	13.85%	19.28%	13.84%	13.81%
3-Years	6.10%	7.25%	8.68%	7.01%	6.94%
5-Years	12.70%	11.93%	10.89%	12.06%	12.02%
10-Years	7.22%	5.31%	5.09%	5.51%	5.53%
Cumulative					
10-Years	101%	68%	64%	71%	71%

Sources: MarketGrader Research, Bloomberg

BARRON'S**400**

B400 closed its first (partial) calendar year in the red with a cumulative loss of 1% since its launch in early September 2007. This trailed the Russell 3000's 0.2% and the S&P 500's 0.3% price returns for the comparable period. As the credit market continued to deteriorate and investors' fears of a spillover into other financial markets grew, all three indexes opened 2008 with a thunderous drop, falling 5.4%, 4.7% and 4.5%, respectively, in just the first week of trading, perhaps anticipating the perilous times that still lay ahead. By the end of February B400 was already down 10%, in line with both the Russell 3000 and the S&P 500. By then both the Federal Reserve and the government substituted what had to date been relatively tepid measures to contain the crisis with a more forceful response, hoping to instead get ahead of it. In January, in two separate FOMC meetings, the Fed cut the federal funds rate by a combined 125 basis points to 3 percent; and following congressional action, President Bush signed into law the Economic Stimulus Act of 2008 on February 13th. The Fed followed January's aggressive rate cuts with extraordinary steps to inject liquidity into the banking system through an alphabet soup of monetary injections that included the Term Auction Facility (or TAF, which facilitated short term funds to banks in exchange for various forms of collateral), the Term Securities Lending Facility (or TSLF, which provided liquidity to the U.S. Treasury against various forms of collateral that included federal agency mortgage-backed securities), and the Primary Dealer Credit Facility (or PDCF, designed to extend credit to primary dealers against investment grade securities)[4]. To top things

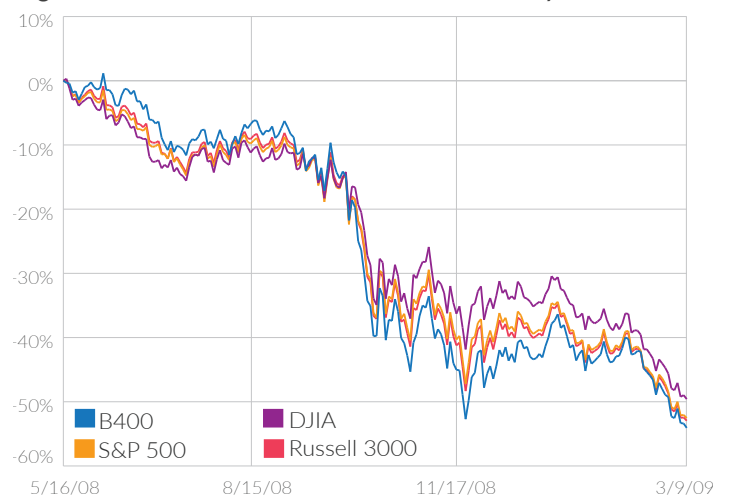4. Federal Reserve Bank of St. Louis, The Financial Crisis, Full Timeline. https://www.stlouisfed.org/financial-crisis/full-timeline

off, by the end of March the Fed had arranged (and agreed to finance) the takeover of Bear Stearns, considered the weakest of all the nation's investment banks with what was then considered the worst exposure to impaired mortgage securities, by JPMorgan Chase, considered by most investors the country's strongest bank. Lastly, by the end of April, the federal funds rate had been cut an additional 100 basis points to 2 percent.

As a result of such exertions many equity investors who felt an 'all-clear' had been sounded by the Fed, bid up stocks in what seemed at the time a reversal of the drawdown that started in the fall. The Barron's 400 index thus came within a hair's breadth of going into the black for the year when it closed the week of May 16, 2008 down only 0.8% year-to-date, a far cry from the -13% year-to-date return it had clocked through the end of March. The market as a whole also recovered much of its 2008 losses but it never really came close to break even, with the Russell 3000 closing that same week of mid-May down 3.12% for the year (Figure 2). The recovery in stock prices was short-lived as the selloff resumed during the second half of May and went on to gather speed through the summer as the credit crisis became a global financial crisis verging on a total meltdown, culminating in the eventful week of September 15 when Lehman Brothers filed for bankruptcy protection, Merrill Lynch was rescued by Bank of America and AIG was essentially taken over by the Federal Government. The stock market would not hit bottom until March 9, 2009 but not before losing half of its value from its top in October 2007 when B400 was barely a month old (Figure 3).

Figure 2. False Hope - 2008 Price Returns Through May 16

Sources: MarketGrader Research, Bloomberg

Figure 3. The Selloff Continues - Price Returns May '08 - March '09

BARRON'S**400**

Based on weekly price returns, B400's total drawdown from the day it was launched in September 2007 through March 6, 2009 (the Friday before the market bottom on March 9th), was -54.2%, largely in line with the market's 53.8% decline (Russell 3000) and the S&P 500's 53.6% drop. The more concentrated Dow Jones Industrial Average, by the way, fared marginally better, with a 50.4% decline, also from September 2007. And while looking back to early 2009 most investors would today agree that the indiscriminate selling that took place since the summer of 2008 created one of the best buying opportunities in history, a closer look at company valuations underscores the extent of the panic and the irrationality with which investors reacted to the crisis.

According to an analysis prepared by MarketGrader for clients in October 2008, with the stock market down 40% for the year, a month after Lehman's collapse S&P 500 companies were trading at an earnings yield (the inverse of the price to earnings ratio) of 6.69%, in line with corporate bonds[5], following what was supposed to be a *credit* crisis. Worse yet, fundamentally strong companies, as measured by B400, were trading at a *discount* to corporate debt, based on B400's earnings yield of 8.36% at the time. Such yield, by the way, was also 59 basis points *higher* than the 7.77% yield on a widely followed emerging markets bond index[6]. In other words, in the depth of the crisis, investors were willing to pay more for the debt of emerging markets companies than they were for the stocks of some of the best companies in the U.S. And in a textbook case example of 'the baby being thrown out with the bathwater,' financial companies in B400 at the time were averaging an earnings yield of 11.76%, 114 basis points *higher* than an index of high yield bonds[7], never mind that the index didn't own any of the toxic names in the eye of the storm (with the exception, perhaps, of Goldman Sachs, whose fundamentals at the time, based on MarketGrader's analysis, looked pretty decent).

In a way, though, such overreaction was somewhat understandable given the breadth and depth of the market collapse. For perspective, these last 10 years, through B400's

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5. Dow Jones Corporate Bond Index

6. J.P. Morgan EMBI Global Total Return Index

7. BofA Merrill Lynch US High Yield 100 Index

anniversary on September 3, 2017, were comprised of a total of 523 weeks. Five of the ten worst weeks among all 523 weeks were registered in a two-month span, between October and November 2008. This was not only the case for B400 but also for the major benchmarks, including the Russell 3000. The worst week of the decade, by the way, was the one ended on October 10, 2008, during which B400 lost 18.2%, exactly the same as the S&P 500 and the Dow; the Russell 3000 lost 18% even. That was the week, by the way, during which the Fed had to rescue the commercial paper market in addition to cutting the fed funds rate by an additional 50 basis points to 1.50 percent. It also followed the week during which Congress passed and President Bush signed into law the Emergency Stabilization Act of 2008, which established the $700 billion Troubled Asset Relief Program (or TARP).

The eighth worst week of the decade, based on stock market returns, was actually registered immediately before the market hit bottom on March 9, 2009. That week B400 lost an additional 8% while the Russell 3000 lost 7.3%.

The Barron's 400 index had thus lost 54% of its value since it was first introduced a little over a year and a half earlier, exactly the same as the overall market. What came next, though, could scarcely be anticipated by even the most seasoned and resilient investor; furthermore, the recovery in U.S. stocks from the March 2009 bottom vindicated the approach followed by B400 of selecting the most fundamentally sound stocks in the U.S. according to MarketGrader's GARP methodology, equally weighting them and rebalancing itself every six months. In fact, as fortune would have it, B400 was scheduled for its semi-annual rebalance the very next week after the stock market bottomed, which means that on March 17, with stock prices at historical lows, the index got to select a brand new portfolio and equally weight its constituents. This left B400 with one of the most attractive portfolios in its history by the time its rebalance was completed on March 20th. The new crop of 400 companies would sport an average trailing P/E ratio of 11.5 and a forward P/E, based on expected earnings for the next 12 months, of 14.5. Additionally, all companies selected that week had a market cap that, on average, was only seven times larger than their

respective operating income, underscoring how little investors were paying for actual income earned by some of the country's best companies. To complete the valuation picture, the entire index was also trading at an average of 2.3 times tangible book value, also very low by historical standards. By comparison, at the index's 10-year anniversary, the index traded at about twice that level based on an average price to tangible book value of 5.5. The 20 financial companies selected to the index at the time, by the way, were trading at even lower valuations as a result of the panic in the sector. In March 2009 the 20 companies in that sector selected to B400 averaged a P/E ratio of nine times trailing 12-month earnings and a price to tangible book ratio of 1.3.

The Recovery

Following the market's bottom on March 9, 2009, it would take the Barron's 400 Index 93 weeks to recover its losses and get back into the black, which it did on the week ended on December 17, 2010, three years and three months after its launch. The market, by the way, still remained over 13% down from September 3, 2007 at the time; it would need another 54 weeks (a whole year plus two additional weeks) to get back into the black. B400 had posted 62 weeks of positive returns to 31 weeks of negative returns since March 2009, a 2:1 ratio, while the Russell 3000 had only registered 60 positive weeks to 33 negative weeks. While this might not seem too big a difference, it is when you consider that B400's gain during this period on positive weeks was 2.46% while the Russell 3000's was 2.26%. Furthermore, B400 had posted weekly returns greater than 3% in 22 weeks, while Russell 3000 only had 15 of those during this 93-week span. Figure 4 illustrates B400's round trip back to black since its launch in September 2007.

Figure 4. Barron's 400 Index Return to Break-Even Since Launch
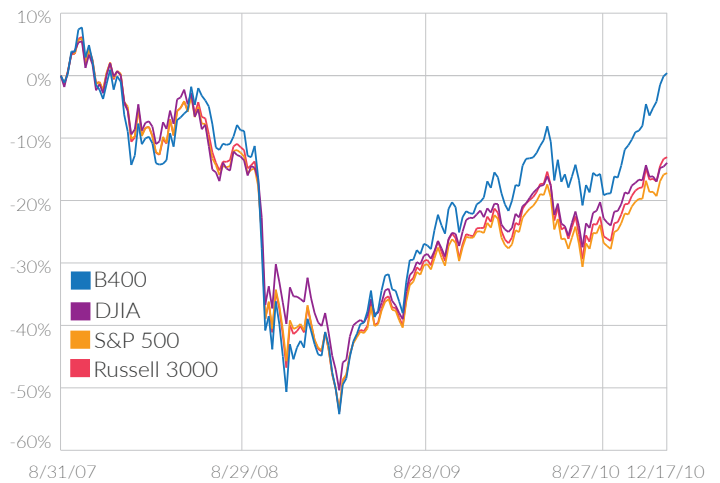
Sources: MarketGrader Research, Bloomberg

The following year, 2011, would prove to be another challenging one for investors, with trouble originating once more in credit markets. This time the source would be sovereign debt, more specifically in Greece, whose leverage, more than three times the size of the country's economy (depending on which statistician you asked) and a rapidly approaching series of scheduled repayments, at one point had investors questioning the continuity of the Eurozone itself. The country's troubles also shed a light on other highly indebted countries in southern Europe, namely Portugal, Spain and Italy, whose sovereign yields spiked enough to put the common currency into question. Yet, another source of market instability was a less likely one, also from a sovereign debt perspective: the United States. Once again, problems brewing earlier that year came to a head during the summer, following a heated political debate about raising the statutory limit of U.S. federal government borrowing, which requires an act of Congress. While Congress and the President were eventually able to reach an agreement on raising the country's debt limit, the process was not without consequences, the direst of which was a downgrade of U.S. sovereign debt by Standard & Poor's on August 5th. In the two weeks leading up to the downgrade, B400 lost almost 15%, while the Russell 3000 fell 12%. By the end of September 2011, B400 would reach its maximum drawdown since it had made it back into the black in December 2010, putting the index back into the red relative to its launch date in 2007, with a cumulative price return of -12.5% compared to -21.9% for the Russell 3000. Its

recovery, though, would be much quicker this time around, as the index needed only 12 weeks to get back into positive territory. It would be the last time it would be in the red, on a cumulative basis, since its launch. On the other hand, the market would still have to wait until the first week of 2013 to once again see daylight. By January 4, 2013, 55 weeks after B400 had returned to break-even, the Russell 3000 closed once again in the black, based on a cumulative price return of 2.2% from September 3, 2007. B400, by then, was up 17.6% (Figure 5).

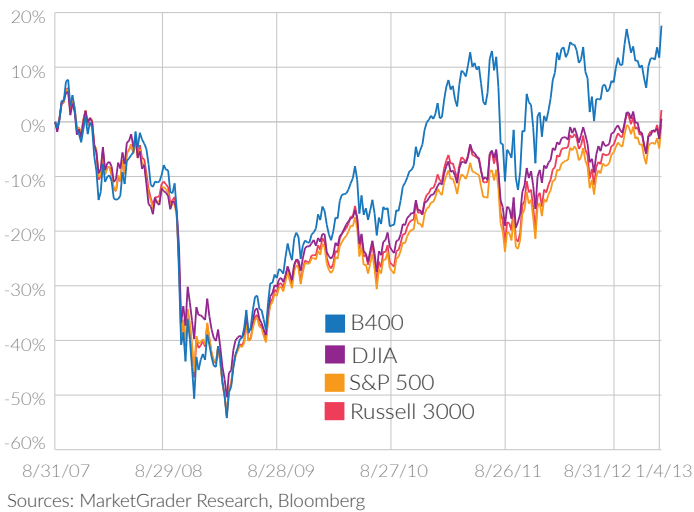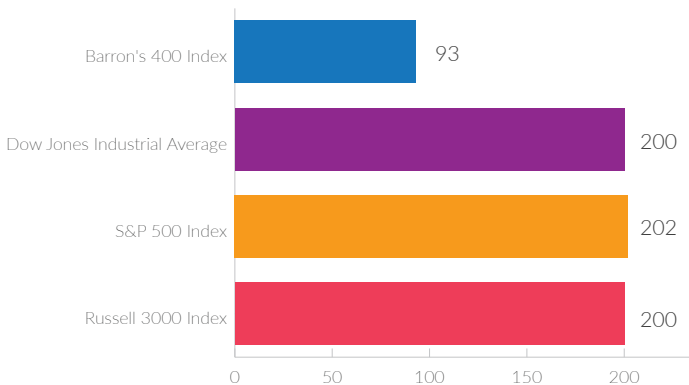**Figure 5. Market Benchmarks Return to Break-Even from 2007 Top**

Sources: MarketGrader Research, Bloomberg

Figure 5B. Number of Weeks Back to Break-Even from March 2009 Bottom

Sources: MarketGrader Research, Bloomberg

In the years between 2013 and 2017, one could argue, the market returned to a quieter environment compared to the preceding five tumultuous years, with returns driven more by company fundamentals and asset allocation decisions rather than by crisis management and extraordinary government exertions, though not entirely. To be clear, the unprecedent-

ed easy money policies of central banks around the world, implemented since the Financial Crisis, in our view continued to play an outsized role in the pricing of risk assets through the rest of the decade just ended. This can be seen, among other places, in the significant outperformance of growth over value and large cap stocks over small cap stocks during the latter part of the ongoing market rally, a situation that gradually began to change following the 2016 U.S. presidential election. And, as fortune would have it, the Barron's 400 Index would reach a new high-water mark a scant six weeks before its 10-year anniversary, when it closed the week of July 21 with a cumulative price return of 104.5% since September 2007. On the date of its anniversary the index closed up 102% for the decade, based on price returns, 30 percentage points higher than the U.S. market, fulfilling its promise to investors at the start of one of the most eventful decades not only in U.S. market history but in the history of capital markets globally. The rest of this paper will explore how such returns were achieved as investors may look ahead to the next decade and seek to calibrate their exposures within their U.S. equity allocation.

Does GARP Really Work?

The Barron's 400 Index is reconstituted and rebalanced (equally weighted) twice a year with the holding period for each semi-annual stock selection being six months. Since the index is comprised of 400 components, this means that a total of 8,000 companies were selected into the index in last 10 years (400 components at each of its sem-iannual rebalance). Of course this doesn't mean that the 8,000 companies selected were all unique[8]. Analyzing these 8,000 selections, however, allows us to test whether the index's stock selection methodology was successful and, if so, to what extent. In other words, what was the index's batting average for the entire 10-year period?

Of the 8,000 positions held by B400, 4,643 turned in a positive performance during their six-month holding period, compared to 3,357 that resulted in a negative return. This could be summarized as a ratio of 1.38 positive positions

8. The 8,000 names would be unique if the turnover at each rebalance was 100% (B400 has an average turnover of 41%), and having been in the index, companies were not allowed to be part of the index again.

to each negative position. That was, of course, across all 20 six-month periods in the decade. B400 earned a positive cumulative return in 14 of the 20 periods compared to a negative return in just six of them, a ratio of 2.3-to-1. Why is this important? Well, when your index is labeled a "stock picker's" index, you want to make sure it picks more stocks that go up than stocks that go down while you own them; otherwise, you're better off sticking with simply owning the market or paying an active manager to manage your money. Put another way, if you can't be better than average, at least make sure you're average.

B400's stock picking, fortunately, seems to have worked as advertised 10 years ago, both on an absolute basis and relative to the market (the definition of average). All 8,000 positions held by B400 in the last 10 years earned an average price return of 4.92% in each holding period. And while its losing positions were down 18.91%, on average, its winning positions were up 22.15% on average as well. Thus, not only did the index find more winners than losers during this decade but its average gain also outperformed its average loss by 324 basis points. How was this achieved?

Long-time followers of B400 and of MarketGrader's research will recall how MarketGrader issues a daily rating for nearly all investable U.S. stocks based on a fundamental analysis of each company's financial statements, earnings estimates and share prices. Such rating is derived from six Growth indicators and six Value indicators, where our aim is to identify companies with positive growth and value traits, rather than favor one style over the other. Additionally, the analysis also includes six Profitability indicators and six Cash Flow indicators, which may be considered the 'quality' component of the analysis. Each one of these 24 indicators is assigned a letter grade, on a nine-point scale, from A+ to F. Each of these letter grades is, in turn, assigned a numerical score. Lastly, the sum of these 24 scores results in an overall grade within a range of zero to one hundred (0-100); this determines the rating assigned to each company. Figure 6 illustrates the grades and overall rating of Applied Materials (AMAT), one of the companies with the most selections to B400 in the last decade.

Figure 6. Applied Materials (AMAT)
Fundamental Rating: 84.7 🟢 (as of Sept. 2017)
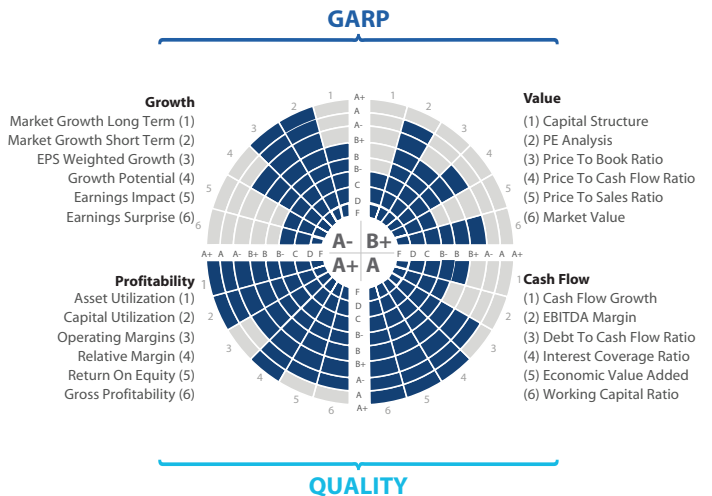
Source: MarketGrader Research

This grading process is performed uniformly for all companies in MarketGrader's coverage universe on a daily basis, ensuring all scores include the most recent share prices, consensus earnings estimates and reported financial statements. The four grading categories are constant regardless of company size, sector, industry or business model. The result of this is a standardized grade that allows MarketGrader to evaluate all public companies on a comparable scale based purely on their financial performance and the attractiveness of owning their shares. Individual indicators do vary according to industry or sector (the balance sheet of a bank cannot be analyzed using the same metrics as the balance sheet of an oil producer, for example), yet always within the context of Growth, Value, Profitability and Cash Flow. The stated objective of such rigorous process is to identify companies that show consistent, profitable growth (Growth and Profitability indicators), that may be owned at a reasonable price (Value indicators), and that are managed in the best interest of their shareholders (Cash Flow indicators). In other words, as put by Barron's 10 years ago, it's a "twist" on GARP.

In looking at B400's 10-year history, it could be argued that GARP has played three primary roles in the index's outperformance over the market. First, it has ensured B400 selects companies that are growing and thus participate in market gains as investors reward growth with higher valuations. Second, it ensures investors do not overpay for such growth, ob-

jectively skipping over near-term objects of affection (TSLA, NFLX come to mind) where despite torrid growth rates the valuation is simply too high, unlikely to be justified in the long run. Lastly, it has allowed investors to be contrarians and avoid a herd mentality by buying companies many might be avoiding because of negative news headlines or by selling companies that become overpriced and don't provide a good enough justification for ownership (or at least take profits and reinvest them elsewhere). How do we know this methodology has worked as intended? Here are the facts.

Historically, between 15% and 17% of all companies listed in the U.S. followed by MarketGrader have been rated 'Buy' since 2003. In order to attain such rating companies must score 60 or higher in the aforementioned scale, depicted above. B400 is comprised of an even more exclusive club of companies, since 400 stocks amount to approximately 10% of all eligible listed U.S. stocks from which B400 is selected. This has translated into an average grade of 67.9 for B400 constituents on the date of each semi-annual selection. Given MarketGrader's dynamic, daily rescoring of all companies, inevitably, over time the grades of B400 constituents erode, which is why the index is rebalanced twice a year. In fact, in the last 10 years, the average grade for each of the 8,000 six-month positions held by B400 has declined by 6.6% every six months. This being an average, however, means that not all grades decline. In fact many improve and many remain high enough to earn a reselection to the index during the subsequent rebalance. Whether companies get reselected or not depends entirely on their fundamentals. In fact, among the 8,000 positions held by the index in the last 10 years, only 3,308 were replaced at rebalance; thus, the index's average turnover was 41% per rebalance during this decade. Those companies' grades actually fell by an average of 15.6% from selection to rebalance period, resulting in an average grade of 54.9 at the end of each period. This explains why they were removed from B400. On the other hand, the 4,691 positions that remained in the index for at least one more period (in other words, companies that were reselected), barely saw their average overall grade change. For this set, the overall grade fell by an average of 0.3% to 69.0, allowing them to remain in the index for at least one more period. Interestingly enough, the largest share of all

companies' grade erosion can be attributed to a decline in the companies' growth indicators rather than their value indicators. In fact, for all companies held by the index in the last 10 years, while the overall grade fell, on average, by 6.6% during each holding period, their growth indicators fell by 8.6% while their value indicators fell by only 2.2%. Among companies removed from the index at each rebalance, the dynamic is similar. Although their overall grade fell, on average, by 15.6%, their growth grades fell by an average of 19.2% while their value grades fell by 8.3%. For companies that remained in the index (whose grade only fell by 0.3%), growth scores fell by a mere 1.4%; their value scores, on the other hand, *improved* by an average of 2%. This is illustrated in Figure 7.

Figure 7. B400 Holdings 2007-2017 - Grade Changes

	Price Return	Overall Grade Chg.	Growth Grade Chg.	Value Grade Chg.
All Positions (8,000)	4.9%	-6.6%	-8.6%	-2.2%
Companies Removed at Rebalance (3,308)	1.2%	-15.6%	-19.2%	-8.3%
Companies Reselected at Rebalance (4,691)	7.6%	-0.3%	-1.4%	2.0%

Source: MarketGrader Research. All returns are price-only average returns for each six-month period within the last 10 years. All grade percentage changes are based on simple average calculations.

Another way to look at how GARP has served investors well when applied within the framework of B400's methodology is by comparing what happened to the grades of companies that posted a positive return while members of the index versus those that did not. As stated before, 4,643 of all positions held by the index in the last 10 years had a positive six-month return, which averaged 22.2%. Not surprisingly, their value grades fell by 3.5% during each six-month period, worse than the 2.2% decline for all positions. In other words, as these stocks rose, their valuations gradually fell out of alignment with MarketGrader's rating system by a higher amount than for the entire underlying universe. On the other hand, companies that had a negative return during each period, saw their value grades decline, on average, by 0.2%. Their growth grades, on the other hand, fell on average by a much greater 13.4%, which largely explains their poor performance. Figure 8 illustrates this dynamic.

Figure 8. B400 Holdings 2007-2017 - Grade Changes

	Price Return	Overall Grade Chg.	Growth Grade Chg.	Value Grade Chg.
All Positions (8,000)	4.9%	-6.6%	-8.6%	-2.2%
Companies with Negative Return (3,357)	-18.9%	-8.7%	-13.4%	-0.2%
Companies with Positive Return (4,643)	22.2%	-5.1%	-5.4%	-3.5%

Source: MarketGrader Research. All returns are price-only average returns for each six-month period within the last 10 years. All grade percentage changes are based on simple average calculations.

While it may be obvious that stocks that go up see their value grades fall, with the opposite happening to stocks that go down, the truth is much more nuanced than this. Stocks prices may climb and stocks' valuations may actually improve if the company's fundamentals keep up with higher prices. Conversely, stocks that fall might also see their valuations fall if the deterioration in their fundamentals is actually worse than what their price is factoring in. Measuring this, of course, requires tracking many variables such as sales, operating income, net income and earnings growth, profit margins, leverage, free cash flow, etc., which is where B400 is so effective. By regularly tracking a large universe of companies and owning only the best, while taking profits along the way, the index is objectively applying GARP in its selection process consistently, regardless of what the market is doing. The best way to illustrate this, in the context of the figures displayed above, it by looking at what happened to the grades of the companies that were removed or reselected to the index at each rebalance.

Collectively, the 3,308 companies removed from B400 at each rebalance had an average price return of 1.2%, underperforming the average 4.9% gain for all companies. Of these, 1,568, or 47.4% had a negative return, which averaged -21.2%. The other 1,740 companies (or 52.6% of all companies removed from B400) had an average 21.3% return. Among these companies, both the ones that did poorly and the ones that did well, the common denominator was significant erosion in their fundamental quality, with grades falling on average by 15.6%, thus explaining their exclusion from the index six months after being selected. Figure 9

shows how this erosion was fairly even among good and bad performers with valuations deteriorating across the board in addition to significant drops in growth grades. In the case of all of these companies, GARP clearly allowed B400 to identify companies doing poorly fundamentally and removed them from the index following a marginally positive return obtained for holding them over a six-month period.

Fig. 9. B400 Companies Removed at Rebalance 2007-2017

	Price Return	Overall Grade Chg.	Growth Grade Chg.	Value Grade Chg.
Companies Removed at Rebalance (3,308)	1.2%	-15.6%	-19.2%	-8.3%
Companies with Negative Return (1,568)	-21.2%	-17.2%	-23.2%	-6.5%
Companies with Positive Return (1,740)	21.3%	-14.2%	-15.9%	-9.8%

Source: MarketGrader Research. All returns are price-only average returns for each six-month period within the last 10 years. All grade percentage changes are based on simple average calculations.

More interesting from our point of view is what happened to the grades of companies that MarketGrader reselected to B400 following a rebalance. On average, these companies gained 7.6% in six months, serving the index very well. The clearest sign of GARP at work, thus, is the fact that despite such gains in stock prices, these companies' average value grades *increased* by 2% during their six-month holding period. Furthermore, among the 1,789 companies that had a negative return (38% of all companies reselected to B400), the average improvement in their value grades was 5.2%. In other words, as valuations became more compelling following price declines—provided that growth didn't collapse along with overall company fundamentals—B400 continued to find value among these stocks when many investors may have cut their losses and run for the exits, underscoring the index's ability to select companies purely by the numbers and without emotion. Lastly, even companies that had a positive gain averaging 22.7% among this group saw their valuations *improve* despite higher stock prices, thanks to a gain of 0.8% in their average growth grades. This, in essence, may the definition of GARP itself (Figure 10).

Fig. 10. B400 Companies Reselected at Rebalance 2007-2017

	Price Return	Overall Grade Chg.	Growth Grade Chg.	Value Grade Chg.
Companies Reselected at Rebalance (4,691)	7.6%	-0.3%	-1.4%	2.0%
Companies with Negative Return (1,789)	-16.9%	-1.3%	-5.1%	5.2%
Companies with Positive Return (2,902)	22.7%	0.3%	0.8%	0.3%

Source: MarketGrader Research. All returns are price-only average returns for each six-month period within the last 10 years. All grade percentage changes are based on simple average calculations.

The casual reader, unfamiliar until now with B400's history, might deduce from some of the statistics presented here that the index is a hyperactive trading vehicle rather than a collection of the country's best companies. A few words to dispel this notion are therefore in order. B400 'owned' a total of 2,018 distinct companies in the last decade, 1,443 of which were selected more than once. 172 companies were members of B400 in at least 10 rebalance periods, or half of all semi-annual selections in the last 10 years. Only one company, Apple (AAPL) was selected to B400 in every single one the index's 20 selections since 2007. Figure 11 breaks down the total number of companies with more than one selection to B400 in the last decade.

Figure 11. Number of Companies Selected to B400 in Consecutive Years 2007-2017

Number of Consecutive Years in B400	Number of Companies
10 Years	1
9 Years	1
8 Years	2
7 Years	15
6 Years	19
5 Years	12
4 Years	31
3 Years	68
2 Years	154

Source: MarketGrader Research.

It is worth noting too that among the many companies referenced above, with multiple selections to B400, there were plenty that were selected to B400 in consecutive rebalance periods and consecutive calendar years. In fact, 298 companies were members of the index (or continue to be) in at least two consecutive years. 45 of them, by the way, were members of the index in at least five consecutive years, or half of the decade covered in this writing. The list appears in Appendix I, which also includes the companies that could be considered B400's 'Honor Roll,' or those companies that were selected to the index at least 14 times, or 70% of all rebalance periods in the last decade; these companies should be considered good examples of what we like to refer to as 'consistent creators of shareholder value' and the backbone of B400.

An Average Hitter Beats the Biggest Hitters

While GARP might allow B400 to select companies that, over time, do a little bit better than average, an important question investors should ask themselves is, can this be done consistently? To use a baseball analogy, would you prefer a hitter that gives you 10 home runs in one game with no hits in the following nine games, or one who hits a single or double ten games in a row helping you drive in runs and win as many of those 10 games as possible? The answer should be obvious yet many investors tend to swing for the fences rather than focus on consistent runs batted in (RBIs), driven by singles and doubles. Home runs have the added allure of making for much more interesting cocktail party conversation than singles or doubles. In investing, though, it is consistency of returns that propels the powerful force known as compounding, particularly over longer stretches of time.

In order to measure consistency of results, investors ought to look at rolling returns across periods of various lengths. Recall that most performance reports of an index (or portfolio) include performance over both shorter and longer periods of time. For instance, a performance report might include the performance of an index over 1-month (most recent month ended), 3-months, 12-months, 3-years, 5-years, and longer time periods in cases when the index has a longer performance history. It is encouraging to see, and speaks to the desirability of an index, if the index outperforms its stated benchmark over both the shorter and longer periods as presented in the performance report. The performance report

is very insightful in that it allows investors to take a mental snapshot of how well the index has been doing in the more recent past and in the more distant future, as of the stated date on the report. If the performance reports are updated, say, every month, the returns over different periods of time are also updated since all of the time periods, and therefore the performance statistics, roll forward one month. The updated performance report allows users to take another mental snapshot of the short run and long run performance of the index.

Over time, with the creation of each additional performance report (snapshot), the repeated updates of various performance statistics (1-moth, 3-month, …) can be expressed as a "batting average" for the overall performance of the index over the 10-year period. Of course, the longer the period covered by the performance statistic, the fewer the performance statistics available. For instance, if the period under consideration is a month, then for an index that has a 10-year performance history (and if one is updating the performance statistics on monthly basis) there are 120 performance statistics available, namely, each of the monthly returns. These 120 statistics are used to compute a "monthly batting average" by dividing the number of months in which the index outperformed the stated benchmark by 120. This batting average answers the questions: in how many months did B400 outperform its performance benchmark? But if the period under consideration is 5-years, there are only 61 performance statistics available (each 60 months of returns provides one performance statistic which is updated by rolling the 60 months of returns forward over the entire 120-month period, for a total of 61 performance statistics). These 60 performance statistics are then used to compute a "five-year batting average". This batting average answers the questions: in how many of the rolling 5-year periods did B400 outperform its performance benchmark? In the extreme case, if the period under consideration is 10 years, then for an index with a 10-year history only one statistic is available. So as one can imagine, the batting average over different fixed intervals of time is a very useful summary of measuring the consistency of performance of an index (or a portfolio) over time.

One could argue that a simplistic hurdle for every equity in-

dex is to outperform the broad market. Consequently, we chose the broad Russell 3000 as the benchmark to calculate the batting averages for B400 and compare them to the batting averages for the S&P 500. We calculated the batting averages using rolling price returns over a 1-month, 2-month, 3-month, 6-month, 12-month, 36-month, and 60-month period.

Over shorter intervals of time, such as a month, the results are less useful because of the monthly volatility in returns. Nevertheless, it provides a good starting point. Thus, in the 120 monthly periods between September 2007, when B400 was launched and the end of August 2017, when it celebrated its 10-year anniversary, B400 beat the Russell 3000 48% of the time. The S&P 500 by comparison, only beat it 44% of the time. So, how could B400 possibly beat the market in the last 10 years if it only did so in 48% of the months? Simple: on the months it outperformed, it did so by 1.5% whereas on the months that it underperformed, it did so by 1.08%. By comparison, in the fewer instances in which S&P 500 outperformed the market, it did so by 0.29% whereas in underperforming months it did so by 0.28% (this is not surprising since the Russell 3000 and the S&P 500, both being market cap weighted indexes, have a high correlation).

As you start to increase the length of period a different picture emerges. The volatility in monthly returns begins to get averaged out and performance statistics start becoming more robust, with the batting averages for B400 being significantly greater than 50%. For instance, B400 outperformed in 58% of all the rolling 3-month periods whereas the S&P 500 only outperformed in 44% of them. Also note that in the 58% of 3-month periods it outperformed, it did so by an average of 2.22% as compared to the S&P 500 that outperformed in 44% of the period by an average of 0.48%. Moving on two the longer run, B400's vast outperformance advantage becomes quite clear. B400 outperformed the broad market as measured by the Russell 3000 84% of the time in the 5-year rolling periods in the last 10 years. In the periods it outperformed, it did so by an average cumulative return of 21.3%. In comparison, the S&P 500 outperformed the broad market in only 20% of the 5-year rolling periods in the last 10 years, and it did so by an average cumulative return of

Figure 12. Batting Averages for B400 and S&P 500 vs. Russell 3000, 2007-2017

	Outperformance Frequency		Outperformance Average		Underperformance Average	
Rolling	B400	S&P 500	B400	S&P 500	B400	S&P 500
1-Month	48%	44%	1.50%	0.29%	-1.08%	-0.28%
2-Months	53%	46%	1.95%	0.37%	-1.44%	-0.42%
3-Months	58%	44%	2.22%	0.48%	-1.77%	-0.53%
6-Months	58%	42%	3.93%	0.67%	-2.44%	-0.80%
12-Months	62%	44%	5.80%	0.71%	-3.04%	-1.18%
36-Months	74%	28%	11.96%	1.24%	-3.83%	-1.88%
60-Months	84%	20%	21.28%	1.65%	-4.49%	-3.25%

All returns are price-only. Sources: MarketGrader Research, Bloomberg

1.65%.[9] Figure 12 summarizes B400's batting averages for the rolling returns across multiple time intervals relative to the Russell 3000.

Two conclusions may be drawn from these results. First, in order to beat an average, or the market in this case, you need to be *different*. This truism is more evident the longer the time intervals under consideration. In other words, the more you look like the average, the less likely you are to perform above average over time. B400 is a rules-based index, however it is vastly different from the broad market (Russell 3000). The S&P 500 is a large cap index, but it is very similar to the broad market. This is not surprising: large cap stocks make up more than 90% of the Russell 3000.

Second, as more of B400's early monthly returns are removed from the rolling return analysis, its results look more impressive. How so? Well, as chronicled earlier in this document, since its inception at the market top of 2007, B400 performed pretty much in line with the market all the way down to the market bottom of 2009. During that period as investors liquidated positions wholesale and indiscriminately, all correlations among different types of equities neared 1 (with 1 representing a perfect correlation between two assets and 0 representing no correlation at all). In other words, stock selection or asset allocation did little for investors during the crisis as investors rushed for the exits amid a frantic dash for cash.

It should be kept in mind that the batting averages as calculated using the rolling returns might vary depending on several variables. The frequency of the observations, of course, is one. The average number of times you outperform a given benchmark based on weekly returns will differ from the average when you look at monthly returns. This is especially true in short periods of time when returns exhibit more volatility; as these lengthen, over or under performance becomes clearer since long-term prices reflect different signals (fundamentals in B400's case) than short-term prices (momentum and style and size tilts). Another factor that may explain differences in rolling returns analysis is, of course, the benchmarks used and the instruments that are compared. In our analysis, we chose the Russell 3000 as the best proxy for the U.S. stock market since it represents, in its proportional weight, over 96% of the market's aggregate market capitalization. It is also a widely *owned* index through popular ETFs and index funds, making it easily accessible to investors that want to own the market passively. For the purposes of completeness, we have included in Appendix II a broader mix of rolling returns analyses based on different frequencies (weekly and monthly) where we have also included batting averages based on total returns (including dividends) in addition to price returns, used throughout this report.

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9. As alluded to earlier, when updates are done on a monthly basis, there are 61 5-year rolling return periods in 10 years.

Conclusion

Ten years after its introduction, the Barron's 400 Index has fulfilled its stated objective as a measure of long-term capital appreciation. It did so after an eventful decade that tested the index from inception, which took place on the eve of the financial crisis of 2007-2009, the so-called "great recession" that resulted from it, and the inevitable market drawdown that followed, challenging investors' core beliefs about long-term investing itself.

The index proved to be up to the task despite a drawdown that matched the broad market's decline of over 50% from market top to bottom. Thanks to its stock selection and its focus on identifying quality, growth companies at good valuations, it returned to break-even well before the overall market and widely followed benchmarks. Thus, it fully participated in the incredible bull market—still underway—that followed the market bottom reached in March 2009. As a result of its rules-based methodology it was able to deliver returns that were 40% better than the overall market in the last decade.

B400's remarkable performance was as much a result of stock selection as it was of consistency of returns as evidenced by its "batting average." Its focus on selecting companies with what MarketGrader calls "the GARP factor," combined with an equally weighted scheme and a rules-based semi-annual rebalance ensured that B400 picked many more winners than losers in the last 10 years, regardless of which way the wind was blowing in terms of size or style tilts. This combination of attributes allowed it to perform better than the market not only in a few select periods within the last decade but consistently throughout, based on a record of hitting "singles and doubles" over "home runs."

Given its track record, we expect B400 to continue to earn a place among key U.S. equity benchmarks as a yardstick of long-term capital appreciation. And given MarketGrader's underlying methodology, by which it grades the financial health of nearly all investable stocks in the United States, B400 should continue to be seen as a gauge of corporate America's financial health and of the country's economy more broadly. Most importantly, B400 should continue to earn a place in investors' portfolios as the backbone of a long-term oriented U.S. equity allocation to complement the investment vehicles they use to express specific views in terms of size, sector and style.

Appendix

BARRON'S**400**

Appendix I.

Companies Selected to B400 Five Consecutive Years or More, 2007-2017

Ticker	Company Name	Cosecutive Years	Current Member
AAPL	Apple Inc.	9	Yes
PCLN	Priceline Group Inc	9	Yes
CTSH	Cognizant Technology Sol.	8	Yes
GOOG	Google Inc.	8	No
BBBY	Bed Bath & Beyond Inc.	7	No
FFIV	F5 Networks, Inc.	7	Yes
HD	Home Depot, Inc.	7	Yes
MA	Mastercard Incorporated	7	Yes
MSFT	Microsoft Corporation	7	Yes
PII	Polaris Industries Inc.	7	No
RMD	ResMed Inc.	7	No
TSCO	Tractor Supply Company	7	Yes
UNH	UnitedHealth Group Inc.	7	No
WMT	Wal-Mart Stores, Inc.	7	No
APEI	American Public Education	6	No
BKE	Buckle, Inc.	6	No
CACC	Credit Acceptance Corp.	6	Yes
CMG	Chipotle Mexican Grill, Inc.	6	No
COH	Coach, Inc.	6	No
DLTR	Dollar Tree, Inc.	6	Yes
DLX	Deluxe Corporation	6	Yes
EGOV	NIC Inc.	6	Yes
FDS	FactSet Research Systems Inc.	6	Yes
HLF	Herbalife Ltd.	6	No
IBM	International Business Mach.	6	No
ISRG	Intuitive Surgical, Inc.	6	Yes
LOPE	Grand Canyon Education, Inc.	6	Yes
MANH	Manhattan Associates, Inc.	6	Yes
MCD	McDonald's Corp.	6	No
MKTX	MarketAxess Holdings Inc.	6	No
NEU	NewMarket Corp.	6	No
NUS	Nu Skin Enterprises, Inc.	6	No
ORCL	Oracle Corp.	6	No
ALK	Alaska Air Group, Inc.	5	Yes
AOBC	American Outdoor Brands C.	5	Yes
BEN	Franklin Resources, Inc.	5	No
JBHT	J.B. Hunt Transport Services.	5	No
PRAA	PRA Group Inc.	5	No
QCOR	Questcor Pharmaceuticals	5	No
SHOO	Steven Madden, Ltd.	5	Yes
UNP	Union Pacific Corporation	5	Yes
USNA	USANA Health Sciences, Inc.	5	Yes
WAT	Waters Corporation	5	Yes
WRLD	World Acceptance Corp.	5	No
WSM	Williams-Sonoma, Inc.	5	Yes

Source: MarketGrader Research.

Companies Selected to B400 14 or More Times, 2007-2017

Ticker	Company Name	Times Selected	Last Selected
AAPL	Apple Inc.	20	3/20/17
FDS	FactSet Research Systems Inc.	19	3/20/17
PCLN	Priceline Group Inc	19	3/20/17
CTSH	Cognizant Technology Sol	19	3/20/17
NKE	Nike, Inc. Class B	19	3/20/17
AMGN	Amgen Inc.	19	3/20/17
ROST	Ross Stores, Inc.	18	3/20/17
GOOG	Google Inc.	18	9/21/15
TJX	TJX Companies Inc	18	3/20/17
MSFT	Microsoft Corporation	18	3/20/17
BIIB	Biogen Inc.	17	3/20/17
SYNT	Syntel, Inc.	17	9/19/16
GILD	Gilead Sciences, Inc.	17	3/20/17
BBBY	Bed Bath & Beyond Inc.	17	9/19/16
UNH	UnitedHealth Group Inc.	17	3/21/16
HD	Home Depot, Inc.	16	3/20/17
RMD	ResMed Inc.	16	9/19/16
TSCO	Tractor Supply Company	16	3/20/17
WMT	Wal-Mart Stores, Inc.	16	3/23/15
PEP	PepsiCo, Inc.	16	9/21/15
ISRG	Intuitive Surgical, Inc.	16	3/20/17
WAT	Waters Corporation	16	3/20/17
JCOM	j2 Global, Inc.	16	3/20/17
FFIV	F5 Networks, Inc.	16	3/20/17
MA	Mastercard Incorporated	16	3/20/17
LOPE	Grand Canyon Education, Inc.	15	3/20/17
PII	Polaris Industries Inc.	15	9/19/16
BBY	Best Buy Co., Inc.	15	3/20/17
NEU	NewMarket Corp.	15	9/19/16
NSR	NeuStar, Inc. Class A	15	3/20/17
STR	Questar Corp.	15	3/21/16
FOSL	Fossil Group, Inc.	15	3/21/16
VAR	Varian Medical Systems, Inc.	15	3/21/16
OZRK	Bank of the Ozarks	15	3/20/17
ORLY	O'Reilly Automotive, Inc.	15	3/20/17
BKE	Buckle, Inc.	15	3/23/15
UNP	Union Pacific Corporation	15	3/21/16
ORCL	Oracle Corp.	14	3/24/14
MTD	Mettler-Toledo International	14	3/20/17
EMR	Emerson Electric Co.	14	3/21/16
EGOV	NIC Inc.	14	3/20/17
CMCSA	Comcast Corporation Class A	14	3/20/17
JBHT	J.B. Hunt Transport Services.	14	3/20/17
HLF	Herbalife Ltd.	14	3/24/14
EMC	EMC Corp.	14	3/23/15
PRAA	PRA Group Inc.	14	9/21/15
NUS	Nu Skin Enterprises, Inc.	14	9/21/15
DLX	Deluxe Corporation	14	9/19/16
IPGP	IPG Photonics Corporation	14	3/20/17
CSCO	Cisco Systems, Inc.	14	3/21/16
BWLD	Buffalo Wild Wings, Inc.	14	9/19/16
ATW	Atwood Oceanics, Inc.	14	3/21/16
MKTX	MarketAxess Holdings Inc.	14	3/20/17
COH	Coach, Inc.	14	3/20/17
MCD	McDonald's Corp.	14	9/22/14
MIDD	Middleby Corporation	14	3/20/17

Source: MarketGrader Research.

BARRON'S400

Appendix II.

Batting Averages for B400 and S&P 500 vs. Russell 3000, 2007-2017 (Weekly, Price Returns)

	Outperformance Frequency		Outperformance Average		Underperformance Average	
Rolling	B400	S&P 500	B400	S&P 500	B400	S&P 500
1-Week	51%	47%	0.62%	0.16%	-0.57%	-0.15%
2-Weeks	52%	45%	0.88%	0.21%	-0.76%	-0.20%
3-Weeks	51%	46%	1.15%	0.26%	-0.92%	-0.25%
4-Weeks	54%	45%	1.30%	0.30%	-1.14%	-0.29%
5-Weeks	52%	44%	1.51%	0.34%	-1.19%	-0.33%
6-Weeks	52%	43%	1.66%	0.37%	-1.29%	-0.35%
7-Weeks	52%	42%	1.80%	0.40%	-1.32%	-0.37%
8-Weeks	54%	43%	1.89%	0.41%	-1.45%	-0.40%
9-Weeks	54%	44%	1.97%	0.42%	-1.50%	-0.44%
10-Weeks	56%	45%	2.05%	0.42%	-1.60%	-0.47%
11-Weeks	56%	46%	2.15%	0.44%	-1.66%	-0.51%
12-Weeks	57%	43%	2.26%	0.49%	-1.73%	-0.51%
26-Weeks	61%	41%	3.78%	0.71%	-2.65%	-0.81%
52-Weeks	62%	42%	5.90%	0.75%	-3.14%	-1.14%

Sources: MarketGrader Research, Bloomberg

Batting Averages for B400 and S&P 500 vs. Russell 3000, 2007-2017 (Weekly, Total Returns)

	Outperformance Frequency		Outperformance Average		Underperformance Average	
Rolling	B400	S&P 500	B400	S&P 500	B400	S&P 500
1-Week	51%	47%	0.61%	0.15%	-0.57%	-0.14%
2-Weeks	50%	46%	0.87%	0.20%	-0.77%	-0.19%
3-Weeks	50%	47%	1.12%	0.25%	-0.95%	-0.24%
4-Weeks	53%	46%	1.26%	0.30%	-1.17%	-0.28%
5-Weeks	51%	46%	1.46%	0.33%	-1.24%	-0.31%
6-Weeks	50%	45%	1.65%	0.36%	-1.31%	-0.34%
7-Weeks	50%	44%	1.75%	0.39%	-1.37%	-0.35%
8-Weeks	52%	44%	1.81%	0.41%	-1.53%	-0.38%
9-Weeks	52%	46%	1.92%	0.42%	-1.54%	-0.42%
10-Weeks	52%	47%	2.02%	0.42%	-1.62%	-0.46%
11-Weeks	54%	47%	2.07%	0.45%	-1.72%	-0.49%
12-Weeks	54%	45%	2.18%	0.49%	-1.79%	-0.49%
26-Weeks	59%	44%	3.54%	0.73%	-2.82%	-0.78%
52-Weeks	58%	47%	5.47%	0.81%	-3.56%	-1.11%

Sources: MarketGrader Research, Bloomberg

Batting Averages for B400 and S&P 500 vs. Russell 3000, 2007-2017 (Monthly, Total Returns)

	Outperformance Frequency		Outperformance Average		Underperformance Average	
Rolling	B400	S&P 500	B400	S&P 500	B400	S&P 500
1-Month	48%	48%	1.43%	0.28%	-1.14%	-0.28%
2-Months	52%	48%	1.85%	0.38%	-1.54%	-0.41%
3-Months	53%	46%	2.26%	0.49%	-1.72%	-0.51%
6-Months	57%	44%	3.57%	0.71%	-2.76%	-0.77%
12-Months	55%	47%	5.70%	0.82%	-3.27%	-1.10%
36-Months	66%	39%	9.98%	1.45%	-5.19%	-1.66%
60-Months	69%	36%	18.77%	2.06%	-7.33%	-3.03%

Sources: MarketGrader Research, Bloomberg

BARRON'S 400

Carlos Diez

Carlos founded MarketGrader in 1999 and built a quantitative research engine to rate public companies using a fundamentals-based scoring system that follows a growth-at-a-reasonable-price (GARP) methodology. In 2003 the firm developed a family of U.S. equity indexes, with stock selection based on MarketGrader's fundamental scores, weighing all constituents equally rather than by market capitalization. MarketGrader then partnered with Barron's and Dow Jones Indexes in 2006 to construct the Barron's 400 Index, which collects the most fundamentally attractive companies in the U.S. The Barron's 400 Index was the basis of the Barron's 400 ETF (NYSE: BFOR), which was successfully launched in partnership with ALPS Advisors in 2013. Today MarketGrader rates 35,000 public companies in 93 countries and publishes over 50 global indexes utilizing its proprietary GARP methodology.

Carlos earned a BS in Economics from Pepperdine University.

Carlos Diez
CEO and Founder
MarketGrader.com Corp.
diez@marketgrader.com