

## Stock Selection: Research and Results May 2017

### *A Building Block of Failure: A Dearth of Free Cash Flow*

### *Do the Opposite: The Technical Indicator, Model and Portfolio Performance*

*No Free Cash Flow + Little Growth = Trouble*

- We're in the process of comprehensively updating our failure model for the first time in 13 years. One of its key building blocks is a normalized free cash flow yield measure, that takes into account both the history of margins and top-line growth. The backward-looking window used to compute the normalized yield varies from four to ten years depending on the sector. Stocks bereft of free cash flow have underperformed the market by almost (9) percentage points per year in the Bretton Woods II era and by almost (7) points in the past five years. With the system awash in cash flow, those without it have been at a distinct disadvantage.
- We believe we can improve upon what we've been doing by combining metrics that assess recent cash flow production with our normalized yield framework. Those include incremental margins, an assessment of the latest quarter's output versus the prior trend and a surprise model. If the shorter-term data shows an erosion it adds to the bear case, to the tune of (100) to (200) basis points. Appendix 1 on page 13 presents a short list of companies with worrying characteristics.

*Do the Opposite, Like George Costanza*

- Another component of our failure model is our technical indicator, that was inspired by George Costanza, a character from the sitcom Seinfeld. In a memorable episode, he decides that every decision he's ever made has been wrong, and therefore the opposite would have to be right. As a test, he introduces himself to a woman by saying "My name is George. I'm unemployed and I live with my parents." It works, and the woman immediately agrees to date him. Like George our technical indicator does the opposite, using some widely-followed technical tools, such as relative strength, a stochastic oscillator and Bollinger Bands, in a contrarian fashion. The idea is that a pop in the technicals provides an opportunity to escape stocks that are vulnerable.
- While the power of the indicator has degraded in recent years, it still looks additive to our failure model. The analyses of Bollinger Bands, based on 20-day moving averages, have however remained a significant source of alpha. We're likely to incorporate data that measures shorting activity into the next version of failure methodology, as it's synergistic with the technical signals.

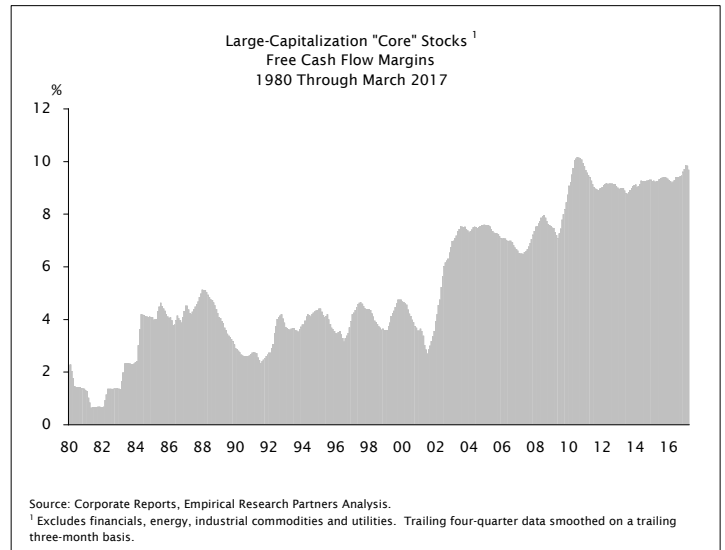
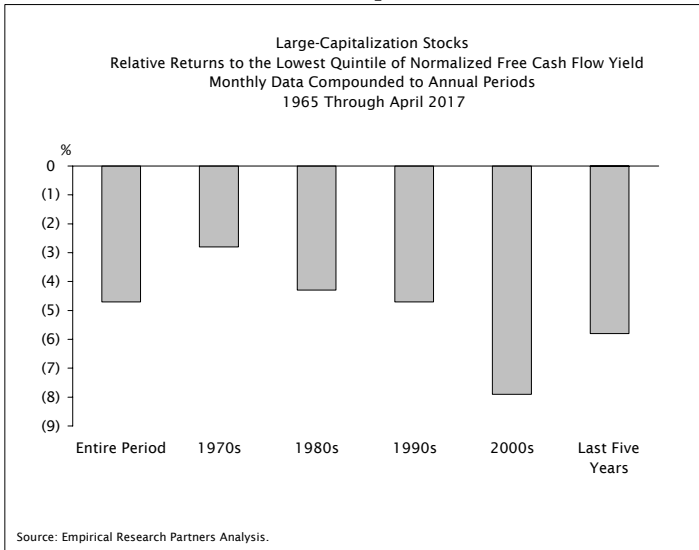
*Model and Portfolio Performance*

- Our U.S. regime indicator shifted to a neutral stance in late-January after almost a year of recommending a value tilt. That change in opinion has proved to be painfully correct and half the value premium of 2016 has been given back this year. Blame a weak quarter of economic growth and a reversal of expectations for a Trump stimulus. The Big Growers, the 75 large-cap issues with the very best growth characteristics, led by +11.5 percentage points in the first-four months of the year. While our weighting scheme has been tilted away from valuation, the exposure to it was still large enough to cause our domestic models to lag. Our international, world and global models have performed as expected. Our failure frameworks have added only a little value so far this year.
- Our Distrusted Fifty portfolio, our favorite for a neutral regime like this one, leads the S&P 500 by +2.7 percentage points this year. Our more diversified portfolios have performed close to their benchmarks, with value faring best and growth worst. It has all come down to the weight of Big Growers in the benchmark. Exhibits 23 through 30 that begin on page 9 present the latest changes and the complete portfolios.

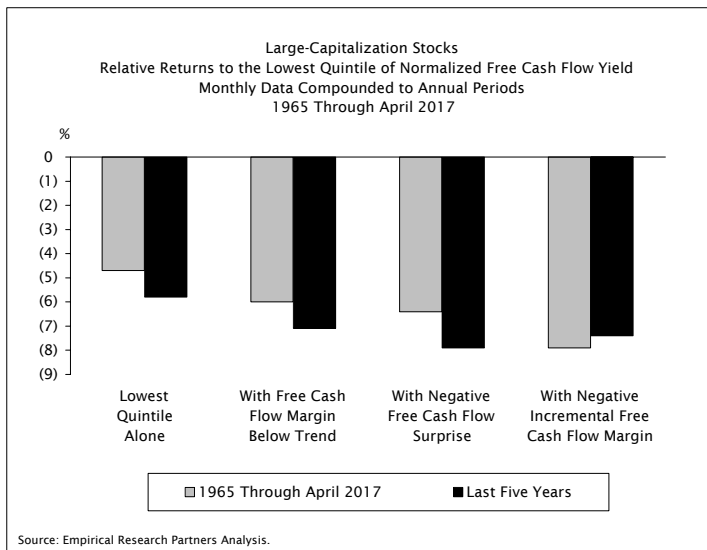
Longying Zhao (212) 803-7940 Yi Liu (212) 803-7942 Yu Bai (212) 803-7919 Yuntao Ji (212) 803-7920 Janai Haynes (212) 803-8005

## Conclusions in Brief

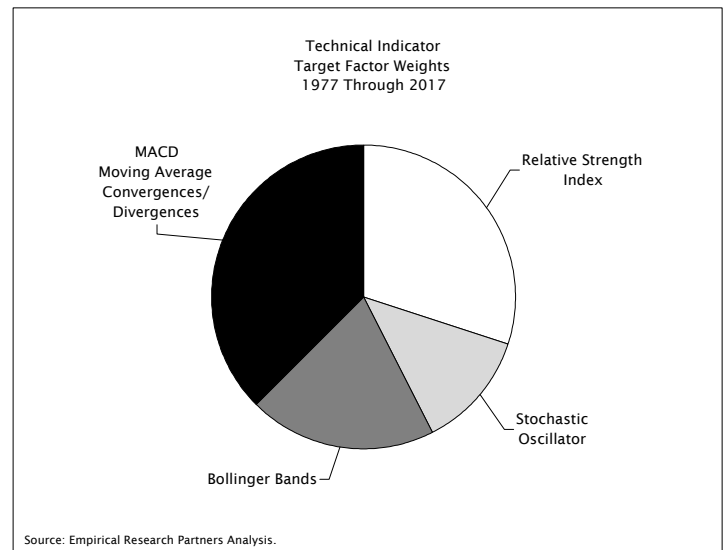
- A dearth of free cash flow production over multiple years has been a formula for underperformance...
- ...In part because it's in broad supply:



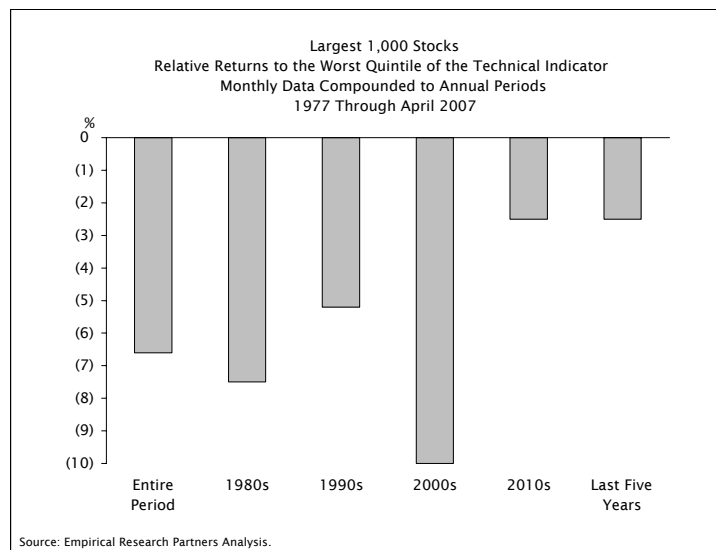
- If cash flow margins are eroding that makes matters worse:



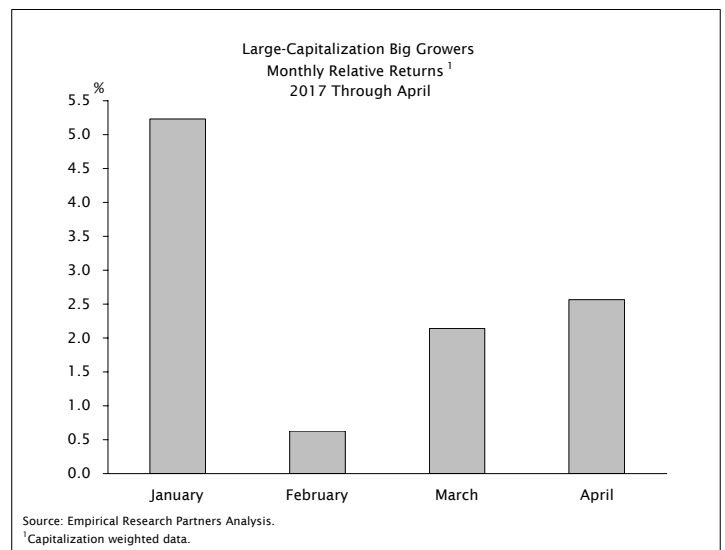
- Our technical indicator turns some widely followed rules-of-thumb on their heads...



- ...To good effect:



- Big Growers have, as expected, rebounded, influencing the relative returns of all our frameworks:

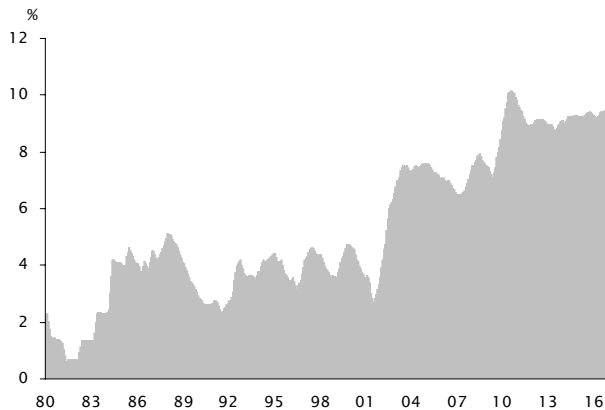


## The Building Blocks of Failure: A Dearth of Free Cash Flow

### No Free Cash Flow, Little Growth = Trouble

For the better part of 15 years the average company has generated more cash flow than it knows what to do with. That's apparent in a chart of the free cash flow margins for the core of the market, that've not only been high, but rising, throughout the entirety of the Bretton Woods II era, that began in 2001 (see Exhibit 1). The market's real free cash flow yield has averaged 3.7% over that period, and it's now (100) basis points lower than that, comparable to where it was back in 2007 (see Exhibit 2). The level tells us that investors have been skeptical about the sustainability of the unprecedented margins for the better part of two decades.

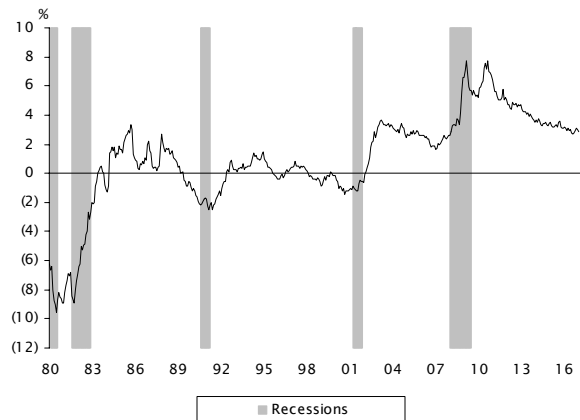
**Exhibit 1: Large-Capitalization "Core" Stocks'  
Free Cash Flow Margins  
1980 Through March 2017**



Source: Corporate Reports, Empirical Research Partners Analysis.

<sup>1</sup>Excludes financials, energy, industrial commodities and utilities.  
Trailing four-quarter data, smoothed on a trailing three-month basis.

**Exhibit 2: Large-Capitalization "Core" Stocks'  
Real Free Cash Flow Yields<sup>2</sup>  
1980 Through Late-April 2017**



Source: Bureau of Labor Statistics, Corporate Reports, National Bureau of Economic Research, Empirical Research Partners Analysis.

<sup>1</sup>Excludes financials, energy, industrial commodities and utilities; capitalization-weighted data.  
<sup>2</sup>Computed using the core CPI.

When most companies are awash in cash flow those without it are at a decided disadvantage. A key construct we've long used in our failure modeling is a normalized free cash flow yield, that takes account of the trends in margins and revenue growth. To compute it we start with the revenues reported by the company in the prior four quarters. We then grow them at the top-line growth rate experienced in the past, that's based on a backward-looking window that can vary from four to ten years, depending on the sector. The average window used in the calculation is five years, it's shortest in the energy and technology sectors and longest in pharmaceuticals/biotech, consumer staples and industrial commodities. We apply the average free cash flow margin seen in that period to the out-year revenue number and create a yield by dividing by the stock's current capitalization.

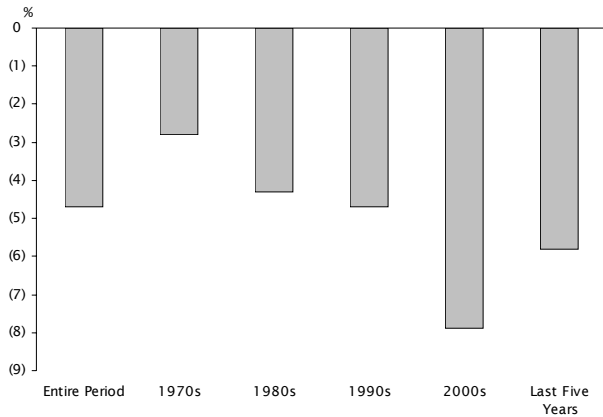
Large-cap stocks that rank in the lowest quintile of our normalized free cash flow yield metric have underperformed the large-cap market by almost (5) percentage points per annum over the last 50+ years, and by a point more than in the last five (see Exhibit 3). The fact that they've continued to lag even as many other anomalies have disappeared isn't surprising, because widespread corporate prosperity has caused the bar to move up over time. Exhibit 4 presents the upper bound in yields for the stocks that rank in the bottom group. In the 1980s and 1990s it was around zero, meaning that the worst-ranked stocks were entirely bereft of free cash flow, while in the past two cycles a yield less than 2% would put a stock in the worst cohort. Companies not generating any free cash flow at all on a normalized basis at all have performed badly throughout this era (see Exhibit 5). That's because most companies offered a combination of mediocre top-line growth and impressive free cash flow generation.

### Looking for Confirmation in the Latest Results

We wondered if the companies that had historically generated little free cash flow did even worse if their production of it was wanting lately. To investigate that hypothesis we divided the stocks that populate the bottom quintile of normalized free cash flow yield into buckets based on three measures: their recent growth rate in cash flow relative to the prior five-year trend, cash flow surprises versus an expected value based on the five-year trajectory, and,

their latest quarterly incremental margin. We found that there was something to be gained by combining the long- and shorter-term perspectives, and the combination with negative incremental margins produced the most provocative results, generating almost (8) percentage points of alpha per annum (see Exhibit 6). In recent years the benefit was greater than that seen before, a result that's consistent with the corporate sector's strong cash flow dynamic. The market has cared about what you've done for me lately.

**Exhibit 3: Large-Capitalization Stocks**  
**Relative Returns to the Lowest Quintile of**  
**Normalized Free Cash Flow Yield**  
**Monthly Data Compounded to Annual Periods**  
**1965 Through April 2017**



Source: Empirical Research Partners Analysis.

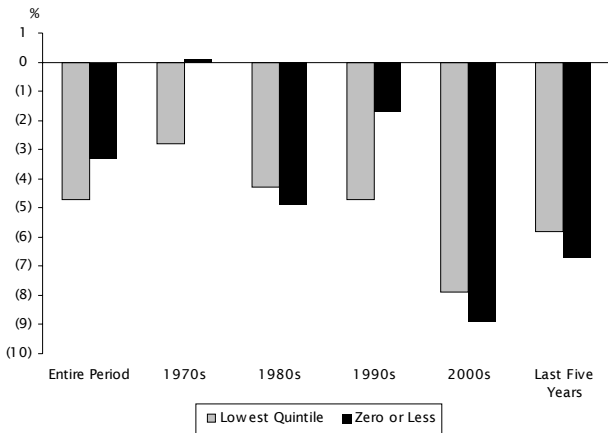
**Exhibit 4: Large-Capitalization Stocks**  
**Lowest Quintile of Normalized Free Cash Flow Yield**  
**Cut-Off to Rank in that Quintile<sup>1</sup>**  
**1965 Through Late-April 2017**



Source: Empirical Research Partners Analysis.

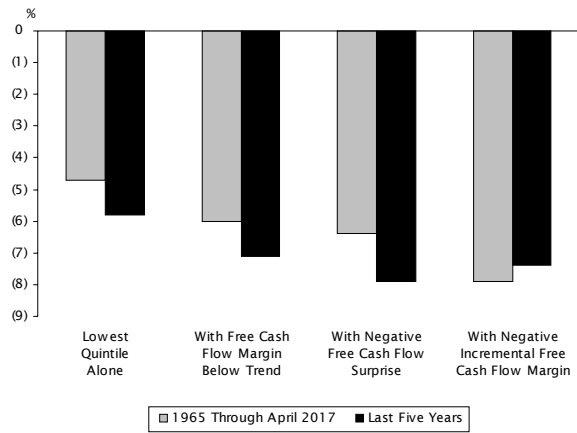
<sup>1</sup>Data smoothed on a trailing three-month basis.

**Exhibit 5: Large-Capitalization Stocks**  
**Relative Returns to the Lowest Quintile of**  
**Normalized Free Cash Flow Yield**  
**and Those With Yields of Zero or Less**  
**Monthly Data Compounded to Annual Periods**  
**1965 Through April 2017**



Source: Empirical Research Partners Analysis.

**Exhibit 6: Large-Capitalization Stocks**  
**Relative Returns to the Lowest Quintile of**  
**Normalized Free Cash Flow Yield**  
**Monthly Data Compounded to Annual Periods**  
**1965 Through April 2017**



Source: Empirical Research Partners Analysis.

**Conclusion: Free Cash Flow Dynamics are Exploitable**

Over the long run generating free cash flow has been better than not doing so, and in the past 15 years, when those margins were generally rising, that's been especially the case. Companies with little cash flow generation and a weak growth trajectory often turned out to be failure candidates, and the odds of that categorization turning out to be right increased if the recent results suggested that things were taking a turn for the worse.

We expect that the normalized free cash flow calculation will remain a cornerstone of the forthcoming Version 2.0 of our failure model. It looks like there's something to be gained by adding incremental margins and perhaps some of our other measures of cash flow production into the mix. Appendix 1 on page 13 presents a short list of companies that show up as having poor normalized free cash flow yields where the recent trends in cash flow generation are problematic.

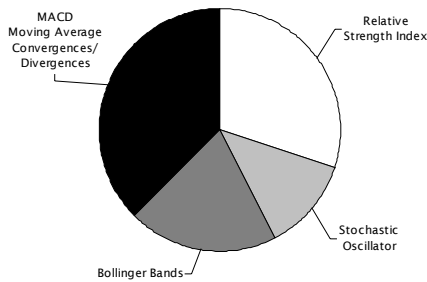
## The Building Blocks of Failure Modeling: The Technical Indicator

### Do the Opposite, Like George Costanza

In a memorable episode of the sitcom Seinfeld, George Costanza decides that every decision he's ever made has been wrong, and therefore the opposite would have to be right. He resolves to do the complete opposite of whatever he would normally do. For example, he introduces himself to a woman by saying "My name is George, I'm unemployed and I live with my parents." It works, and the woman immediately agrees to date him.

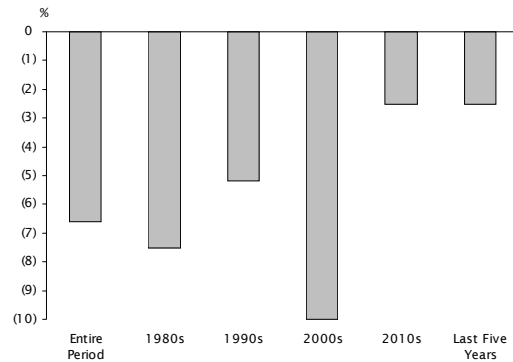
Inspired by George's success, a decade ago we developed a technical indicator that takes some widely-held trading rules-of-thumb and effectively does the opposite.<sup>1</sup> It's shorter-term in nature than everything else we do, trying to provide insights as to what's likely to happen over a short horizon. A relative strength index, computed over 14 days, a stochastic oscillator, formed over the same period, and Bollinger Bands, based on 20-day moving averages, are all used in a contrarian fashion. MACD, the moving average convergence/divergence, that's based on the difference between the short- and longer-term exponential moving averages, is used in its literal form (see Exhibit 7). The basic idea is that overuse of these widely-followed technical aides has not only degraded their returns, and in some circumstances the signals they send are in fact perverse. That premise has held up and our technical indicator has added value, although less in the post-Crisis years than before (see Exhibit 8). Most of the components have shown degradation in performance, with Bollinger Bands, that captures only stocks breaching their moving averages, the notable exception (see Exhibits 9 through 12).

**Exhibit 7: The Technical Indicator Target Factor Weights 1977 Through 2017**



Source: Empirical Research Partners Analysis.

**Exhibit 8: The Top 1,000 Stocks Relative Returns to the Worst Quintile of the Technical Indicator Monthly Data Compounded to Annual Periods 1977 Through April 2017**



Source: Empirical Research Partners Analysis.

**Exhibit 9: The Top 1,000 Stocks Relative Returns to the Worst Quintile of the Relative Strength Index Indicator Monthly Data Compounded to Annual Periods 1977 Through April 2017**



Source: Empirical Research Partners Analysis.

**Exhibit 10: The Top 1,000 Stocks Relative Returns to the Worst Quintile of the Stochastic Oscillator Indicator Monthly Data Compounded to Annual Periods 1977 Through April 2017**



Source: Empirical Research Partners Analysis.

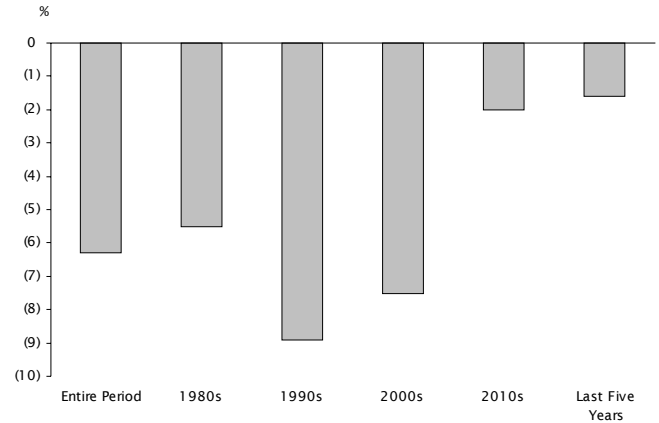
<sup>1</sup>Stock Selection: Research and Results February 2007. "Changes to Our Failure Methodology."

**Exhibit 11: The Top 1,000 Stocks**  
**Relative Returns to the Worst Quintile of the Bollinger Band Indicator**  
**Monthly Data Compounded to Annual Periods**  
**1977 Through April 2017**



Source: Empirical Research Partners Analysis.

**Exhibit 12: The Top 1,000 Stocks**  
**Relative Returns to the Worst Quintile of the MACD Indicator**  
**Monthly Data Compounded to Annual Periods**  
**1977 Through April 2017**



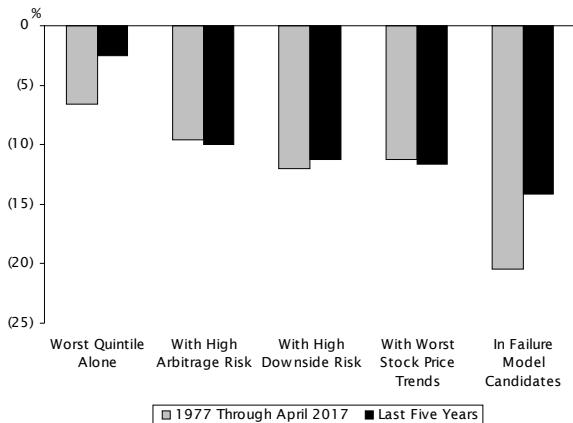
Source: Empirical Research Partners Analysis.

**A Synergy with Other Market Reaction Signals**

We examined how the technical indicator has interacted with the other market reaction gauges used in our failure model: high arbitrage risk, high correlation in returns to downside moves in the market and the worst stock price trends, along with the model itself. The pieces work together synergistically, and the technical signal, a sign that others see opportunity where we see risk, helps confirm the message of the other components (see Exhibit 13).

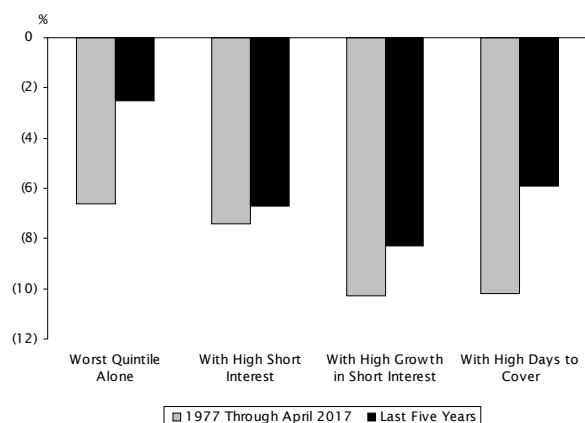
In the forthcoming revision of the failure model, the first major one in 13 years, we’re going to take advantage of work we’ve done on the effects of stock ownership by institutions and hedge funds, as well as the activity of short sellers, and incorporate some of them into our overall framework. For example, we’ve found that an elevated days-to-cover ratio and a vulnerable technical profile have been a potent combination (see Exhibit 14).

**Exhibit 13: The Top 1,000 Stocks**  
**Relative Returns to the Worst Quintile of the Technical Indicator**  
**Depending on Other Market Reaction Signals**  
**Monthly Data Compounded to Annual Periods**  
**1977 Through April 2017**



Source: Empirical Research Partners Analysis.

**Exhibit 14: The Top 1,000 Stocks**  
**Relative Returns to the Worst Quintile of the Technical Indicator**  
**Depending on Shorting Activity**  
**Monthly Data Compounded to Annual Periods**  
**1977 Through April 2017**



Source: Empirical Research Partners Analysis.

**Conclusion: Finding Failure, the Best Use for Quantitative Tools**

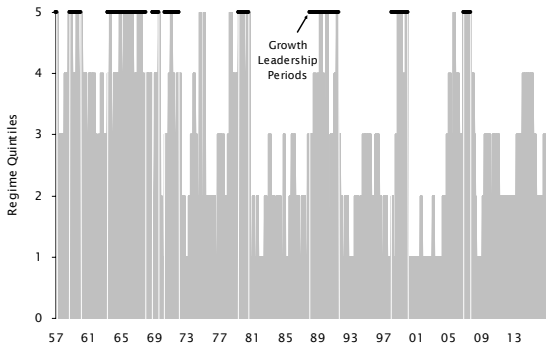
We’ve long thought that quantitative tools were better suited to finding losers than winners. That’s because there are many ways to win and only a few ways to fail, and investors are slow to react to evidence that decisions they’ve made are wrong. They also underestimate the corrosive effects of controversy on the returns of high-expectation stocks. We expect that the forthcoming Version 2.0 of our failure model will represent a meaningful improvement over its predecessor.

## Model and Portfolio Performance

### Regime Change and Its Consequences

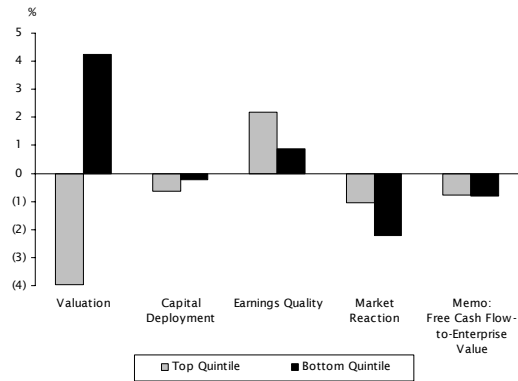
Our U.S. regime indicator shifted to a neutral stance in late-January after almost a year of recommending a value tilt (see Exhibit 15).<sup>2</sup> The latest change in its forecast has proven to be painfully correct, and half the premium generated by lowly-valued issues in 2016 was surrendered in the first-four months of this year (see Exhibit 16). As we discussed in some recent research, this year's pattern echoes those of the past, and is in part attributable to seasonality in the economic data.<sup>3</sup> In this expansion GDP growth in the first quarter has been noticeably weaker than that in the other three, and the BEA has acknowledged there are problems with its seasonal adjustment process.

**Exhibit 15: The U.S. Equity Market Regime Indicator Quintiles (5=Growth-Driven Dynamic; 1=Value-Driven Dynamic) 1957 Through April 2017**



Source: Empirical Research Partners Analysis.

**Exhibit 16: U.S. Large-Capitalization Stocks Relative Returns of the Top and Bottom Quintiles of Our Super Factors<sup>1</sup> Monthly Data Compounded January Through April 2017**

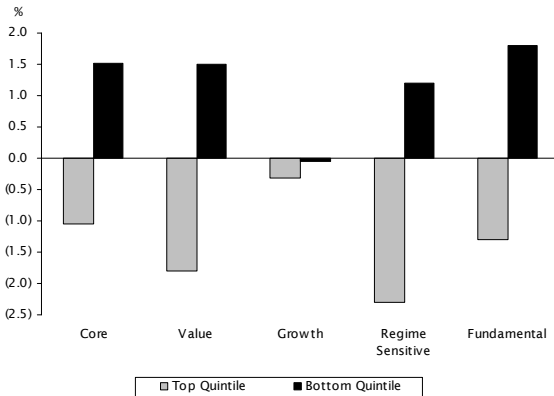


Source: Empirical Research Partners Analysis.

<sup>1</sup>Equally-weighted data.

Although our stock selection models have in recent months been tilted away from valuation, nevertheless their exposures have been large enough to prevent them from overcoming the headwind it created (see Exhibit 17). Of the two super factors that took on additional weight when the regime changed to neutral, only earnings quality added value so far this year. Paying attention to stock price trends, as captured in our market reaction framework, has proved useless, as the market once again abruptly changed its scenario. As expected, the Big Growers have rebounded strongly after a poor performance in 2016, leading the market by +11.5 percentage points (see Exhibit 18).

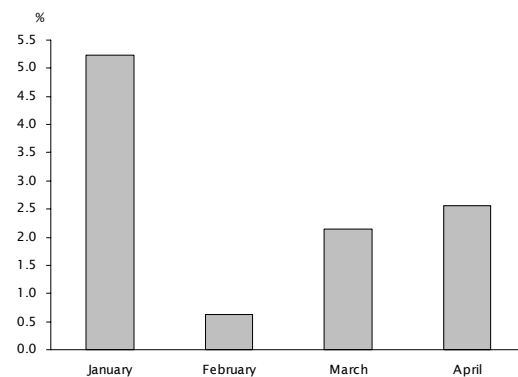
**Exhibit 17: U.S. Large-Capitalization Stock Selection Models Relative Returns of the Top and Bottom Quintiles<sup>1</sup> Monthly Data Compounded January Through April 2017**



Source: Empirical Research Partners Analysis.

<sup>1</sup>Equally-weighted data.

**Exhibit 18: Large-Capitalization Big Growers Monthly Relative Returns<sup>1</sup> January Through April 2017**



Source: Empirical Research Partners Analysis.

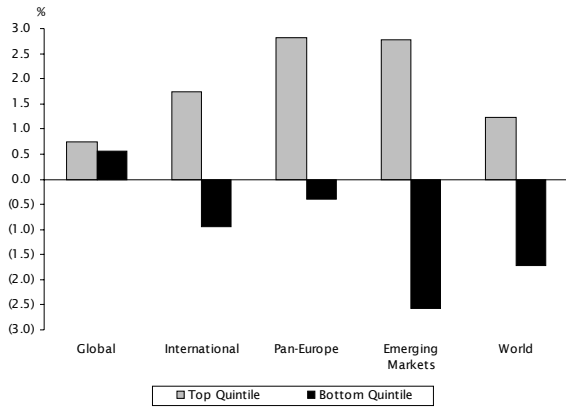
<sup>1</sup>Capitalization-weighted data.

<sup>2</sup>Stock Selection: Research and Results January 2017. "Regime Change from Value-Tilted to Neutral."

<sup>3</sup>Stock Selection: Research and Results April 2017. "The Curse of Q1: Residual Seasonality."

Our non-U.S. models haven't suffered nearly as much as our domestic ones and have performed more-or-less as expected (see Exhibit 19). Our specialized frameworks that pick among REITs and Energy MLPs have been a mixed bag (see Exhibit 20).

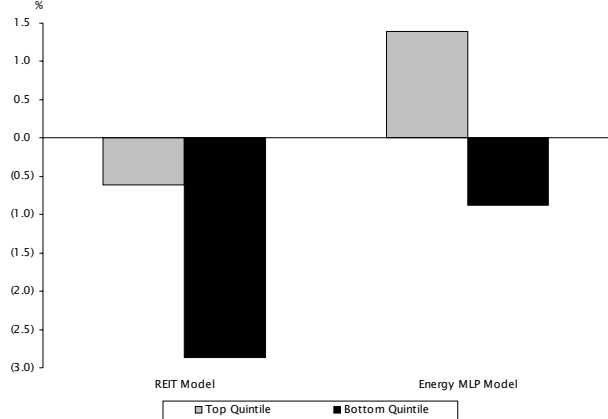
**Exhibit 19: Non-U.S. Stock Selection Models**  
**Relative Returns of the Top and Bottom Quintiles<sup>1</sup>**  
**Monthly Data Compounded**  
**January Through April 2017**



Source: Empirical Research Partners Analysis.

<sup>1</sup>Equally-weighted data.

**Exhibit 20: The Specialized Models<sup>1</sup>**  
**Relative Returns to the Top and Bottom Quintiles**  
**Monthly Data Compounded**  
**January Through April 2017**



Source: Empirical Research Partners Analysis.

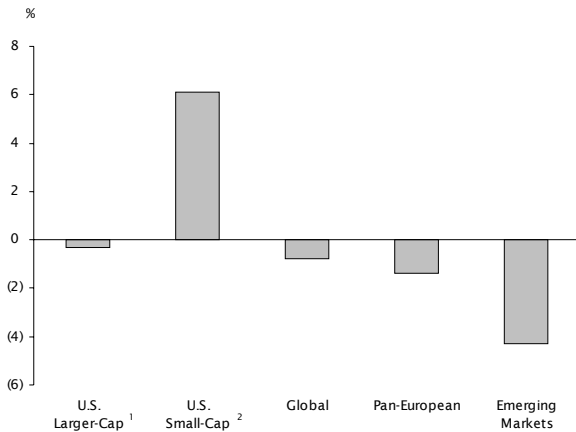
<sup>1</sup>Equally-weighted returns versus equally-weighted (sector-specific) benchmarks.

After a great 2016 our failure models have gone nowhere this year, with most adding only a little value (see Exhibit 21). The one focused on the emerging world has performed best, while the small-cap U.S. variant has given back about a fifth of the (31) percentage points of alpha it generated last year.

**Portfolio Performance and Changes**

The Distrusted Fifty has been the best performing of our recommended portfolios, topping its benchmark, the S&P 500, by more than +2.7 percentage points (see Exhibit 22). Once again good stock selection in the technology sector sourced much of its alpha. The other portfolios have generated returns close to those of their benchmarks and the GARP(y) bias of the growth portfolio proved to be a detriment given the strong rebound in the Big Growers. Exhibits 23 through 30 present changes to, and the holdings of, our managed portfolios.

**Exhibit 21: Equities Worldwide Failure Models**  
**Relative Returns Versus Regional Markets**  
**Monthly Data Compounded**  
**January Through April 2017**

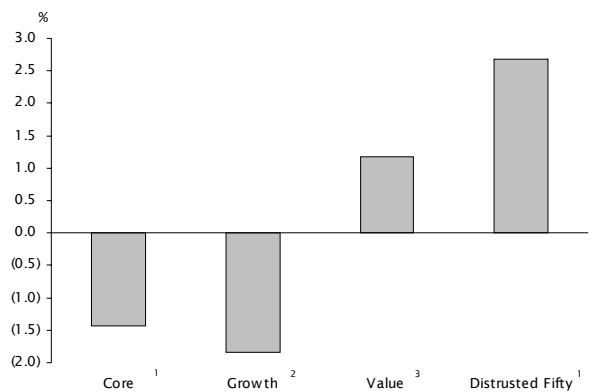


Source: Empirical Research Partners Analysis.

<sup>1</sup>Using a universe of the 1,000 largest-cap issues.

<sup>2</sup>Using a universe of 2,000 smaller-cap issues.

**Exhibit 22: Performance of Our Recommended Portfolios**  
**Relative Returns Versus Style-Specific Benchmarks**  
**2017 Through April**



Source: Empirical Research Partners Analysis.

<sup>1</sup>Compared to the S&P 500.

<sup>2</sup>Compared to Russell 1000 Growth.

<sup>3</sup>Compared to Russell 1000 Value.



**Exhibit 23: Changes to the Distrusted Fifty  
As of End-April 2017**

| Symbol           | Company                      | Price at Inclusion | Recent Price | Market Capitalization (\$ Billion) | Rationale                    |
|------------------|------------------------------|--------------------|--------------|------------------------------------|------------------------------|
| <b>Additions</b> |                              |                    |              |                                    |                              |
| BEN              | FRANKLIN RESOURCES INC       | \$43.11            | \$43.11      | \$24.2                             | Attractive                   |
| CVS              | CVS HEALTH CORP              | 82.44              | 82.44        | 87.5                               | Attractive                   |
| LBTYK            | LIBERTY GLOBAL PLC GLOBAL GP | 34.61              | 34.61        | 35.3                               | Attractive                   |
| <b>Deletions</b> |                              |                    |              |                                    |                              |
| BBBY             | BED BATH & BEYOND INC        | \$67.34            | \$38.75      | \$5.7                              | Better opportunity elsewhere |
| TDG              | TRANSDIGM GROUP INC          | 259.46             | 246.73       | 13.2                               | Loss in model rank           |
| WDC              | WESTERN DIGITAL CORP         | 18.87              | 89.07        | 25.7                               | Appreciation                 |

Source: Empirical Research Partners Analysis.

**Exhibit 24: The Distrusted Fifty  
Large-Capitalization Growth Stocks With High Reinvestment Rates Discounting Relatively Low Secular Earnings Growth  
Sorted by Capitalization  
As of End-April 2017**

| Symbol                     | Company                               | Price at Inclusion | Recent Price | Quintile Ranks (1=Best; 5=Worst) |                            |                 |           |   | Growth Model Rank | Forward P/E Ratio | Rate of Earnings Reinvestment | Implied Earnings Growth Rate | Implied Earnings Growth/Reinvestment Rate | Free Cash Flow Yield | Market Capitalization (\$ Billion) |
|----------------------------|---------------------------------------|--------------------|--------------|----------------------------------|----------------------------|-----------------|-----------|---|-------------------|-------------------|-------------------------------|------------------------------|---|----------------------|------------------------------------|
|                            |                                       |                    |              | Super Factors                    |                            |                 |           |   |                   |                   |                               |                              |   |                      |                                    |
|                            |                                       |                    |              | Capital Deployment               | Earnings Quality and Trend | Market Reaction | Valuation |   |                   |                   |                               |                              |   |                      |                                    |
| AAPL                       | APPLE INC                             | \$13.24            | \$143.65     | 3                                | 4                          | 1               | 2         | 2 | 15.8              | x                 | 25 %                          | +4.8 %                       | 19 %                                      | 7.0 %                | \$754.9                            |
| GOOGL                      | ALPHABET INC                          | 298.80             | 924.52       | 2                                | 2                          | 3               | 3         | 2 | 27.3              |                   | 15                            | 14.1                         | 94  | 4.4                  | 639.9                              |
| MSFT                       | MICROSOFT CORP                        | 41.23              | 68.46        | 1                                | 2                          | 3               | 2         | 1 | 21.6              |                   | 8                             | 6.1                          | 77  | 5.4                  | 529.0                              |
| WFC                        | WELLS FARGO & CO                      | 32.42              | 53.84        | 3                                | na                         | 4               | 1         | 3 | 12.8              |                   | 7                             | 1.9                          | 27  | na                   | 269.0                              |
| CMCSA                      | COMCAST CORP                          | 27.33              | 39.19        | 2                                | 2                          | 2               | 2         | 1 | 20.0              |                   | 12                            | 6.3                          | 54  | 5.4                  | 186.2                              |
| PM                         | PHILIP MORRIS INTERNATIONAL           | 42.70              | 110.84       | 5                                | 1                          | 2               | 4         | 4 | 22.8              |                   | 5                             | 6.9                          | NM  | 4.2                  | 172.2                              |
| TSM                        | TAIWAN SEMICONDUCTOR MFG CO           | 16.75              | 33.07        | 2                                | 3                          | 3               | 2         | 2 | 14.8              |                   | 14                            | 2.8                          | 20  | 3.8                  | 171.5                              |
| UNH                        | UNITEDHEALTH GROUP INC                | 74.70              | 174.88       | 2                                | 5                          | 2               | 2         | 2 | 17.9              |                   | 13                            | 5.5                          | 41  | 6.5                  | 168.6                              |
| PEP                        | PEPSICO INC                           | 82.15              | 113.28       | 3                                | 3                          | 3               | 3         | 3 | 22.1              |                   | 20                            | 5.7                          | 29  | 4.4                  | 162.0                              |
| IBM                        | IBM CORP.                             | 119.33             | 160.29       | 2                                | 5                          | 5               | 1         | 3 | 11.6              |                   | 40                            | (2.2)                        | NM  | 8.2                  | 150.6                              |
| MMM                        | 3M CO                                 | 77.21              | 195.83       | 3                                | 2                          | 4               | 3         | 4 | 22.0              |                   | 52                            | 5.9                          | 27  | 4.3                  | 117.0                              |
| BA                         | BOEING CO                             | 74.78              | 184.83       | 1                                | 2                          | 1               | 2         | 1 | 19.8              |                   | 59                            | 4.7                          | 8   | 8.1                  | 112.0                              |
| ABBV                       | ABBVIE INC                            | 55.65              | 65.94        | 1                                | 2                          | 3               | 1         | 1 | 12.0              |                   | 52                            | 1.1                          | 2   | 6.2                  | 105.1                              |
| GILD                       | GILEAD SCIENCES INC                   | 20.12              | 68.55        | 1                                | 2                          | 5               | 1         | 1 | 8.4               |                   | 59                            | (0.6)                        | NM  | 17.7                 | 89.8                               |
| AVGO                       | BROADCOM LTD                          | 32.35              | 220.81       | 5                                | 5                          | 1               | 4         | 5 | 15.0              |                   | NM                            | 4.4                          | NM  | 3.4                  | 88.6                               |
| CVS                        | CVS HEALTH CORP                       | 82.44              | 82.44        | 1                                | 5                          | 4               | 1         | 1 | 14.1              |                   | 9                             | 3.8                          | 40  | 9.2                  | 87.5                               |
| AGN                        | ALLERGAN PLC                          | 229.32             | 243.86       | 1                                | 1                          | 5               | 3         | 2 | 15.2              |                   | NM                            | 4.4                          | NM  | 5.4                  | 81.7                               |
| ACN                        | ACCENTURE PLC                         | 31.89              | 121.30       | 3                                | 4                          | 3               | 3         | 3 | 20.2              |                   | 33                            | 6.7                          | 20  | 5.6                  | 80.2                               |
| TXN                        | TEXAS INSTRUMENTS INC                 | 59.28              | 79.18        | 2                                | 1                          | 4               | 4         | 1 | 20.2              |                   | 19                            | 6.2                          | 32  | 5.5                  | 79.2                               |
| AXP                        | AMERICAN EXPRESS CO                   | 20.04              | 79.25        | 1                                | na                         | 2               | 3         | 3 | 13.9              |                   | 20                            | 4.2                          | 21  | na                   | 70.9                               |
| ADBE                       | ADOBE SYSTEMS INC                     | 27.81              | 133.74       | 3                                | 1                          | 1               | 5         | 1 | 33.9              |                   | 18                            | 18.6                         | 104                                       | 3.4                  | 66.2                               |
| BIIB                       | BIOGEN INC                            | 67.38              | 271.21       | 4                                | 2                          | 5               | 2         | 2 | 13.1              |                   | 34                            | 4.4                          | 13  | 5.3                  | 58.0                               |
| TJX                        | TJX COMPANIES INC                     | 16.34              | 78.64        | 2                                | 2                          | 4               | 2         | 2 | 18.8              |                   | 37                            | 6.3                          | 17  | 5.1                  | 50.8                               |
| ITW                        | ILLINOIS TOOL WORKS                   | 63.12              | 138.09       | 2                                | 2                          | 2               | 4         | 2 | 21.8              |                   | 26                            | 6.2                          | 24  | 4.2                  | 47.9                               |
| HAL                        | HALLIBURTON CO                        | 55.14              | 45.88        | 2                                | 5                          | 4               | 5         | 5 | 46.9              |                   | NM                            | 11.1                         | NM  | (5.4)                | 39.8                               |
| COF                        | CAPITAL ONE FINANCIAL CORP            | 42.77              | 80.38        | 2                                | na                         | 3               | 1         | 1 | 10.6              |                   | 6                             | (1.0)                        | NM  | na                   | 38.8                               |
| MAR                        | MARRIOTT INTERNATIONAL INC            | 69.75              | 94.42        | 5                                | 4                          | 1               | 4         | 5 | 24.0              |                   | 46                            | 5.8                          | 13  | 3.8                  | 36.5                               |
| ESRX                       | EXPRESS SCRIPTS HOLDING CO            | 74.58              | 61.34        | 1                                | 4                          | 5               | 1         | 2 | 8.8               |                   | 20                            | (0.4)                        | NM  | 0.1                  | 36.4                               |
| EBAY                       | EBAY INC                              | 25.75              | 33.41        | 1                                | 1                          | 4               | 1         | 1 | 16.7              |                   | 85                            | 6.9                          | 8   | 6.0                  | 36.2                               |
| LBTYK                      | LIBERTY GLOBAL PLC GLOBAL GP          | 34.61              | 34.61        | 2                                | 1                          | 4               | 2         | 1 | 186.1             |                   | 20                            | 18.6                         | 94  | 9.4                  | 35.3                               |
| STT                        | STATE STREET CORP                     | 29.97              | 83.90        | 1                                | na                         | 1               | 1         | 1 | 14.2              |                   | 7                             | 4.2                          | 57  | na                   | 32.0                               |
| HCA                        | HCA HOLDINGS INC                      | 81.95              | 84.21        | 2                                | 1                          | 4               | 1         | 1 | 11.4              |                   | 39                            | (0.4)                        | NM  | 9.3                  | 31.2                               |
| MCK                        | MCKESSON CORP                         | 182.39             | 138.29       | 2                                | 4                          | 5               | 1         | 3 | 12.0              |                   | 22                            | 4.4                          | 20  | 20.4                 | 29.3                               |
| TEL                        | TE CONNECTIVITY LTD                   | 74.62              | 77.37        | 4                                | 1                          | 2               | 2         | 1 | 16.6              |                   | 17                            | 4.8                          | 28  | 6.5                  | 27.5                               |
| BEN                        | FRANKLIN RESOURCES INC                | 43.11              | 43.11        | 1                                | na                         | 3               | 1         | 2 | 15.3              |                   | 11                            | 4.2                          | 39  | na                   | 24.2                               |
| DFS                        | DISCOVER FINANCIAL SERVICES INC       | 43.74              | 62.59        | 1                                | na                         | 4               | 1         | 2 | 10.4              |                   | 17                            | (0.9)                        | NM  | na                   | 24.0                               |
| LRCX                       | LAM RESEARCH CORP                     | 82.66              | 144.85       | 1                                | 2                          | 1               | 1         | 1 | 14.1              |                   | 14                            | 5.9                          | 43  | 6.5                  | 23.8                               |
| MCO                        | MOODY'S CORP                          | 28.63              | 118.32       | 2                                | 2                          | 2               | 4         | 2 | 22.4              |                   | NM                            | 6.8                          | NM  | 4.9                  | 22.6                               |
| DC                         | DOLLAR GENERAL CORP                   | 73.39              | 72.71        | 3                                | 4                          | 5               | 1         | 4 | 14.8              |                   | 18                            | 4.4                          | 24  | 5.3                  | 20.0                               |
| CHKP                       | CHECK POINT SOFTWARE TECHNOLOGIES INC | 34.41              | 104.01       | 4                                | 2                          | 2               | 3         | 3 | 20.2              |                   | 21                            | 10.3                         | 50  | 5.0                  | 18.2                               |
| TROW                       | PRICE (T. ROWE) GROUP                 | 65.36              | 70.89        | 2                                | na                         | 4               | 1         | 3 | 13.4              |                   | 14                            | 1.7                          | 12  | na                   | 17.1                               |
| ADS                        | ALLIANCE DATA SYSTEMS CORP            | 152.77             | 249.63       | 1                                | 3                          | 2               | 1         | 1 | 13.4              |                   | 20                            | 4.4                          | 22  | 14.8                 | 14.3                               |
| WAT                        | WATERS CORP                           | 47.00              | 169.89       | 2                                | 2                          | 1               | 4         | 2 | 23.3              |                   | 24                            | 12.3                         | 51  | 3.9                  | 13.6                               |
| CTXS                       | CITRIX SYSTEMS INC                    | 55.49              | 80.94        | 2                                | 2                          | 3               | 1         | 1 | 17.5              |                   | 23                            | 7.7                          | 34  | 7.5                  | 12.7                               |
| WYNN                       | WYNN RESORTS LTD                      | 137.30             | 123.01       | 2                                | 2                          | 1               | 4         | 1 | 26.2              |                   | NM                            | 7.3                          | NM  | (2.0)                | 12.5                               |
| WYN                        | WYNDHAM WORLDWIDE CORP                | 61.65              | 95.31        | 1                                | 1                          | 1               | 1         | 1 | 15.4              |                   | 48                            | 4.0                          | 8   | 7.7                  | 9.9                                |
| SNI                        | SCRIPPS NETWORKS INTERACTIVE          | 63.97              | 74.72        | 3                                | 1                          | 4               | 1         | 1 | 13.8              |                   | 32                            | 4.4                          | 14  | 9.0                  | 9.7                                |
| JAZZ                       | JAZZ PHARMACEUTICALS PLC              | 143.63             | 159.28       | 1                                | 3                          | 4               | 2         | 2 | 14.3              |                   | 23                            | 5.9                          | 26  | 6.1                  | 9.6                                |
| VRSN                       | VERISIGN INC                          | 56.47              | 88.92        | 1                                | 2                          | 4               | 1         | 1 | 22.3              |                   | 39                            | 10.3                         | 26  | 7.1                  | 9.1                                |
| FFIV                       | F5 NETWORKS INC                       | 118.56             | 129.13       | 3                                | 3                          | 5               | 1         | 3 | 15.5              |                   | 30                            | 6.9                          | 23  | 8.2                  | 8.3                                |
| Average                    |                                       |                    |              |                                  |                            |                 |           |   | 21.1              | x                 | 25 %                          | 5.6 %                        | 22 %                                      | 6.2 %                |                                    |
| All Other Large-Cap Stocks |                                       |                    |              |                                  |                            |                 |           |   | 18.6              | x                 | 5 %                           | 6.6 %                        | 120 %                                     | 3.6 %                |                                    |

Source: Empirical Research Partners Analysis.

**Exhibit 25: Changes to Our Large-Capitalization Core Portfolio  
As of End-April 2017**

| Symbol                    | Company                      | Suggested Weight | Price at Inclusion | Price at 04/28/17 | Rationale                    |
|---------------------------|------------------------------|------------------|--------------------|-------------------|------------------------------|
| <b>Additions</b>          |                              |                  |                    |                   |                              |
| DVA                       | DAVITA INC                   | 1.4 %            | \$69.01            | \$69.01           | Attractive                   |
| FDC                       | FIRST DATA CORP              | 1.4              | 15.62              | 15.62             | Attractive                   |
| <b>Increasing Weights</b> |                              |                  |                    |                   |                              |
| C                         | CITIGROUP INC                |                  | \$44.91            | \$59.12           | Moved from WFC               |
|                           | Was                          | 1.7 %            |                    |                   |                              |
|                           | Now                          | 3.0              |                    |                   |                              |
| MS                        | MORGAN STANLEY               |                  | 27.21              | 43.37             | Moved from WFC               |
|                           | Was                          | 1.2 %            |                    |                   |                              |
|                           | Now                          | 2.0              |                    |                   |                              |
| VRSN                      | VERISIGN INC                 |                  | 64.75              | 88.92             | Moved from MRVL              |
|                           | Was                          | 1.2 %            |                    |                   |                              |
|                           | Now                          | 2.0              |                    |                   |                              |
| CVS                       | CVS HEALTH CORP              |                  | 75.86              | 82.44             | Moved from ENR               |
|                           | Was                          | 0.9 %            |                    |                   |                              |
|                           | Now                          | 1.9              |                    |                   |                              |
| <b>Deletions</b>          |                              |                  |                    |                   |                              |
| WFC                       | WELLS FARGO & CO             | 2.0 %            | \$33.07            | \$53.84           | Moved to C and MS            |
| WDC                       | WESTERN DIGITAL CORP         | 1.0              | 29.52              | 89.07             | Appreciation                 |
| MRVL                      | MARVELL TECHNOLOGY GROUP LTD | 0.8              | 15.21              | 15.02             | Moved to VRSN                |
| AN                        | AUTONATION INC               | 0.6              | 63.28              | 42.00             | Loss in model rank           |
| WPPGY                     | WPP PLC                      | 0.5              | 47.31              | 107.10            | Better opportunity elsewhere |
| <b>Declining Weights</b>  |                              |                  |                    |                   |                              |
| LYB                       | LYONDELLBASELL INDUSTRIES NV |                  | \$67.53            | \$84.76           | Better opportunity elsewhere |
|                           | Was                          | 2.7 %            |                    |                   |                              |
|                           | Now                          | 2.0              |                    |                   |                              |
| TRV                       | TRAVELERS COS INC            |                  | 49.52              | 121.66            | Appreciation                 |
|                           | Was                          | 2.2 %            |                    |                   |                              |
|                           | Now                          | 1.0              |                    |                   |                              |

Source: Empirical Research Partners Analysis.

**Exhibit 26: The Large-Capitalization Core Portfolio  
Benchmarked to the S&P 500  
As of End-April 2017**

| Symbol                                     | Company                         | Weight | Price at Inclusion | Price 04/28/17 | S&P 500 Weight | Symbol   | Company                          | Weight | Price at Inclusion | Price 04/28/17 | S&P 500 Weight |
|--|---------------------------------|--------|--------------------|----------------|----------------|--|----------------------------------|--------|--------------------|----------------|----------------|
| <b>CYCLICALS</b>                           |                                 |        |                    |                |                | <b>GROWTH-ORIENTED (Cont.)</b>                   |                                  |        |                    |                |                |
| <b>Consumer Durables and Apparel</b>       |                                 |        |                    |                |                | <b>Health Care Equipment and Services</b>        |                                  |        |                    |                |                |
| LEA  | LEAR CORP                       | 1.9 %  | \$109.51           | \$142.66       |                | ANTM   | ANTHEM INC                       | 3.0 %  | \$75.58            | \$177.89       |                |
| GM   | GENERAL MOTORS CO               | 0.9    | 36.14              | 34.64          |                | UNH  | UNITEDHEALTH GROUP INC           | 2.5    | 37.16              | 174.88         |                |
| FCAU                                       | FIAT CHRYSLER AUTOMOBILES NV    | 0.8    | 7.96               | 11.37          |                | DVA  | DAVITA INC                       | 1.4    | 69.01              | 69.01          |                |
| GT   | GOODYEAR TIRE & RUBBER CO       | 0.6    | 32.24              | 36.23          |                | SYK  | STRYKER CORP                     | 1.3    | 49.25              | 136.37         |                |
| SNE  | SONY CORP                       | 0.6    | 30.88              | 34.52          |                | CAH  | CARDINAL HEALTH INC              | 1.1    | 35.27              | 72.59          |                |
| RACE                                       | FERRARI NV                      | 0.5    | 41.55              | 75.20          |                | HCA  | HCA HOLDINGS INC                 | 0.9    | 81.95              | 84.21          |                |
|  |                                 | 5.3 %  |                    |                | 2.5 %          |  |                                  |        |                    |                |                |
| <b>Capital Equipment</b>                   |                                 |        |                    |                |                | <b>Retail, Media and Other Consumer Cyclical</b> |                                  |        |                    |                |                |
| BA   | BOEING CO                       | 1.7 %  | \$74.78            | \$184.83       |                | TJX  | TJX COMPANIES INC                | 1.8 %  | \$10.84            | \$78.64        |                |
| NOC  | NORTHROP GRUMMAN CORP           | 1.2    | 62.51              | 245.96         |                | COST   | COSTCO WHOLESALE CORP            | 1.3    | 41.94              | 177.52         |                |
| HON  | HONEYWELL INTERNATIONAL INC     | 1.1    | 27.16              | 131.14         |                | M  | MACY'S INC                       | 1.2    | 61.47              | 29.22          |                |
| SPR  | SPIRIT AEROSYSTEMS HOLDINGS     | 0.9    | 54.55              | 57.16          |                | H  | HYATT HOTELS CORP                | 1.0    | 54.82              | 55.50          |                |
| CBI  | CHICAGO BRIDGE & IRON CO        | 0.3    | 22.51              | 30.08          |                | WYN  | WYNDHAM WORLDWIDE CORP           | 1.0    | 85.03              | 95.31          |                |
|  |                                 | 5.3 %  |                    |                | 6.9 %          |  |                                  |        |                    |                |                |
| <b>Commercial Services</b>                 |                                 |        |                    |                |                | <b>Consumer Staples</b>                          |                                  |        |                    |                |                |
| MCO  | MOODY'S CORP                    | 1.2 %  | \$28.63            | \$118.32       |                | PM   | PHILIP MORRIS INTERNATIONAL      | 2.2 %  | \$42.16            | \$110.84       |                |
|  |                                 | 1.2 %  |                    |                | 0.8 %          | CVS  | CVS HEALTH CORP                  | 1.9    | 79.27              | 82.44          |                |
| <b>Industrial Commodities</b>              |                                 |        |                    |                |                | <b>OTHER</b>                                     |                                  |        |                    |                |                |
| LYB  | LYONDELLBASELL INDUSTRIES NV    | 2.0    | \$67.53            | \$84.76        |                | <b>Financials</b>                                |                                  |        |                    |                |                |
|  |                                 | 2.0 %  |                    |                | 2.7 %          | JPM  | JPMORGAN CHASE & CO              | 3.8 %  | \$46.90            | \$87.00        |                |
| <b>Transports</b>                          |                                 |        |                    |                |                | <b>Financials</b>                                |                                  |        |                    |                |                |
| UAL  | UNITED CONTINENTAL HOLDINGS INC | 0.7 %  | \$22.38            | \$70.21        |                | C  | CITIGROUP INC                    | 3.0    | 51.19              | 59.12          |                |
|  |                                 | 0.7 %  |                    |                | 2.3 %          | COF  | CAPITAL ONE FINANCIAL CORP       | 2.6    | 52.59              | 80.38          |                |
| <b>GROWTH-ORIENTED</b>                     |                                 |        |                    |                |                | <b>Financials</b>                                |                                  |        |                    |                |                |
| <b>Technology</b>                          |                                 |        |                    |                |                | <b>Financials</b>                                |                                  |        |                    |                |                |
| MSFT                                       | MICROSOFT CORP                  | 4.2 %  | \$52.15            | \$68.46        |                | PNC  | PNC FINANCIAL SERVICES GROUP INC | 2.4    | 66.75              | 119.75         |                |
| GLW  | CORNING INC                     | 3.3    | 20.51              | 28.85          |                | MS   | MORGAN STANLEY                   | 2.0    | 34.02              | 43.37          |                |
| AAPL                                       | APPLE INC                       | 3.2    | 63.25              | 143.65         |                | GS   | GOLDMAN SACHS GROUP INC          | 2.0    | 120.49             | 223.80         |                |
| XLNX                                       | XILINX INC                      | 2.3    | 35.08              | 63.11          |                | AIG  | AMERICAN INTERNATIONAL GROUP     | 1.4    | 59.39              | 60.91          |                |
| TSM  | TAIWAN SEMICONDUCTOR MFG CO     | 2.1    | 9.16               | 33.07          |                | BAC  | BANK OF AMERICA CORP             | 1.3    | 35.40              | 23.34          |                |
| FLEX                                       | FLEX LTD                        | 2.0    | 10.12              | 15.46          |                | CFG  | CITIZENS FINANCIAL GROUP INC     | 1.2    | 26.77              | 36.71          |                |
| VRSN                                       | VERISIGN INC                    | 2.0    | 74.26              | 88.92          |                | TRV  | TRAVELERS COS INC                | 1.0    | 49.52              | 121.66         |                |
| ACN  | ACCENTURE PLC                   | 1.9    | 50.25              | 121.30         |                | DFS  | DISCOVER FINANCIAL SVCS INC      | 1.0    | 59.41              | 62.59          |                |
| FDC  | FIRST DATA CORP                 | 1.4    | 15.62              | 15.62          |                | LM   | LEGG MASON INC                   | 0.4    | 62.76              | 37.38          |                |
| TEL  | TE CONNECTIVITY LTD             | 1.3    | 40.96              | 77.37          |                |  |                                  | 22.1 % |                    |                | 17.8 %         |
| EBAY                                       | EBAY INC                        | 1.1    | 24.57              | 33.41          |                | <b>Energy</b>                                    |                                  |        |                    |                |                |
| MU   | MICRON TECHNOLOGY INC           | 0.7    | 33.19              | 27.67          |                | COP  | CONOCOPHILLIPS                   | 1.6 %  | \$44.00            | \$47.91        |                |
| HPE  | HEWLETT PACKARD ENTERPRISE      | 0.4    | 13.50              | 18.63          |                | HES  | HESS CORP                        | 1.5    | 67.69              | 48.83          |                |
| HPQ  | HP INC                          | 0.3    | 14.98              | 18.82          |                | OXY  | OCCIDENTAL PETROLEUM CORP        | 1.1    | 91.75              | 61.54          |                |
|  |                                 | 26.0 % |                    |                | 20.8 %         | MPC  | MARATHON PETROLEUM CORP          | 1.0    | 20.00              | 50.94          |                |
| <b>Pharmaceuticals &amp; Biotechnology</b> |                                 |        |                    |                |                | <b>Energy</b>                                    |                                  |        |                    |                |                |
| PFE  | PFIZER INC                      | 2.1 %  | \$21.76            | \$33.92        |                | NBL  | NOBLE ENERGY INC                 | 0.8    | 39.46              | 32.33          |                |
| JNJ  | JOHNSON & JOHNSON               | 2.0    | 50.87              | 123.47         |                | APA  | APACHE CORP                      | 0.5    | 97.66              | 48.64          |                |
| AMGN                                       | AMGEN INC                       | 1.5    | 132.53             | 163.32         |                | CHK  | CHESAPEAKE ENERGY CORP           | 0.2    | 25.64              | 5.26           |                |
| AGN  | ALLERGAN PLC                    | 1.0    | 229.32             | 243.86         |                | MDR  | MCDERMOTT INTL INC               | 0.2    | 17.28              | 6.54           |                |
| GILD                                       | GILEAD SCIENCES INC             | 0.9    | 97.21              | 68.55          |                |  |                                  | 7.0 %  |                    |                | 7.2 %          |
|  |                                 | 7.6 %  |                    |                | 8.1 %          | <b>Telecommunication Services</b>                |                                  |        |                    |                |                |
|  |                                 |        |                    |                |                | None   |                                  |        |                    |                |                |
|  |                                 |        |                    |                |                | 0.0 %  |                                  |        |                    |                |                |
|  |                                 |        |                    |                |                | <b>Utilities</b>                                 |                                  |        |                    |                |                |
|  |                                 |        |                    |                |                | None   |                                  |        |                    |                |                |
|  |                                 |        |                    |                |                | 0.0 %  |                                  |        |                    |                |                |
|  |                                 |        |                    |                |                | 2.9 %  |                                  |        |                    |                |                |
|  |                                 |        |                    |                |                | <b>TOTAL</b>                                     |                                  |        |                    |                |                |
|  |                                 |        |                    |                |                | 100.0 %  |                                  |        |                    |                |                |
|  |                                 |        |                    |                |                | 100.0 %  |                                  |        |                    |                |                |

Source: Empirical Research Partners Analysis.

**Exhibit 27: Changes to Our Large-Capitalization Value Portfolio  
As of End-April 2017**

| Symbol                    | Company                      | Suggested Weight | Price at Inclusion | Price at 04/28/17 | Rationale                    |
|---------------------------|------------------------------|------------------|--------------------|-------------------|------------------------------|
| <b>Additions</b>          |                              |                  |                    |                   |                              |
| ADS                       | ALLIANCE DATA SYSTEMS CORP   | 1.0 %            | \$249.63           | \$249.63          | Attractive                   |
| WBA                       | WALGREENS BOOTS ALLIANCE INC | 1.0              | 86.54              | 86.54             | Attractive                   |
| <b>Increasing Weights</b> |                              |                  |                    |                   |                              |
| AAPL                      | APPLE INC                    |                  | \$63.25            | \$143.65          | Attractive                   |
|                           | Was                          | 2.9 %            |                    |                   |                              |
|                           | Now                          | 3.4              |                    |                   |                              |
| ANTM                      | ANTHEM INC                   |                  | 67.93              | 177.89            | Attractive                   |
|                           | Was                          | 2.4 %            |                    |                   |                              |
|                           | Now                          | 3.0              |                    |                   |                              |
| C                         | CITIGROUP INC                |                  | 46.66              | 59.12             | Attractive                   |
|                           | Was                          | 2.1 %            |                    |                   |                              |
|                           | Now                          | 3.0              |                    |                   |                              |
| BAC                       | BANK OF AMERICA CORP         |                  | 27.96              | 23.34             | Attractive                   |
|                           | Was                          | 1.4 %            |                    |                   |                              |
|                           | Now                          | 2.5              |                    |                   |                              |
| <b>Deletions</b>          |                              |                  |                    |                   |                              |
| AIG                       | AMERICAN INTERNATIONAL GROUP | 1.9 %            | \$57.07            | \$60.91           | Moved to C and BAC           |
| F                         | FORD MOTOR CO                | 1.0              | 14.03              | 11.47             | Better opportunity elsewhere |
| <b>Declining Weights</b>  |                              |                  |                    |                   |                              |
| LYB                       | LYONDELLBASELL INDUSTRIES NV |                  | \$67.57            | \$84.76           | Better opportunity elsewhere |
|                           | Was                          | 3.1 %            |                    |                   |                              |
|                           | Now                          | 2.0              |                    |                   |                              |
| WFC                       | WELLS FARGO & CO             |                  | 27.52              | 53.84             | Moved to C and BAC           |
|                           | Was                          | 3.1 %            |                    |                   |                              |
|                           | Now                          | 2.0              |                    |                   |                              |

Source: Empirical Research Partners Analysis.

**Exhibit 28: The Large-Capitalization Value Portfolio<sup>1</sup>  
Benchmarked to the Russell 1000 Value Index  
As of End-April 2017**

| Symbol                                    | Company                              | Weight | Price at Inclusion | Price at 04/28/17 | Benchmark Weight | Symbol  | Company                         | Weight  | Price at Inclusion | Price at 04/28/17 | Benchmark Weight |
|---|--------------------------------------|--------|--------------------|-------------------|------------------|---|---------------------------------|---------|--------------------|-------------------|------------------|
| <b>CYCLICALS:</b>                         |                                      |        |                    |                   |                  | <b>GROWTH-ORIENTED CONT.:</b>                     |                                 |         |                    |                   |                  |
| <b>Consumer Durables &amp; Apparel</b>    |                                      |        |                    |                   |                  | <b>Health Care Equipment &amp; Services</b>       |                                 |         |                    |                   |                  |
| GM  | GENERAL MOTORS CO                    | 1.5 %  | \$40.03            | \$34.64           |                  | ANTM  | ANTHEM INC                      | 3.0 %   | \$90.73            | \$177.89          |                  |
| GT  | GOODYEAR TIRE & RUBBER CO            | 1.0    | 32.24              | 36.23             |                  | UNH   | UNITEDHEALTH GROUP INC          | 2.5     | 51.21              | 174.88            |                  |
| DLPH                                      | DELPHI AUTOMOTIVE PLC                | 1.0    | 67.17              | 80.40             |                  | HCA   | HCA HOLDINGS INC                | 1.9     | 51.26              | 84.21             |                  |
| LEA                                       | LEAR CORP                            | 1.0    | 142.65             | 142.66            |                  | MCK   | MCKESSON CORP                   | 1.2     | 41.55              | 138.29            |                  |
| SNE                                       | SONY CORP                            | 0.9    | 21.26              | 34.52             |                  |   |                                 | 8.6 %   |                    |                   | 5.8 %            |
| FCAU                                      | FIAT CHRYSLER AUTOMOBILES NV         | 0.8    | 7.96               | 11.37             |                  | <b>Retail, Media, and Other Consumer Cyclical</b> |                                 |         |                    |                   |                  |
| RACE                                      | FERRARI NV                           | 0.5    | 31.53              | 75.20             |                  | M   | MACY'S INC                      | 1.2 %   | \$27.01            | \$29.22           |                  |
|   |                                      | 6.7 %  |                    |                   | 2.7 %            | WYN   | WYNDHAM WORLDWIDE CORP          | 1.0     | 85.03              | 95.31             |                  |
| <b>Capital Equipment</b>                  |                                      |        |                    |                   |                  | <b>Consumer Staples</b>                           |                                 |         |                    |                   |                  |
| BA  | BOEING CO                            | 1.7 %  | \$74.78            | \$184.83          |                  | PEP   | PEPSICO INC                     | 1.7 %   | \$89.89            | \$113.28          |                  |
| HON                                       | HONEYWELL INTERNATIONAL INC          | 1.6    | 53.15              | 131.14            |                  | MO  | ALTRIA GROUP INC                | 1.6     | 15.67              | 71.78             |                  |
| NOC                                       | NORTHROP GRUMMAN CORP                | 1.5    | 57.77              | 245.96            |                  | PM  | PHILIP MORRIS INTERNATIONAL     | 1.6     | 34.66              | 110.84            |                  |
| DOV                                       | DOVER CORP                           | 0.8    | 21.80              | 78.88             |                  | WBA   | WALGREENS BOOTS ALLIANCE INC    | 1.0     | 86.54              | 86.54             |                  |
|   |                                      | 5.6 %  |                    |                   | 7.4 %            | EPC   | EDGEWELL PERSONAL CARE CO       | 1.0     | 52.69              | 71.49             |                  |
| <b>Commercial Services &amp; Supplies</b> |                                      |        |                    |                   |                  | <b>Energy</b>                                     |                                 |         |                    |                   |                  |
| None                                      |                                      |        |                    |                   |                  | None  |                                 |         |                    |                   |                  |
|   |                                      | 0.0 %  |                    |                   | 0.7 %            | ENR   | ENERGIZER HOLDINGS INC          | 0.9     | 20.43              | 59.23             |                  |
| <b>Industrial Commodities</b>             |                                      |        |                    |                   |                  | <b>OTHER:</b>                                     |                                 |         |                    |                   |                  |
| LYB                                       | LYONDELLBASELL INDUSTRIES NV         | 2.0 %  | \$67.57            | \$84.76           |                  | <b>Financials</b>                                 |                                 |         |                    |                   |                  |
| IP  | INTERNATIONAL PAPER CO               | 1.1    | 33.83              | 53.97             |                  | C   | CITIGROUP INC                   | 3.0 %   | \$50.37            | \$59.12           |                  |
| CE  | CELANESE CORP                        | 1.0    | 85.99              | 87.04             |                  | JPM   | JPMORGAN CHASE & CO             | 2.9     | 43.89              | 87.00             |                  |
| TCK                                       | TECK RESOURCES LTD                   | 0.4    | 35.69              | 20.74             |                  | BAC   | BANK OF AMERICA CORP            | 2.5     | 25.90              | 23.34             |                  |
|   |                                      | 4.4 %  |                    |                   | 3.4 %            | MS  | MORGAN STANLEY                  | 2.3     | 34.72              | 43.37             |                  |
| <b>Transports</b>                         |                                      |        |                    |                   |                  | <b>Technology</b>                                 |                                 |         |                    |                   |                  |
| DAL                                       | DELTA AIR LINES INC                  | 1.7 %  | \$13.54            | \$45.44           |                  | AAPL  | APPLE INC                       | 3.4 %   | \$76.33            | \$143.65          |                  |
| UAL                                       | UNITED CONTINENTAL HOLDINGS INC      | 1.4    | 22.38              | 70.21             |                  | MSFT  | MICROSOFT CORP                  | 3.1     | 47.54              | 68.46             |                  |
|   |                                      | 3.1 %  |                    |                   | 1.1 %            | CHKP  | CHECK POINT SOFTWARE TECHNOLOGY | 2.4     | 52.75              | 104.01            |                  |
| <b>GROWTH-ORIENTED:</b>                   |                                      |        |                    |                   |                  | <b>Pharmaceuticals &amp; Biotechnology</b>        |                                 |         |                    |                   |                  |
| <b>Technology</b>                         |                                      |        |                    |                   |                  | PFE   |                                 |         |                    |                   |                  |
| AAPL                                      | APPLE INC                            | 3.4 %  | \$76.33            | \$143.65          |                  | BIIB  | BIOGEN IDEC INC                 | 1.8     | 67.38              | 271.21            |                  |
| MSFT                                      | MICROSOFT CORP                       | 3.1    | 47.54              | 68.46             |                  | AMGN  | AMGEN INC                       | 1.3     | 84.65              | 163.32            |                  |
| CHKP                                      | CHECK POINT SOFTWARE TECHNOLOGY      | 2.4    | 52.75              | 104.01            |                  | TEVA  | TEVA PHARMACEUTICALS            | 0.5     | 60.70              | 31.58             |                  |
| GLW                                       | CORNING INC                          | 2.3    | 17.14              | 28.85             |                  |   |                                 | 5.6 %   |                    |                   | 6.4 %            |
| TSM                                       | TAIWAN SEMICONDUCTOR MFG CO          | 2.2    | 8.86               | 33.07             |                  | <b>Utilities</b>                                  |                                 |         |                    |                   |                  |
| ADBE                                      | ADOBE SYSTEMS INC                    | 2.2    | 32.62              | 133.74            |                  | None  |                                 |         |                    |                   |                  |
| IBM                                       | INTERNATIONAL BUSINESS MACHINES CORP | 1.4    | 110.29             | 160.29            |                  |   |                                 | 0.0 %   |                    |                   | 4.7 %            |
| EBAY                                      | EBAY INC                             | 1.3    | 20.39              | 33.41             |                  | <b>TOTAL</b>                                      |                                 |         |                    |                   |                  |
| ADS                                       | ALLIANCE DATA SYSTEMS CORP           | 1.0    | 249.63             | 249.63            |                  |   |                                 | 100.0 % |                    |                   | 100.0 %          |
| MU  | MICRON TECHNOLOGY INC                | 0.7    | 33.19              | 27.67             |                  |   |                                 |         |                    |                   |                  |
| HPE                                       | HEWLETT PACKARD ENTERPRISE           | 0.5    | 8.63               | 18.63             |                  |   |                                 |         |                    |                   |                  |
| PYPL                                      | PAYPAL HOLDINGS INC                  | 0.5    | 10.09              | 47.72             |                  |   |                                 |         |                    |                   |                  |
| HPQ                                       | HEWLETT-PACKARD CO                   | 0.4    | 9.57               | 18.82             |                  |   |                                 |         |                    |                   |                  |
|   |                                      | 21.4 % |                    |                   | 13.2 %           |   |                                 |         |                    |                   |                  |

Source: Empirical Research Partners Analysis.

<sup>1</sup>The universe of eligible stocks is all large-cap issues.

**Exhibit 29: Changes to Our Large-Capitalization Growth Portfolio  
As of End-April 2017**

| Symbol                    | Company                      | Suggested Weight | Price at Inclusion | Price at 04/28/17 | Rationale                    |
|---------------------------|------------------------------|------------------|--------------------|-------------------|------------------------------|
| <b>Additions</b>          |                              |                  |                    |                   |                              |
| CMCSA                     | COMCAST CORP                 | 1.0 %            | \$39.19            | \$39.19           | Attractive                   |
| CELG                      | CELGENE CORP                 | 1.0              | 124.05             | 124.05            | Attractive                   |
| BEN                       | FRANKLIN RESOURCES INC       | 1.0              | 43.11              | 43.11             | Attractive                   |
| MA                        | MASTERCARD INC               | 1.0              | 116.32             | 116.32            | Attractive                   |
| TMUS                      | T-MOBILE US INC              | 1.0              | 67.27              | 67.27             | Attractive                   |
| <b>Increasing Weights</b> |                              |                  |                    |                   |                              |
| AAPL                      | APPLE INC                    |                  | \$13.24            | \$143.65          | Moved from NXPI              |
|                           | Was                          | 3.9 %            |                    |                   |                              |
|                           | Now                          | 4.5              |                    |                   |                              |
| GOOGL                     | ALPHABET INC                 |                  | 239.41             | 924.52            | Moved from FFIV              |
|                           | Was                          | 1.8 %            |                    |                   |                              |
|                           | Now                          | 2.5              |                    |                   |                              |
| LBTYA                     | LIBERTY GLOBAL PLC GLOBAL GP |                  | 16.39              | 35.42             | Attractive                   |
|                           | Was                          | 1.4 %            |                    |                   |                              |
|                           | Now                          | 2.0              |                    |                   |                              |
| <b>Deletions</b>          |                              |                  |                    |                   |                              |
| TDG                       | TRANSDIGM GROUP INC          | 1.6 %            | \$219.86           | \$246.73          | Better opportunity elsewhere |
| BCR                       | BARD (C.R.) INC              | 1.7              | 146.43             | 307.48            | Acquired                     |
| FFIV                      | F5 NETWORKS INC              | 0.9              | 125.96             | 129.13            | Loss in model rank           |
| <b>Declining Weights</b>  |                              |                  |                    |                   |                              |
| WFC                       | WELLS FARGO & CO             |                  | \$33.28            | \$53.84           | Moved to BEN                 |
|                           | Was                          | 3.3 %            |                    |                   |                              |
|                           | Now                          | 2.0              |                    |                   |                              |
| NXPI                      | NXP SEMICONDUCTORS NV        |                  | 69.96              | 105.75            | Acquired                     |
|                           | Was                          | 2.4 %            |                    |                   |                              |
|                           | Now                          | 0.9              |                    |                   |                              |

Source: Empirical Research Partners Analysis.

**Exhibit 30: The Large-Capitalization Growth Portfolio  
Benchmarked to the Russell 1000 Growth Index  
As of End-April 2017**

| Symbol  | Company   | Weight | Price at Inclusion | Price at 4/28/2017 | Sector Benchmark Weight | Symbol                                    | Company  | Weight | Price at Inclusion | Price at 4/28/2017 | Sector Benchmark Weight |  |
|---|---|--------|--------------------|--------------------|-------------------------|---|--|--------|--------------------|--------------------|-------------------------|--|
| <b>CYCLICALS</b>                                      |   |        |                    |                    |                         | <b>GROWTH-ORIENTED (Cont.)</b>            |  |        |                    |                    |                         |  |
| <b>Consumer Durables and Apparel</b>                  |   |        |                    |                    |                         | <b>Health Care Equipment and Services</b> |  |        |                    |                    |                         |  |
| None  |   |        |                    |                    |                         | ANTM ANTHEM INC 2.6 % \$45.60 \$177.89    |  |        |                    |                    |                         |  |
| 0.0 %   |   |        |                    |                    |                         | MDT MEDTRONIC PLC 1.9 53.50 83.09         |  |        |                    |                    |                         |  |
| <b>Capital Equipment</b>                              |   |        |                    |                    |                         | CAH CARDINAL HEALTH INC 1.1 32.70 72.59   |  |        |                    |                    |                         |  |
| BA BOEING CO 2.3 % \$67.85 \$184.83                   | ESRX EXPRESS SCRIPTS HOLDING CO 0.6 31.52 61.34       |        |                    |                    |                         |   | 6.5 %  |        |                    |                    |                         |  |
| ITW ILLINOIS TOOL WORKS 1.5 45.36 138.09              | <b>Retail, Media, and Other Consumer Cyclicals</b>    |        |                    |                    |                         |   | AMZN AMAZON.COM INC 3.1 % \$832.35 \$924.99          |        |                    |                    |                         |  |
| MMM 3M CO 1.3 160.62 195.83                           | AMZN AMAZON.COM INC 3.1 % \$832.35 \$924.99           |        |                    |                    |                         |   | COST COSTCO WHOLESALE CORP 3.0 42.02 177.52          |        |                    |                    |                         |  |
| HON HONEYWELL INTERNATIONAL INC 1.2 73.54 131.14      | COST COSTCO WHOLESALE CORP 3.0 42.02 177.52           |        |                    |                    |                         |   | WYN WYNNDHAM WORLDWIDE CORP 2.1 75.63 95.31          |        |                    |                    |                         |  |
| 6.3 %   | WYN WYNNDHAM WORLDWIDE CORP 2.1 75.63 95.31           |        |                    |                    |                         |   | LBTYA LIBERTY GLOBAL PLC 2.0 22.17 35.42             |        |                    |                    |                         |  |
| <b>Commercial Services</b>                            | DISH DISH NETWORK CORP 1.5 24.42 64.44                |        |                    |                    |                         |   | SNI SCRIPPS NETWORKS INTERACTIVE 1.4 75.84 74.72     |        |                    |                    |                         |  |
| MCO MOODY'S CORP 2.1 % \$28.63 \$118.32               | DIS DISNEY (WALT) CO 1.4 110.37 115.60                |        |                    |                    |                         |   | DIS DISNEY (WALT) CO 1.4 110.37 115.60               |        |                    |                    |                         |  |
| 2.1 %   | CMCSA COMCAST CORP 1.0 39.19 39.19                    |        |                    |                    |                         |   | WYNN WYNN RESORTS LTD 0.9 144.21 123.01              |        |                    |                    |                         |  |
| <b>Industrial Commodities</b>                         | WYNN WYNN RESORTS LTD 0.9 144.21 123.01               |        |                    |                    |                         |   | 16.4 %   |        |                    |                    |                         |  |
| None  |   |        |                    |                    |                         | <b>Consumer Staples</b>                   |  |        |                    |                    |                         |  |
| 0.0 %   |   |        |                    |                    |                         | PEP PEPSICO INC 2.2 % \$75.13 \$113.28    |  |        |                    |                    |                         |  |
| <b>Transportation</b>                                 | ALK ALASKA AIR GROUP INC 1.7 % \$46.03 \$85.09        |        |                    |                    |                         |   | MO ALTRIA GROUP INC 1.4 15.52 71.78                  |        |                    |                    |                         |  |
| 1.7 %   | 2.1 %   |        |                    |                    |                         |   | CL COLGATE-PALMOLIVE CO 1.0 35.82 72.04              |        |                    |                    |                         |  |
| <b>GROWTH-ORIENTED</b>                                | <b>Technology</b>                                     |        |                    |                    |                         |   | <b>OTHER</b>   |        |                    |                    |                         |  |
| AAPL APPLE INC 4.5 % \$31.15 \$143.65                 | AAPL APPLE INC 4.5 % \$31.15 \$143.65                 |        |                    |                    |                         |   | <b>Financials</b>                                    |        |                    |                    |                         |  |
| MSFT MICROSOFT CORP 4.2 33.64 68.46                   | MSFT MICROSOFT CORP 4.2 33.64 68.46                   |        |                    |                    |                         |   | COF CAPITAL ONE FINANCIAL CORP 2.2 % \$59.23 \$80.38 |        |                    |                    |                         |  |
| GOOGL ALPHABET INC 2.5 424.27 924.52                  | GOOGL ALPHABET INC 2.5 424.27 924.52                  |        |                    |                    |                         |   | GS GOLDMAN SACHS GROUP INC 2.2 123.55 223.80         |        |                    |                    |                         |  |
| CHKP CHECK POINT SOFTWARE TECHNOLOGY 1.8 58.12 104.01 | CHKP CHECK POINT SOFTWARE TECHNOLOGY 1.8 58.12 104.01 |        |                    |                    |                         |   | WFC WELLS FARGO & CO 2.0 33.28 53.84                 |        |                    |                    |                         |  |
| FB FACEBOOK INC 1.8 74.57 150.25                      | FB FACEBOOK INC 1.8 74.57 150.25                      |        |                    |                    |                         |   | DFS DISCOVER FINANCIAL SERVICES INC 1.8 46.38 62.59  |        |                    |                    |                         |  |
| ADBE ADOBE SYSTEMS INC 1.7 23.89 133.74               | ADBE ADOBE SYSTEMS INC 1.7 23.89 133.74               |        |                    |                    |                         |   | BX BLACKSTONE GROUP LP 1.3 35.24 30.84               |        |                    |                    |                         |  |
| ACN ACCENTURE PLC 1.7 42.54 121.30                    | ACN ACCENTURE PLC 1.7 42.54 121.30                    |        |                    |                    |                         |   | BLK BLACKROCK INC 1.0 116.50 384.57                  |        |                    |                    |                         |  |
| TSM TAIWAN SEMICONDUCTOR MFG CO 1.7 8.31 33.07        | TSM TAIWAN SEMICONDUCTOR MFG CO 1.7 8.31 33.07        |        |                    |                    |                         |   | BRK.A BERKSHIRE HATHAWAY 1.0 114,293.33 247,780.00   |        |                    |                    |                         |  |
| LRXC LAM RESEARCH CORP 1.6 82.66 144.85               | LRXC LAM RESEARCH CORP 1.6 82.66 144.85               |        |                    |                    |                         |   | BEN FRANKLIN RESOURCES INC 1.0 43.11 43.11           |        |                    |                    |                         |  |
| ADS ALLIANCE DATA SYSTEMS CORP 1.6 211.25 249.63      | ADS ALLIANCE DATA SYSTEMS CORP 1.6 211.25 249.63      |        |                    |                    |                         |   | 12.5 %   |        |                    |                    |                         |  |
| VMW VMWARE INC -CL A 1.5 87.19 94.12                  | VMW VMWARE INC -CL A 1.5 87.19 94.12                  |        |                    |                    |                         |   | <b>Energy</b>  |        |                    |                    |                         |  |
| VRSN VERISIGN INC 1.2 64.75 88.92                     | VRSN VERISIGN INC 1.2 64.75 88.92                     |        |                    |                    |                         |   | EOG EOG RESOURCES INC 1.7 % \$101.00 \$92.50         |        |                    |                    |                         |  |
| TEL TE CONNECTIVITY LTD 1.1 53.42 77.37               | TEL TE CONNECTIVITY LTD 1.1 53.42 77.37               |        |                    |                    |                         |   | SLB SCHLUMBERGER LTD 1.5 83.64 72.59                 |        |                    |                    |                         |  |
| WDC WESTERN DIGITAL CORP 1.1 41.08 89.07              | WDC WESTERN DIGITAL CORP 1.1 41.08 89.07              |        |                    |                    |                         |   | PSX PHILLIPS 66 0.6 34.05 79.56                      |        |                    |                    |                         |  |
| STX SEAGATE TECHNOLOGY PLC 1.0 11.29 42.13            | STX SEAGATE TECHNOLOGY PLC 1.0 11.29 42.13            |        |                    |                    |                         |   | 3.8 %  |        |                    |                    |                         |  |
| MA MASTERCARD INC 1.0 116.32 116.32                   | MA MASTERCARD INC 1.0 116.32 116.32                   |        |                    |                    |                         |   | <b>Telecommunications</b>                            |        |                    |                    |                         |  |
| NXPI NXP SEMICONDUCTORS NV 0.9 69.96 105.75           | NXPI NXP SEMICONDUCTORS NV 0.9 69.96 105.75           |        |                    |                    |                         |   | TMUS T-MOBILE US INC 1.0 \$67.27 \$67.27             |        |                    |                    |                         |  |
| AKAM AKAMAI TECHNOLOGIES INC 0.8 68.70 60.94          | AKAM AKAMAI TECHNOLOGIES INC 0.8 68.70 60.94          |        |                    |                    |                         |   | 1.0 %  |        |                    |                    |                         |  |
| MU MICRON TECHNOLOGY INC 0.8 30.84 27.67              | MU MICRON TECHNOLOGY INC 0.8 30.84 27.67              |        |                    |                    |                         |   | <b>Utilities</b>                                     |        |                    |                    |                         |  |
| 32.5 %  | 34.9 %  |        |                    |                    |                         |   | None   |        |                    |                    |                         |  |
| <b>Pharmaceuticals &amp; Biotechnology</b>            | <b>Pharmaceuticals &amp; Biotechnology</b>            |        |                    |                    |                         |   | 0.0 %  |        |                    |                    |                         |  |
| BIIB BIOGEN INC 2.3 % \$52.15 \$271.21                | BIIB BIOGEN INC 2.3 % \$52.15 \$271.21                |        |                    |                    |                         |   | 0.0 %  |        |                    |                    |                         |  |
| JNJ JOHNSON & JOHNSON 2.2 55.25 123.47                | JNJ JOHNSON & JOHNSON 2.2 55.25 123.47                |        |                    |                    |                         |   | <b>TOTAL</b>   |        |                    |                    |                         |  |
| AGN ALLERGAN PLC 2.0 229.32 243.86                    | AGN ALLERGAN PLC 2.0 229.32 243.86                    |        |                    |                    |                         |   | 100.0 %  |        |                    |                    |                         |  |
| GILD GILEAD SCIENCES INC 1.7 20.12 68.55              | GILD GILEAD SCIENCES INC 1.7 20.12 68.55              |        |                    |                    |                         |   | 100.0 %  |        |                    |                    |                         |  |
| TMO THERMO FISHER SCIENTIFIC INC 1.4 72.64 165.33     | TMO THERMO FISHER SCIENTIFIC INC 1.4 72.64 165.33     |        |                    |                    |                         |   | 100.0 %  |        |                    |                    |                         |  |
| CELG CELGENE CORP 1.0 124.05 124.05                   | CELG CELGENE CORP 1.0 124.05 124.05                   |        |                    |                    |                         |   | 100.0 %  |        |                    |                    |                         |  |
| 10.6 %  | 8.5 %   |        |                    |                    |                         |   | 100.0 %  |        |                    |                    |                         |  |

Source: Empirical Research Partners Analysis.

**Appendix 1: Large-Capitalization Stocks**

**The Bottom Quintile of Normalized Free Cash Flow Yield  
Sorted by Composite Cash Flow Generation Score and Failure Model Ranks  
As of End-April 2017**

| Symbol | Company                      | Price   | Quintiles (1=Best, 5=Worst)     |                                    |                                   |                         | Composite Cash Flow Generation Score | Memo: Current Free Cash Flow Yield | Failure Model Decile Rank (1=Best, 10=Worst) | Forward-P/E Ratio | Market Capitalization (\$ Billion) |
|--------|------------------------------|---------|---------------------------------|------------------------------------|-----------------------------------|-------------------------|--------------------------------------|------------------------------------|--|-------------------|------------------------------------|
|        |                              |         | Normalized Free Cash Flow Yield | Free Cash Flow Generation Metrics  |                                   |                         |                                      |                                    |  |                   |                                    |
|        |                              |         |                                 | Incremental: Free Cash Flow Margin | Free Cash Flow Margin Above Trend | Free Cash Flow Surprise |                                      |                                    |  |                   |                                    |
| KMX    | CARMAX INC                   | \$58.50 | 5                               | 5                                  | 5                                 | 5                       | 5.0                                  | 5                                  | 10   | 14.9 x            | \$10.9                             |
| FANG   | DIAMONDBACK ENERGY INC       | 99.84   | 5                               | 5                                  | 5                                 | 5                       | 5.0                                  | 5                                  | 10   | 30.2              | 9.8                                |
| RSPP   | RSP PERMIAN INC              | 38.05   | 5                               | 5                                  | 5                                 | 5                       | 5.0                                  | 5                                  | 10   | 38.4              | 6.0                                |
| DHI    | D R HORTON INC               | 32.89   | 5                               | 4                                  | 5                                 | 5                       | 4.5                                  | 4                                  | 10   | 11.8              | 12.4                               |
| DXCM   | DEXCOM INC                   | 77.96   | 5                               | 4                                  | 4                                 | 4                       | 4.0                                  | 5                                  | 10   | NM                | 6.7                                |
| WDAY   | WORKDAY INC                  | 87.40   | 5                               | 3                                  | 4                                 | 5                       | 3.8                                  | 5                                  | 10   | 106.2             | 17.7                               |
| PE     | PARSLEY ENERGY INC           | 29.79   | 5                               | 5                                  | 1                                 | 4                       | 3.8                                  | 5                                  | 10   | 52.7              | 8.2                                |
| WST    | WEST PHARMACEUTICAL SVSC INC | 92.03   | 5                               | 4                                  | 3                                 | 4                       | 3.8                                  | 5                                  | 10   | 33.6              | 6.7                                |
| CXO    | CONCHO RESOURCES INC         | 126.66  | 5                               | 5                                  | 1                                 | 3                       | 3.5                                  | 5                                  | 10   | 104.1             | 18.8                               |
| MDLZ   | MONDELEZ INTERNATIONAL INC   | 45.03   | 5                               | 4                                  | 2                                 | 3                       | 3.3                                  | 4                                  | 10   | 21.3              | 68.8                               |
| ASML   | ASML HOLDING NV              | 131.85  | 5                               | 2                                  | 5                                 | 4                       | 3.3                                  | 4                                  | 10   | 29.7              | 58.0                               |
| TSLA   | TESLA INC                    | 314.07  | 5                               | 5                                  | 1                                 | 2                       | 3.3                                  | 5                                  | 10   | NM                | 51.2                               |
| LILA   | LIBERTY GLOBAL PLC LILAC GRP | 21.47   | 5                               | 3                                  | 3                                 | na                      | 3.0                                  | 5                                  | 10   | 25.2              | 35.3                               |
| NOK    | NOKIA CORP                   | 5.73    | 5                               | 3                                  | 3                                 | 3                       | 3.0                                  | 5                                  | 10   | 24.0              | 33.4                               |
| NOW    | SERVICENOW INC               | 94.48   | 5                               | 3                                  | 3                                 | 3                       | 3.0                                  | 5                                  | 10   | 82.2              | 15.8                               |
| LEN    | LENNAR CORP                  | 50.50   | 5                               | 2                                  | 4                                 | 4                       | 3.0                                  | 2                                  | 10   | 11.9              | 11.8                               |
| HP     | HELMERICH & PAYNE            | 60.64   | 5                               | 4                                  | 5                                 | 5                       | 4.5                                  | 4                                  | 9  | NM                | 6.6                                |
| JCI    | JOHNSON CONTROLS INTL PLC    | 41.57   | 5                               | 5                                  | 3                                 | 4                       | 4.3                                  | 5                                  | 9  | 15.4              | 39.0                               |
| CNQ    | CANADIAN NATURAL RESOURCES   | 31.87   | 5                               | 4                                  | 5                                 | 4                       | 4.3                                  | 5                                  | 9  | 25.8              | 35.4                               |
| HDS    | HD SUPPLY HOLDINGS INC       | 40.30   | 5                               | 5                                  | 3                                 | 3                       | 4.0                                  | 2                                  | 9  | 10.7              | 8.1                                |
| EGN    | ENERGEN CORP                 | 51.99   | 5                               | 5                                  | 1                                 | 3                       | 3.5                                  | 5                                  | 9  | 103.0             | 5.0                                |
| ECA    | ENCANA CORP                  | 10.70   | 5                               | 5                                  | 5                                 | 4                       | 4.8                                  | 5                                  | 8  | 38.0              | 10.4                               |
| TSRO   | TESARO INC                   | 147.59  | 5                               | 5                                  | 5                                 | 4                       | 4.8                                  | 5                                  | 8  | NM                | 7.9                                |
| NFLX   | NETFLIX INC                  | 152.20  | 5                               | 5                                  | 4                                 | 4                       | 4.5                                  | 5                                  | 8  | 145.0             | 65.6                               |
| ADSK   | AUTODESK INC                 | 90.07   | 5                               | 4                                  | 5                                 | 5                       | 4.5                                  | 5                                  | 8  | 84.4              | 19.9                               |
| SQ     | SQUARE INC                   | 18.24   | 5                               | 5                                  | 3                                 | na                      | 4.3                                  | 5                                  | 8  | NM                | 6.7                                |
| SHOP   | SHOPIFY INC                  | 75.95   | 5                               | 4                                  | 3                                 | na                      | 3.7                                  | 5                                  | 8  | NM                | 6.8                                |

Source: Empirical Research Partners Analysis.