

Portfolio Strategy October 2017

Inflation: The Hegemony of the Primary Trend, The Outlook for Stable Stocks Model and Portfolio Performance

Inflation: Fade the Swings in Sentiment

- At the moment the inflation statistics are the most important of the economic data. Growth stocks took flight when that data came in weak and value issues began to recover when it firmed. Those reactions have some basis in reality and have to do with the outlook for nominal economic growth and its impact on Fed policy. The stakes remain high because the market's bond surrogates, a group made up of utilities, REITs and staples, are valued at a six P/E-point premium to their opposite numbers, the anti-correlated cohort, that's mostly financials. In the next couple of years the second group is expected to grow earnings twice as fast as the first. Ultimately growth and the return of capital do matter, and in the past one-, three- and five-year periods the financials have outperformed the bond surrogates, as the fundamentals overcame the declines in inflation.
- We reviewed the academic literature and came upon two interesting studies that tried to strip out the noise and identify the primary trend in inflation. Both reached similar conclusions: the trend has been stable at around 2% for decades, in part because the labor market has never become tight enough to change that. To the extent that anything has influenced the trend rate it's been the availability of credit, the growth rate of debt and the money supply, along with movements in the Dollar.
- Given the stability of the primary trend it's probably a good idea to not overreact to the data and to have a bias toward fading the big swings in sentiment. With that in mind we continue to see the financials as the best of today's value opportunities. The stability of their fundamentals has been improving throughout this decade and those that went through the stress tests offer total yields (dividends + gross buybacks divided by cap) that top 7%, compared to the market's median of just over 3%. We're being paid to wait and see how the cycle unfolds. The stocks' returns have been 80% anti-correlated with those of the bond market, a relationship that's too extreme given the fundamentals. Appendix 1 on page 17 presents the constituents of the top-two quintiles of total yield, and Citigroup, Morgan Stanley and T. Rowe Price are among the stocks in the top group.

The Stability Indicator: Now in Its Most Unfavorable Stance

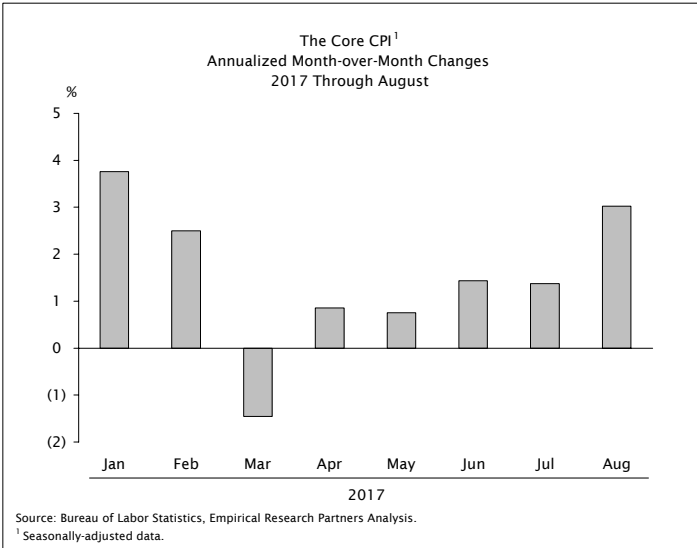
- A few months ago we developed an indicator to predict when investors would turn to companies with the most stable fundamentals. It weighs their valuation and growth characteristics, the state of the equity market (i.e., the direction of valuation spreads, free cash flow production) along with the appetite for risk. When the indicator is in a constructive stance we expect stable issues to outperform by +2 percentage points over the next six months, and when it's at the other extreme we think they'll lag the market by a point or two. The indicator is now in its most unfavorable stance, with most of its components pointing to the same conclusion. The free cash flow yield of the stable stocks is currently less than that of the market for the first time in a dozen years.

Model and Portfolio Performance

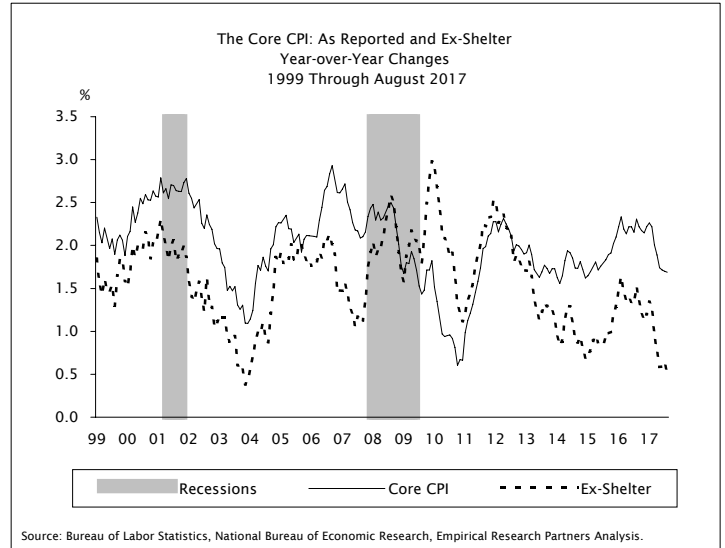
- Our models have performed well in the last few months and have recovered to the deficits that developed in Spring. Performance has been better outside the U.S., where cyclicals play a bigger role and business cycles are in an earlier phase. Our emerging markets models are having a memorable year. Our recommended portfolios have mostly outperformed their benchmarks with the Distrusted Fifty once again the best of the lot, topping the S&P 500 by more than +5 percentage points. Exhibits 39 through 46, that begin on page 13, present changes to, and the holdings of the portfolios.

Conclusions in Brief

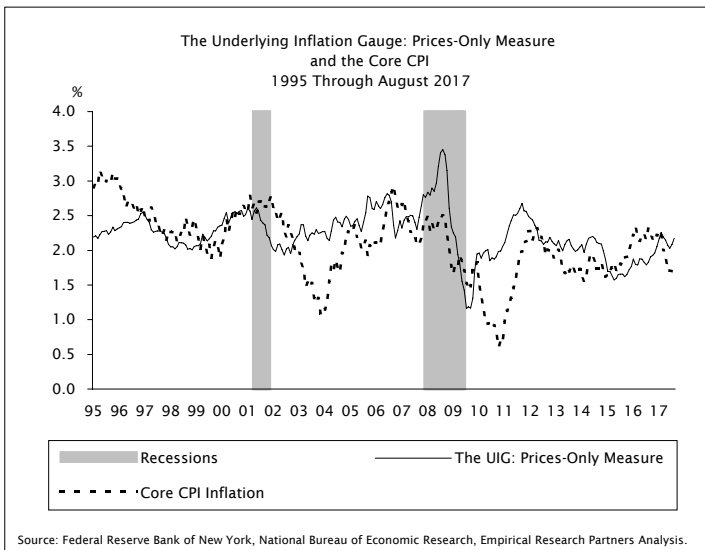
● The inflation data has called the tune this year...



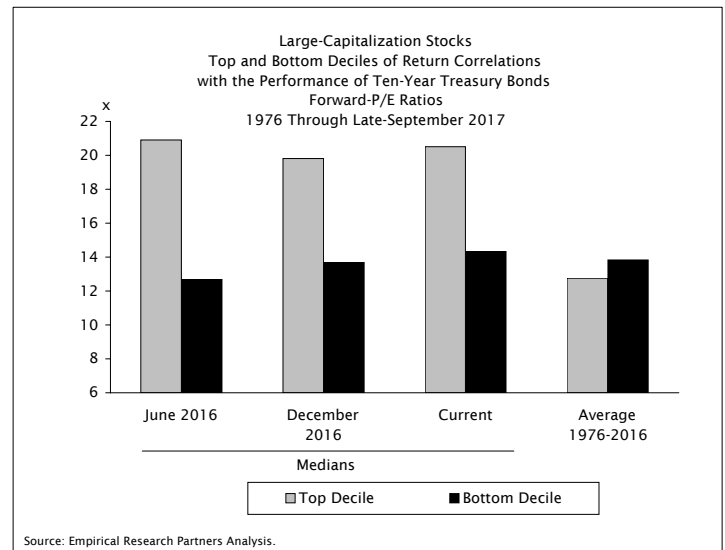
● ...As the ex-shelter composite has shown real weakness:



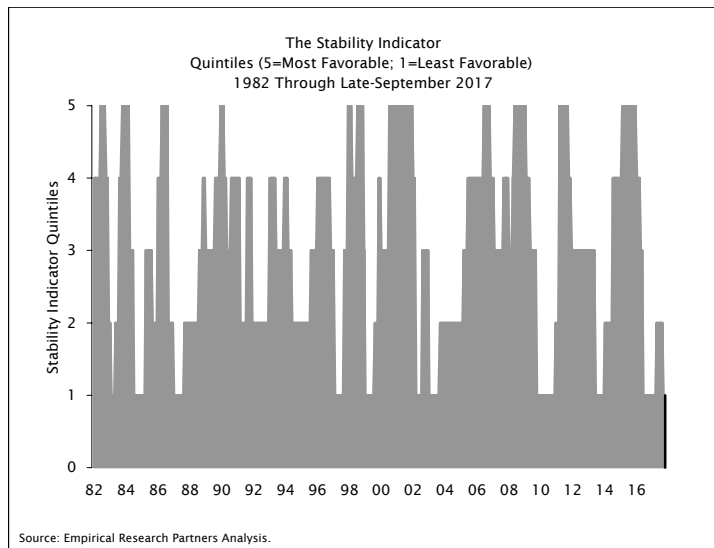
● Underlying inflation hasn't changed much in 20 years...



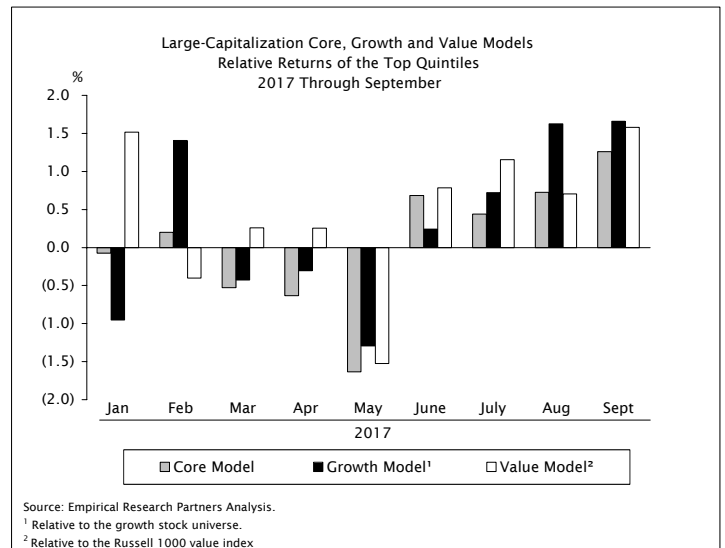
● ...And we're being paid to bet on the primary trend:



● Our indicator of the outlook for stable stocks is in its least-favorable position:



● Our models staged a comeback when the inflation data firmed:

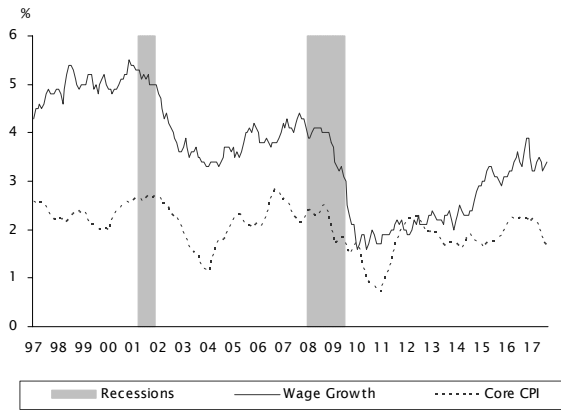


Inflation: The Hegemony of the Primary Trend

The Stakes are High

This year we've been involved in lots of discussions with clients on the subject of inflation. They believe that any change in the status quo could have real consequences after an exceptionally-long period of quiescence. They're not wrong, and much of what's gone on in the equity market can be traced back to that data. This year we've seen a clear example of that as the multiples of growth stocks were boosted by changes in the relationship between wage growth and the core CPI. The first series has been gradually heading higher while the second has moved in the opposite direction (see Exhibit 1). The top line is accelerating and the discount rate is down, Nirvana for growth strategies.

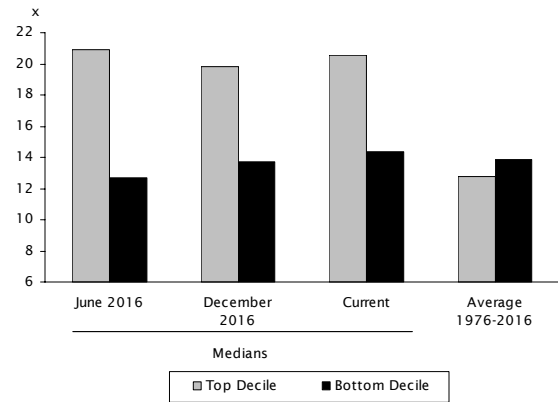
Exhibit 1: Median Wage Growth and the Year-over-Year Change in the Core CPI¹ 1997 Through August 2017



Source: Federal Reserve Bank of Atlanta, Bureau of Labor Statistics, National Bureau of Economic Research, Empirical Research Partners Analysis.

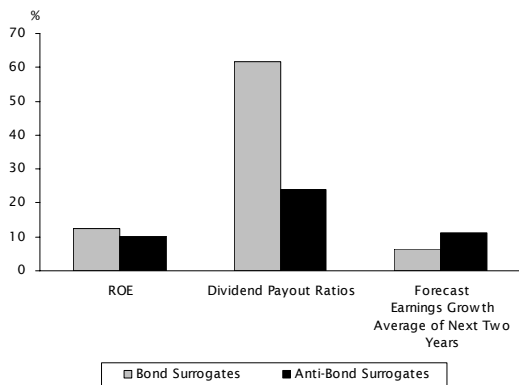
¹Both series are expressed as three-month moving averages.

Exhibit 2: Large-Capitalization Stocks Top and Bottom Deciles of Return Correlations with the Performance of Ten-Year Treasury Bonds Forward-P/E Ratios 1976 Through Late-September 2017



Source: Empirical Research Partners Analysis.

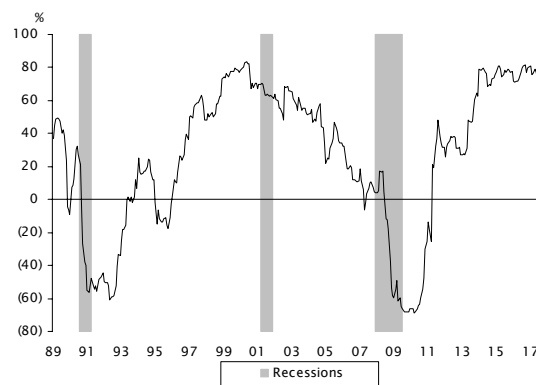
Exhibit 3: Bond and Anti-Bond Surrogates¹ ROE, Dividend Payout Ratios and Forward Two-Year Earnings Growth Forecasts Measured in Medians As of Late-September 2017



Source: Empirical Research Partners Analysis.

¹Bond surrogates are the 10% of the market with relative returns that are most correlated with the performance of ten-year Treasury bonds and anti-bond surrogates are the stocks in the bottom decile of the correlations.

Exhibit 4: REITs Correlations of Relative Returns with Those of Utility Stocks¹ 1989 Through Late-September 2017



Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

¹Constructed using trailing two-year, capitalization-weighted returns.

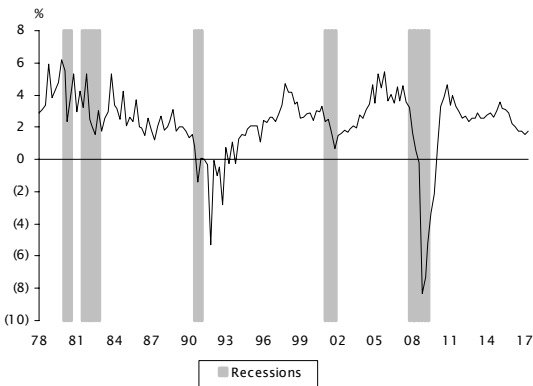
There's also the matter of the equity market's bond surrogates, the 10% of the universe with relative returns most correlated with the moves of the Treasury market. They're still standing tall, selling at 21 times estimated earnings despite the fact that their earnings are forecast to grow at only a +5%-6% clip in the next couple of years (see Exhibits 2 and 3). Utilities, REITs and staples comprise almost 80% of that faction. Their opposite numbers, the anti-bond militia, 70% of them drawn from the financial sector, sell for six P/E points less, and they're expected to grow their

earnings almost twice as fast. In the last year-and-a-half the financial militia has outperformed the entrenched stable forces by almost +30 percentage points as evidence of tightness at the low-end of the labor market emerged.

The search for stable dividend yield has created some nonsensical relationships. For example, the returns of REITs have been more than 70% correlated with those of utilities (see Exhibit 4 overleaf). That marriage is good 'til cancelled, as commercial real estate is subject to busts, that occasionally occur in spectacular fashion (see Exhibit 5). That's not beyond the pale this time because we're starting from record-low cap rates.

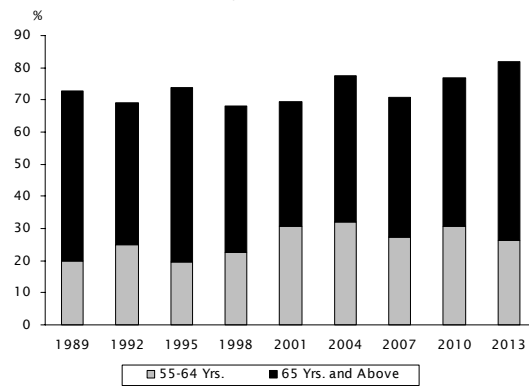
Some of the love affair with stable yield that's blossomed since the financial crisis is a consequence of the aging of the Baby Boomers, not the most price sensitive of generations. Typically those 55 and older account for about 75% of households' bond holdings and the Boomers fit that mold (see Exhibit 6). They and their predecessors account for almost two-thirds of the financial assets of households and they're on the hunt for dependable yield, with growth and even the price of entry obviously secondary considerations.

Exhibit 5: The NCREIF Property Index Quarterly Returns 1978 Through Q2 2017



Source: NCREIF, National Bureau of Economic Research.

Exhibit 6: U.S. Households Share of Individual Bonds and Bond Mutual Funds Held by Those 55 and Older 1989 Through 2013

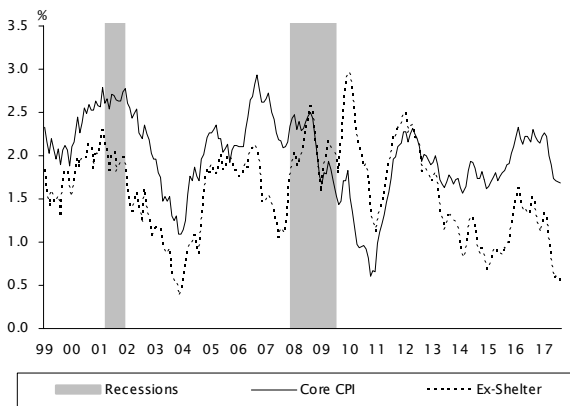


Source: Federal Reserve Board: Survey of Consumer Finances, Empirical Research Partners Analysis.

Pockets of Real Weakness, Without Offsetting Strength

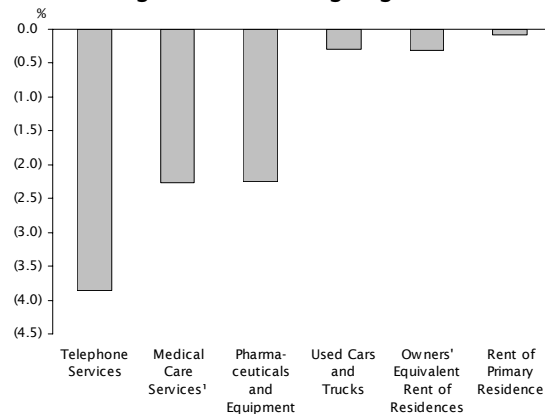
This year inflation has been front and center because those numbers have been weak, with the shelter component, that makes up a third of the core CPI acting as a stabilizing force (see Exhibit 7). The big changes occurred in the pricing of cell phone plans, pharmaceuticals and health care services. Those health care categories comprise a little less than a tenth of the core index (see Exhibit 8). The components of it that are tied to residential real estate and used cars haven't had a big impact one way or another. So far what we're seeing doesn't look like a pervasive Amazon effect on retail prices.

Exhibit 7: The Core CPI: As Reported and Ex-Shelter Year-over-Year Changes 1999 Through August 2017



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

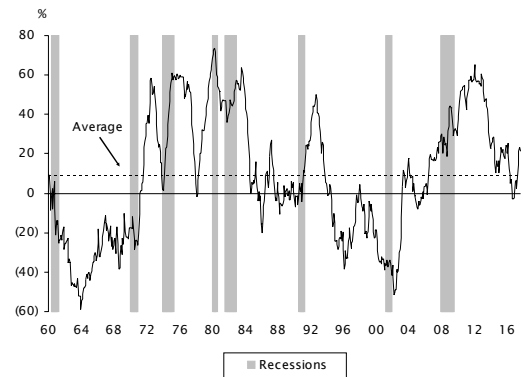
Exhibit 8: Select Components of the CPI Percentage Point Changes Measured on a Year-over-Year Basis Eight Months Ending August 2017



Source: Bureau of Labor Statistics, Empirical Research Partners Analysis. ¹Hospitals, HMOs and physicians.

There's little continuity to the short-term movements of the core CPI and the month-to-month autocorrelation in it has only been around 10% (see Exhibit 9). During real estate booms and busts that shoots up as changes in the inventory of rental properties moves in fairly long cycles, as do used car prices that are also tied to the number of cars on the lot. Conversely, prices for pharmaceuticals and health care services have marched to their own drummer, particularly in the past twenty years (see Exhibit 10). When a trend did develop something big was usually going on, like the Clinton Health Care Plan of the early-1990s or more recently the patent cliff. The aging of the Boomers, that's led to a tripling of the growth rate of the over-65 population, could be another big event, yielding disinflation.

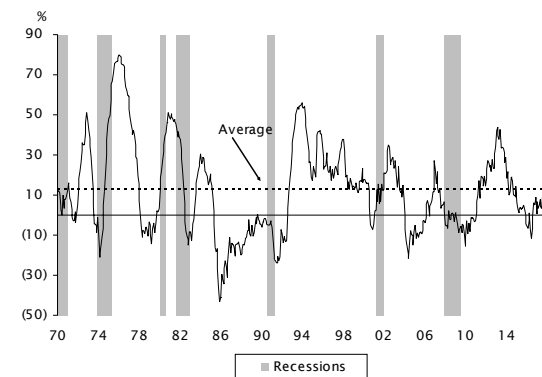
Exhibit 9: The Core CPI Autocorrelation of the Month-to-Month Changes¹ 1960 Through August 2017



Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

¹First-order correlation computed on a trailing three-year basis.

Exhibit 10: The Pharmaceuticals and Equipment CPI Autocorrelation in Month-to-Month Changes¹ 1970 Through August 2017



Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

¹First-order correlation computed on a trailing three-year basis.

The Academics Have Some Interesting Points to Make

We read some of the academic literature on inflation and came across a couple of interesting papers that got to the heart of the matter. They examined the statistical character of the data and concluded that in the modern era, the last twenty years or so, its key attribute has been its stability, perhaps because the Fed has been skillful, or maybe it's just been a lucky run.

In the first of the papers the authors found that inflation fluctuates around a slowly-evolving mean.¹ What really mattered is what influences that mean, and their conclusion was not much. Conditions of the labor market have counted a bit, but since the 1960s it's rarely been tight enough to prove deterministic. The growth rate of credit and the general state of financial conditions have carried more weight, as has the growth rate in M2 (see Exhibits 11 and 12). The level of the trade-weighted Dollar has been part of the equation too, and falling import prices have injected a deflationary impulse into the system by lowering the price umbrella (see Exhibits 13 and 14).

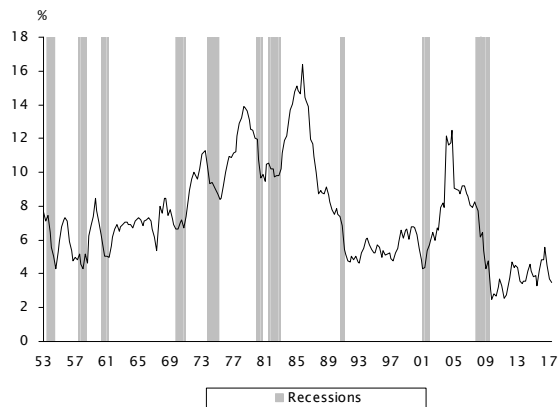
The authors make the point that the Fed has been a victim of its own success and inflation has been stable for so long that the expectation data tells us little beyond what we already know from simply extrapolating the trend. The change in inflation is best predicted by simply looking at what's being reported in just the past couple of quarters. The whole process has been simple, and with laws of supply and demand in the labor market not binding, other variables have taken precedence in explaining the relatively small variances in the underlying trend. The bottom line is that not much has happened, so there's little to explain.

The Federal Reserve Bank of New York also developed a measure of underlying inflation. One version of it extracts a primary trend from consumer, producer and import prices, while a second incorporates all sorts of economic data into the analysis.² Including the full array of data not surprisingly increases the volatility of the indicator (see Exhibit 15). As in the work described above, the Fed researchers found that inflation changes only slowly. The methodologies described in the two papers produce remarkably similar results. Both put the central tendency of the core CPI at right around 2% at the end of last year, and the latest reading from the New York Fed's methodology is 2.17%. This year their Underlying Inflation Gauge has zigged while the CPI has zagged (see Exhibit 16).

¹Cecchetti, S. G., Feroli, M. E., Hooper, P., Kashyap, A. K. and Kermit L. Schoenholtz, 2017. "Deflating Inflation Expectations: The Implications of Inflation's Simple Dynamics," Working Paper.

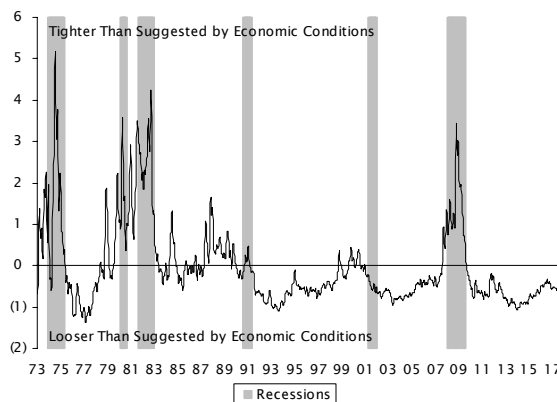
²Amstad, M., Potter, S. and Robert Rich, 2017. "Underlying Inflation Gauge (UIG)," *Federal Reserve Bank of New York, Economic Policy Review* (September).

**Exhibit 11: The U.S. Non-Financial Sector
Year-over-Year Changes in Debt Outstanding
1953 Through Q2 2017**



Source: Federal Reserve Board, National Bureau of Economic Research, Empirical Research Partners Analysis.

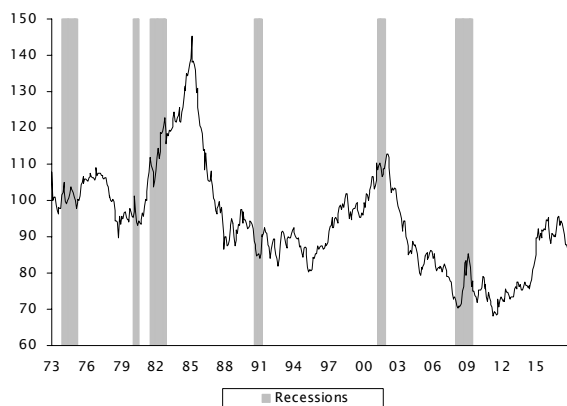
**Exhibit 12: The Adjusted U.S. National Financial
Conditions Index¹
1973 Through Mid-September 2017**



Source: Federal Reserve Bank of Chicago, National Bureau of Economic Research.

¹The index comprises measures capturing risk, liquidity and leverage in money markets, debt and equity markets and traditional and shadow banking systems. Positive values indicate financial conditions are tighter than the average suggested by prevailing economic conditions.

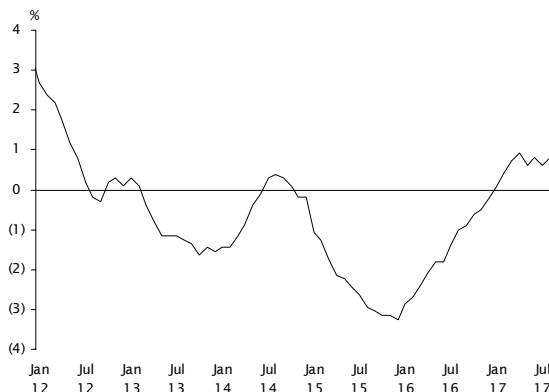
**Exhibit 13: The Trade-Weighted U.S. Dollar¹
1973 Through Mid-September 2017**



Source: Federal Reserve Board, National Bureau of Economic Research, Empirical Research Partners Analysis.

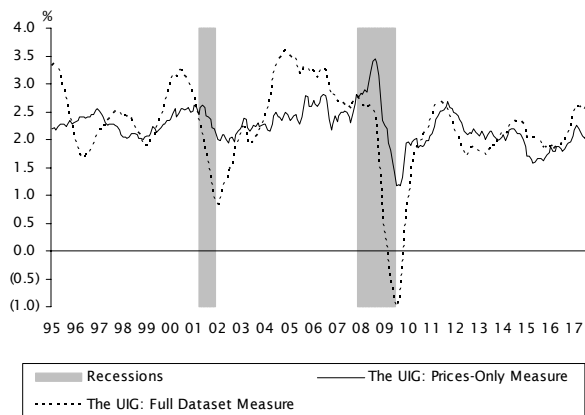
¹Narrow, trade-weighted, nominal effective exchange rate based on end-of-month values.

**Exhibit 14: U.S. Import Prices (ex-Food and Fuels)
Year-over-Year Changes
2012 Through August 2017**



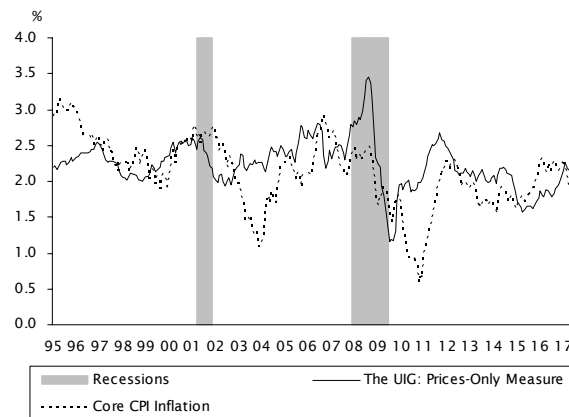
Source: Bureau of Labor Statistics, Empirical Research Partners Analysis.

**Exhibit 15: The Underlying Inflation Gauge:
Two Methodologies
1995 Through August 2017**



Source: Federal Reserve Bank of New York, National Bureau of Economic Research, Empirical Research Partners Analysis.

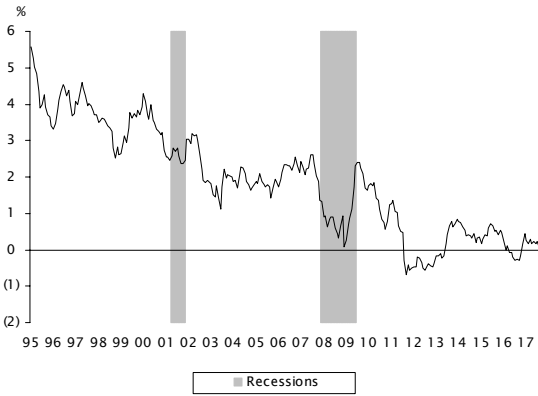
**Exhibit 16: Underlying Inflation Gauge: Prices-Only Measure
and the Core CPI
1995 Through August 2017**



Source: Federal Reserve Bank of New York, National Bureau of Economic Research, Empirical Research Partners Analysis.

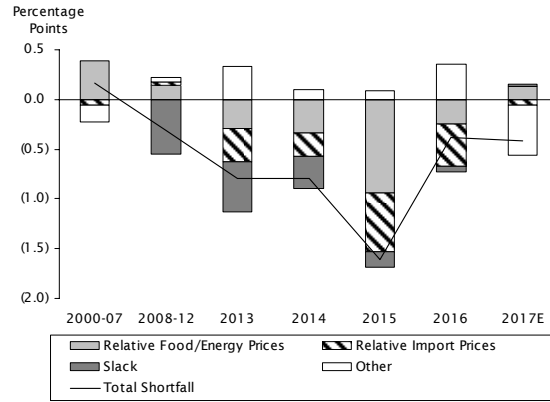
The bond market has no fear that inflation will break out or even reach the level suggested by the Underlying Inflation Gauge. Exhibit 17 charts the gap between that gauge and the yield on the ten-year Treasury bond that has been just above zero in the 2010s, compared to more than two percentage points in the prior decade. That story echoes what we see in the term premium in the Treasury market that's more than (100) basis points below its pre-Crisis level.

Exhibit 17: Ten-Year Treasury Bond Yield Less the Underlying Inflation Gauge: Prices-Only Measure 1995 Through August 2017



Source: Federal Reserve Bank of New York, Federal Reserve Board, National Bureau of Economic Research, Empirical Research Partners Analysis.

Exhibit 18: Deviation of Core PCE Inflation from the 2% Target The Shortfall and the Attribution to Specific Factors 2000 Through 2017E



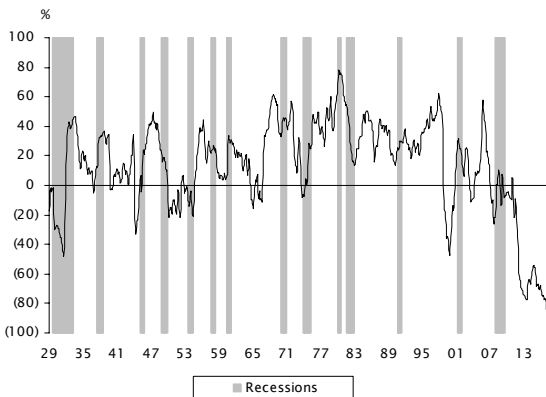
Source: Janet L. Yellen. "Inflation, Uncertainty, and Monetary Policy." Prospects for Growth: Reassessing the Fundamentals, 59th Annual Meeting of the National Association for Business Economics, 26 September 2017, Cleveland, OH, Chair Address.

Conclusion: Move On, Not Much to See Here

What comes out of this research is that despite the intense focus on the inflation data, very little of consequence has gone on. The central tendency of what is a slow-moving mean has stayed right around 2% for decades, despite a raft of changes in the economy. Of course just because that's what it's been doesn't mean that's what it will be, but it does suggest that we should probably take the other side of the fairly frequent swings in sentiment.

While the inflation data did firm a bit last month it would take a great deal of evidence to convince investors that the upside in it exceeds the downside. Chairperson Yellen acknowledged that in a recent speech when she made the point that most of this year's weakness in the core PCE deflator can't be explained by the usual suspects (see Exhibit 18). More than usual we care about inflation because we've liked the financial stocks, seeing them as super-charged options on any change in the status quo. Their relative returns have been more than (80)% anti-correlated with the performance of the bond market, an unprecedented and not entirely logical relationship, while those of utilities have shown almost a 75% positive correlation (see Exhibits 19 and 20).

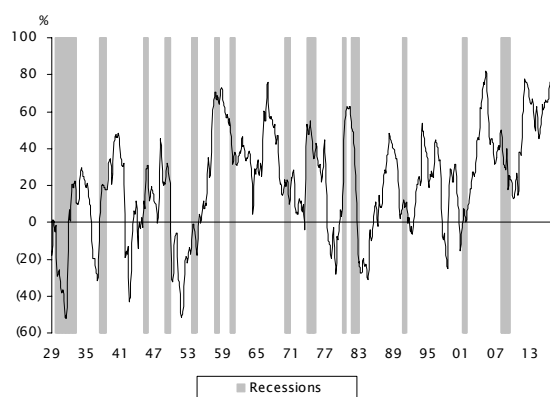
Exhibit 19: Large-Capitalization Financial Stocks Correlation of Relative Returns with the Total Return of Ten-Year Treasury Bonds¹ 1929 Through Late-September 2017



Source: Bloomberg L.P., National Bureau of Economic Analysis, Empirical Research Partners Analysis.

¹Constructed using trailing two-year capitalization-weighted returns. Data smoothed on trailing three month basis.

Exhibit 20: Large-Capitalization Utility Stocks Correlation of Relative Returns with the Total Return of Ten-Year Treasury Bonds¹ 1929 Through Late-September 2017



Source: Bloomberg L.P., National Bureau of Economic Analysis, Empirical Research Partners Analysis.

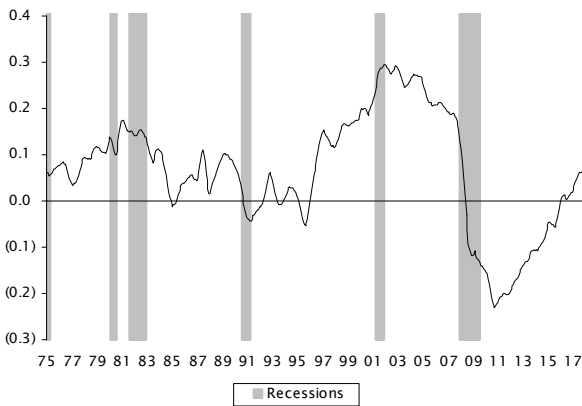
¹Constructed using trailing two-year capitalization-weighted returns. Data smoothed on trailing three month basis.

The financials have outperformed utilities and REITs over the last one-, three- and five-year periods despite receiving no help from the inflation data. We think there are a couple of reasons for that. First, after collapsing in the aftermath of the financial crisis, the stock's stability characteristics have improved as equity was built up and credit quality normalized (see Exhibit 21). That slow-moving series still sits far short of the levels reached in the last expansion.

Any improvement in the stability of fundamentals can boost the stocks because most are priced to total yields (dividends + gross buybacks divided by capitalization) that put them in the market's top quintile (see Exhibit 22). Offering a high total yield has long been a positive in that sector because shareholders want an immediate pay off, fearful that the next credit cycle lies around the corner (see Exhibit 23). Moreover, the total yields, that average 7.1%, should generate alpha because the financials aren't surrounded by controversy. As shown in Exhibit 24 most of those that went through the stress test have below-average arbitrage risk. The combination of the two attributes has historically been a winner. While they're far from being utilities, they've moved a couple of steps in that direction.

Appendix 1 on page 17 presents the large-cap financials that reside in the top-two quintiles of total yield. Citigroup, Morgan Stanley, Capital One and T. Rowe Price are among the stocks in the top one.

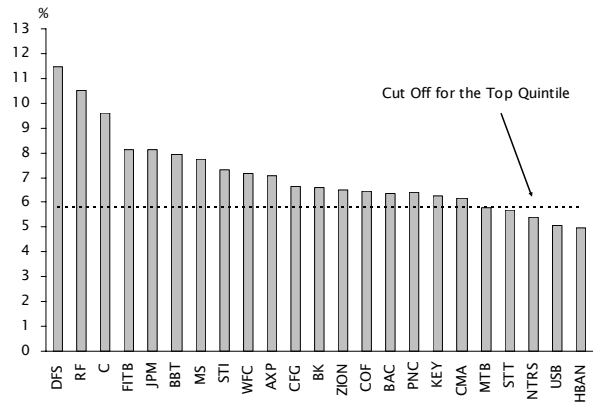
Exhibit 21: Large-Capitalization Financial Stocks Average Fundamental Stability Score¹ 1975 Through Late-September 2017



Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

¹Data smoothed on a trailing six-month basis.

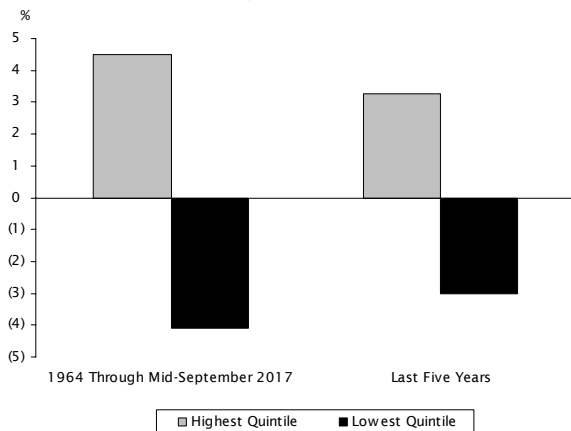
Exhibit 22: Stress-Tested Financial Companies Allowed Total Yields¹ As of Late-September 2017



Source: Federal Reserve Board, Empirical Research Partners Analysis.

¹Total yields comprised of dividends + gross buybacks, as authorized by the 2017 stress tests.

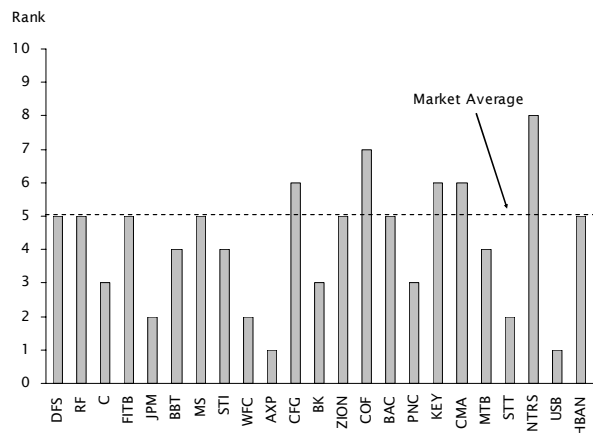
Exhibit 23: Large-Capitalization Financial Stocks Relative Returns by Total Yield Quintile¹ Measured Over One-Year Holding Periods 1964 Through Mid-September 2017



Source: Empirical Research Partners Analysis.

¹Measured as dividend yield + change in shares outstanding. Ranked across and returns relative to the large-cap stock universe.

Exhibit 24: Stress-Tested Financial Companies Arbitrage Risk Ranks (1=Lowest, 10=Highest) As of Late-September 2017



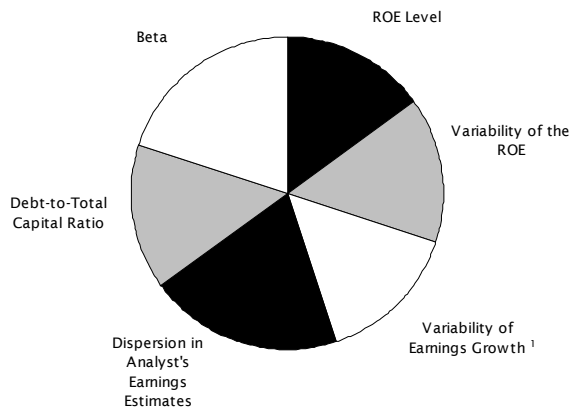
Source: Empirical Research Partners Analysis.

The Stability Indicator: Now in Its Most Unfavorable Position

Fear is Contagious

A few months ago we built an indicator to predict when investors would favor companies with the most stable fundamentals.³ We've long assessed a company's stability using a six-factor algorithm, that's depicted in Exhibit 25. There's been some alpha associated with it and in the last 65 years the issues in the most-stable quintile have outperformed the market by +1.5 percentage points per annum (see Exhibit 26). The most-volatile group has lagged by more than that, in part a consequence of the demise of the New Economy era in the early-2000s.

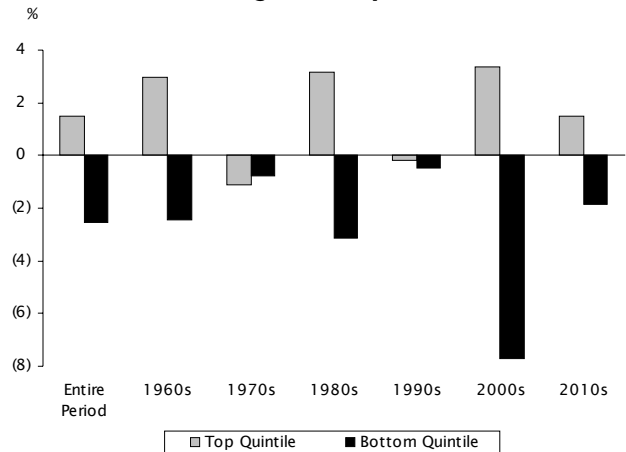
Exhibit 25: Fundamental Stability Score Factor Composition As of Late-September 2017



Source: Empirical Research Partners Analysis.

¹ Computed over the trailing twelve-quarters.

Exhibit 26: Large-Capitalization Stocks Relative Returns to the Top and Bottom Quintiles of the Fundamental Stability Score Monthly Data Compounded to Annual Periods 1952 Through Late-September 2017



Source: Empirical Research Partners Analysis.

We wondered whether the returns to stability were trended, such that if investors were paying up for that attribute in one quarter we should bet that they'll continue to do so in the next one. We looked into that and Exhibit 27 presents the autocorrelation in the three-month relative returns of the top-quintile of our fundamental stability factor, beginning in the mid-1950s. As the chart makes clear, the financial crisis was a gigantic event that created an unusually long-lasting love affair with companies offering safety. As the crisis has become a distant memory, that infatuation turned into mere affection.

Building the Indicator

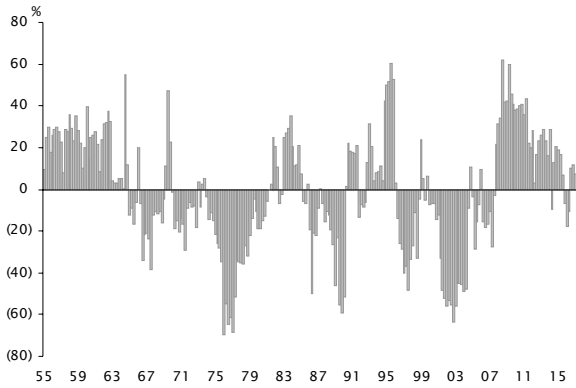
Our Stability Indicator, that was designed to predict the forward six-month relative returns of stocks with that attribute, encompasses three different ideas (see Exhibit 28). First, we consider the valuation of stable stocks, based on their relative free cash flow yields and P/E ratios. As in most investments, it's better to have valuation on your side. That module comprises about a third of the framework.

Second, we analyze the composition of the stable universe. It's bullish if there's a growth bias to it and it's not merely an amalgamation of bond surrogates. Affairs of the heart with stability absent growth are typically short-lived dalliances. In the last five years the universe's top-line growth rate has averaged about +3.5%, the weakest result on record.

Third, the other half of the framework analyzes dynamics in the equity, options and bond markets, looking for signs that fears are developing could drive investors into safe havens. We combine stock-level data on the frequency of negative free cash flow surprises and valuation spreads with macro information from the options and high yield markets. We also capture sentiment as expressed in S&P 500 call options, the perception of tail risk among options investors and the change in high yield bond spreads. We combine those disparate signals looking for evidence that concerns are bubbling up.

³Stock Selection: Research and Results July 2017. "The Stability Indicator: Predicting When Predictability Will Win."

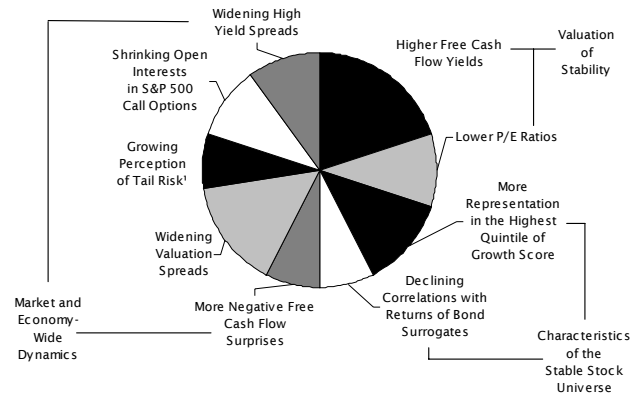
Exhibit 27: Large-Capitalization Stocks
The Top-Quintile of Fundamental Stability
First-Order Autocorrelation of Quarterly
Relative Returns¹
1955 Through Late-September 2017



Source: Empirical Research Partners Analysis.

¹Capitalization-weighted data.

Exhibit 28: The Stability Indicator
Factors That Predict Outperformance
by Stable Stocks
Measured Over One- to Six-Month Windows
1982 Through Late-September 2017

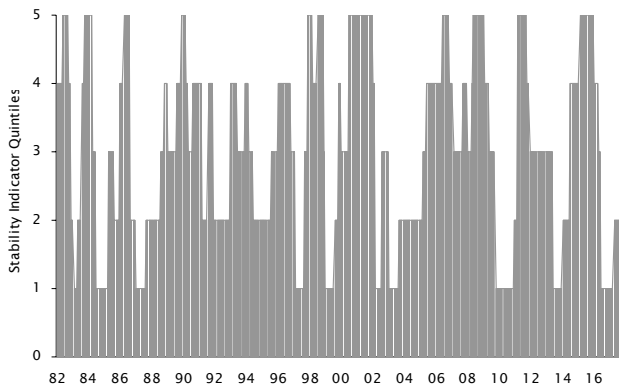


Source: Empirical Research Partners Analysis.

¹Based on the CBOE SKEW index.

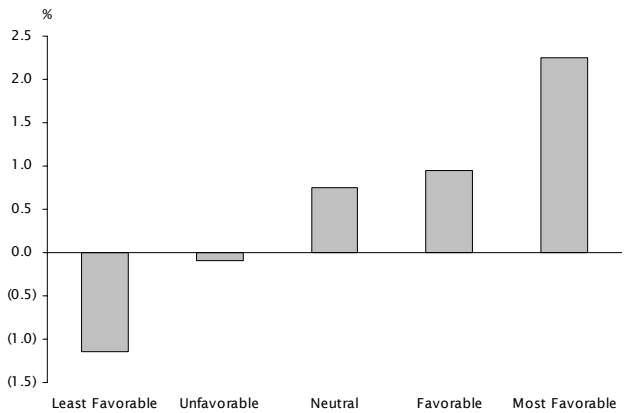
The forecasts of the indicator are expected to remain in place for around six months, and as is often the case, it's the extremes that matter (see Exhibit 29). We designed the tool to provide an empirical context for tactical decision-making. When it's in the most-constructive position we'd expect stable stocks to lead the market by about +2 percentage points in the next six months, with a success rate of about 60% (see Exhibit 30). When it's at the other extreme, we'd expect a deficit of a point or two.

Exhibit 29: The Stability Indicator
Quintiles (5= Most Favorable; 1= Least Favorable)
1982 Through Late-September 2017



Source: Empirical Research Partners Analysis.

Exhibit 30: Large-Capitalization Stable Stocks
Six-Month Relative Returns Contingent on
the Stability Indicator's Forecast¹
1982 Through Late-September 2017



Source: Empirical Research Partners Analysis.

¹Capitalization-weighted data.

The indicator is now in its worst quintile, meaning that it's predisposed against stability. Both its bottom-up and macro components contributed to that reading. Stable stocks don't look cheap while at the same time there aren't a lot of negative free cash flow surprises coming out of the market. The time doesn't look right to pay up for an insurance policy.

Conclusion: Another Tool in Our Arsenal

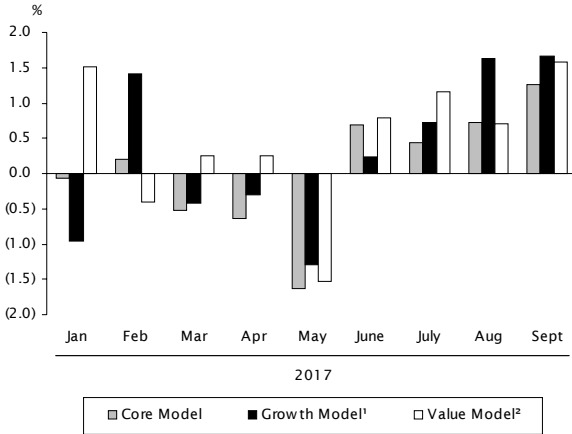
We see this indicator as another tool in our arsenal. It can help us determine whether stability is well priced and/or the circumstances are right for it to be sought after. It's not a game changer but can raise our game a bit. We agree with its current reading. We may incorporate it into the next version of our stock selection models and give some credit to predictable companies when the circumstances are right. Investors tend to either love or hate stable stocks and the right answer is usually somewhere in between.

Model and Portfolio Performance

Top Line Myopia

The performance of our U.S. stock picking models took a turn for the better in June and they've added value since then (see Exhibit 31). At that point the inflation data began to firm and the yield curve began to shift to reflect that change (see Exhibit 32). Our regime indicator is currently on the borderline between a growth tilt and a neutral stance.

**Exhibit 31: Large-Capitalization Core, Growth and Value Models
Relative Returns of the Top Quintiles
2017 Through September**

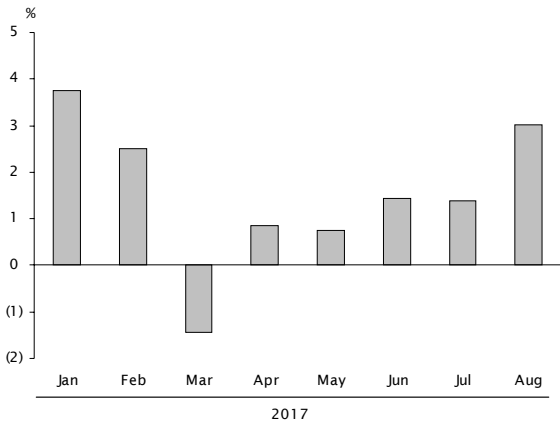


Source: Empirical Research Partners Analysis.

¹Relative to the growth stock universe.

²Relative to the Russell 1000 value index.

**Exhibit 32: The Core CPI¹
Annualized Month-over-Month Changes
2017 Through August**

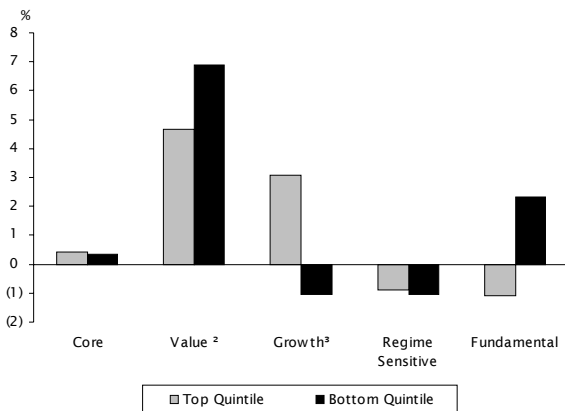


Source: Empirical Research Partners Analysis.

¹Seasonally-adjusted data.

Our Core Model has dug itself out of the hole created in Spring, when even its below-average weight on valuation proved to be too much (see Exhibits 33 and 34). For much of this year the focus of investors has been on top-line growth, to the exclusion of almost everything else. Our growth model has performed best, with the top quintile generating alpha, even when the universe is restricted to just the Big Growers.

**Exhibit 33: U.S. Large-Capitalization Stock Selection Models
Relative Returns of the Top and Bottom Quintiles¹
Monthly Data Compounded
2017 Through September**



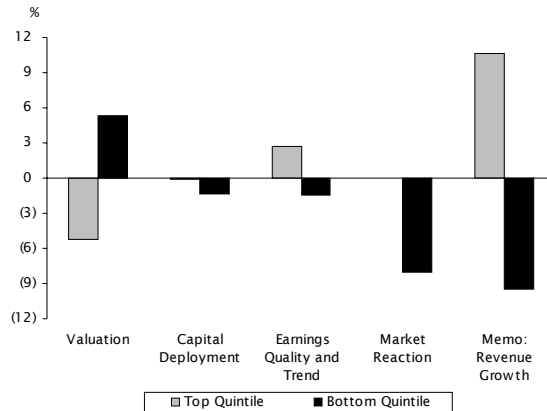
Source: Empirical Research Partners Analysis.

¹Equally-weighted data.

²Relative to the Russell 1000 value index.

³Relative to the growth stock universe.

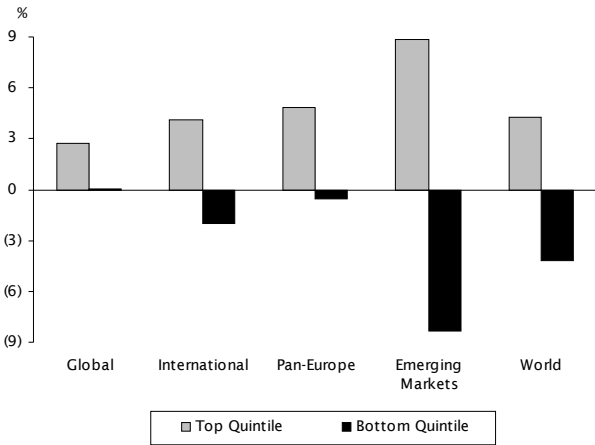
**Exhibit 34: Large-Capitalization Stocks
Relative Returns to the Top and Bottom Quintiles
of Our Super Factors
Monthly Data Compounded
2017 Through September**



Source: Empirical Research Partners Analysis.

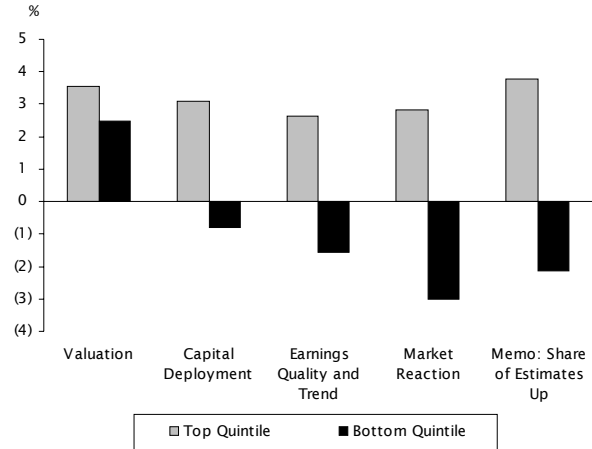
Our international and global models have performed better than the domestic ones. They've outperformed by varying amounts, benefiting from business cycles that aren't as far along as that in the U.S. (see Exhibit 35). In those locales all the super factors that make up our models helped the cause (see Exhibit 36). The emerging markets model is having an exceptional year as its value bias helped it exploit a turning point. That's what it was designed to do.

Exhibit 35: Global and International Stock Selection Models
Relative Returns of the Top and Bottom Quintiles¹
Monthly Data Compounded
2017 Through September



Source: Empirical Research Partners Analysis.

Exhibit 36: International (Non-U.S.) Stocks
Relative Returns to the Top and Bottom Quintiles
of Our Super Factors
Monthly Data Compounded
2017 Through September



Source: Empirical Research Partners Analysis.

¹Equally-weighted data.

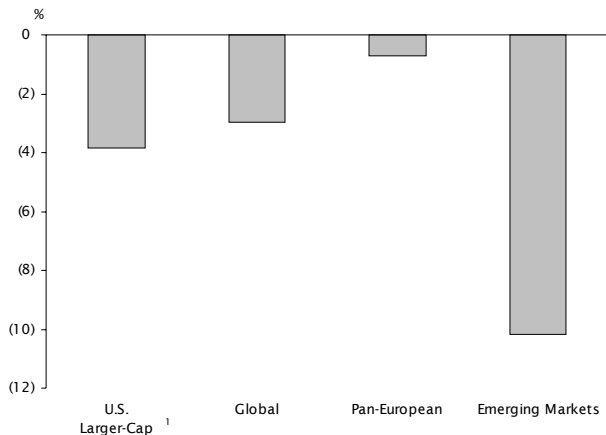
Our developed world failure models have generated some alpha this year while the emerging markets variant has produced a lot of it (see Exhibit 37). The U.S. variant has held up well given investors reach for growth.

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 +5 percentage points this year (see Exhibit 38). Over the past 13 years it's generated more than +3½ points of alpha a year with about 35% annual turnover. Once again good stock selection in the technology sector sourced much of its alpha.

A big overweight in tech was also critical to the performance of our value strategy while an underweight in the surging FANG stocks penalized our GARP(y) growth portfolio. Our core portfolio has topped the S&P 500 with autos and auto parts important to that result. Exhibits 39 through 46, that begin on page 13 present changes to, and the holdings of, our managed portfolios. They generally turnover at 25% to 35% a year.

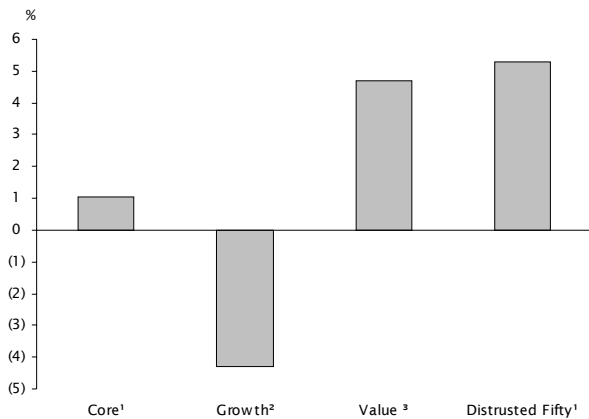
Exhibit 37: Failure Models Worldwide
Relative Returns Versus Regional Markets
Monthly Data Compounded
2017 Through September



Source: Empirical Research Partners Analysis.

¹Using a universe of the 1,000 largest-cap issues.

Exhibit 38: Performance of Our Recommended Portfolios
Relative Returns Versus Style-Specific Benchmarks
2017 Through September



Source: Empirical Research Partners Analysis.

¹Compared to the S&P 500.

²Compared to the Russell 1000 Growth Index.

³Compared to the Russell 1000 Value Index.

**Exhibit 39: Changes to the Distrusted Fifty
As of End of September 2017**

Symbol	Company	Price at Inclusion	Recent Price	Market Capitalization (\$ Billion)	Rationale
Additions					
AMAT	APPLIED MATERIALS INC	\$52.09	\$52.09	\$55.6	Attractive
Deletions					
SNI	SCRIPPS NETWORKS INTERACTIVE	\$63.97	\$85.89	\$11.1	Acquired

Source: Empirical Research Partners Analysis.

**Exhibit 40: The Distrusted Fifty
Large-Capitalization Growth Stocks With High Reinvestment Rates Discounting Relatively Low Secular Earnings Growth
Sorted by Capitalization
As of End of September 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	\$154.12	2	2	2	2	1	14.5 x	26 %	+5.9 %	22 %	6.5 %	\$796.8	
GOOGL	ALPHABET INC	298.80	973.72	2	4	3	3	3	28.3	14	14.1	101	3.8	674.7	
MSFT	MICROSOFT CORP	41.23	74.49	1	1	4	2	1	20.7	13	5.9	45	5.5	574.2	
WFC	WELLS FARGO & CO	32.42	55.15	3	na	4	1	4	13.0	7	2.7	40	na	273.9	
TSM	TAIWAN SEMICONDUCTOR MFG CO	16.75	37.55	2	5	3	2	3	16.5	15	4.3	28	2.6	194.7	
UNH	UNITEDHEALTH GROUP INC	74.70	195.85	2	4	3	2	3	19.1	14	8.1	57	6.1	189.4	
CMCSA	COMCAST CORP	27.33	38.48	3	2	4	2	3	18.3	13	7.2	57	5.0	181.4	
PM	PHILIP MORRIS INTERNATIONAL	42.70	111.01	5	1	2	4	3	21.9	5	6.1	130	4.7	172.4	
PEP	PEPSICO INC	82.15	111.43	3	4	4	3	4	20.9	20	5.7	29	4.3	159.2	
BA	BOEING CO	74.78	254.27	1	1	1	3	1	24.6	NM	6.4	NM	7.2	150.8	
ABBV	ABBVIE INC	55.65	88.86	1	1	1	3	1	15.0	46	2.4	5	4.7	141.7	
MMM	3M CO	77.21	209.90	3	1	3	4	2	23.0	23	6.7	30	4.3	125.3	
CELG	CELGENE CORP	134.15	145.82	4	1	3	4	2	18.3	37	7.7	21	3.7	114.1	
GILD	GILEAD SCIENCES INC	20.12	81.02	1	1	3	1	1	9.8	50	(0.4)	NM	12.9	105.8	
AVGO	BROADCOM LTD	32.35	242.54	2	1	2	3	2	14.2	NM	4.0	NM	5.0	98.8	
ACN	ACCENTURE PLC	31.89	136.32	3	4	3	3	3	19.3	27	5.9	22	5.0	88.9	
TXN	TEXAS INSTRUMENTS INC	59.28	89.64	2	1	3	4	2	21.4	22	6.7	31	4.7	88.9	
CVS	CVS HEALTH CORP	82.44	81.32	1	4	3	1	1	13.4	10	2.7	28	11.9	82.7	
AXP	AMERICAN EXPRESS CO	20.04	90.46	1	na	3	2	3	15.1	16	5.9	37	na	80.9	
ADBE	ADOBE SYSTEMS INC	27.81	149.18	2	2	1	5	1	31.5	19	14.1	74	0.0	73.5	
AGN	ALLERGAN PLC	229.32	204.95	2	3	5	2	4	12.2	NM	4.0	NM	5.7	68.5	
BIIB	BIOGEN INC	67.38	313.12	4	4	3	3	2	14.2	29	5.9	21	3.2	66.2	
AMAT	APPLIED MATERIALS INC	52.09	52.09	3	1	1	2	1	14.8	34	5.9	17	6.1	55.6	
ITW	ILLINOIS TOOL WORKS	63.12	147.20	2	3	3	4	3	22.0	27	7.1	27	4.1	50.9	
LVS	LAS VEGAS SANDS CORP	62.27	64.16	2	1	2	2	1	23.0	NM	6.8	NM	0.1	50.8	
TJX	TJX COMPANIES INC	16.34	73.73	2	3	4	2	2	16.9	36	5.8	16	5.4	46.9	
MAR	MARRIOTT INTERNATIONAL INC	69.75	110.26	5	4	1	4	4	25.3	86	6.4	7	4.2	41.2	
EBAY	EBAY INC	25.75	38.46	2	2	3	2	2	18.4	83	7.7	9	5.0	41.2	
COF	CAPITAL ONE FINANCIAL CORP	42.77	84.12	2	na	4	1	2	10.6	6	(0.4)	NM	na	40.9	
HAL	HALLIBURTON CO	55.14	45.83	2	1	5	4	4	29.8	NM	8.2	NM	4.2	40.0	
STT	STATE STREET CORP	29.97	95.81	1	na	3	2	2	14.9	7	5.9	79	na	35.7	
MCK	MCKESSON CORP	182.39	153.61	2	2	4	1	1	11.8	45	(0.4)	NM	9.9	32.3	
LBTYK	LIBERTY GLOBAL PLC GLOBAL GP	34.61	32.70	1	1	4	1	1	NM	11	18.6	164	15.6	32.0	
LRCX	LAM RESEARCH CORP	82.66	185.04	1	2	1	1	1	13.4	22	4.4	20	6.2	30.1	
TEL	TE CONNECTIVITY LTD	74.62	83.06	4	3	3	2	3	16.7	13	5.8	44	5.4	29.4	
HCA	HCA HEALTHCARE INC	81.95	79.59	3	2	4	1	1	10.7	38	(0.4)	NM	9.3	28.9	
MCO	MOODY'S CORP	28.63	139.21	2	2	1	5	2	24.2	NM	6.1	NM	2.1	26.6	
BEN	FRANKLIN RESOURCES INC	43.11	44.51	1	na	3	1	2	15.3	11	5.9	55	na	24.8	
DFS	DISCOVER FINANCIAL SERVICES INC	43.74	64.36	1	na	5	1	2	10.4	16	(0.4)	NM	na	24.2	
DG	DOLLAR GENERAL CORP	73.39	81.05	4	4	4	2	4	15.8	17	6.9	41	4.5	22.2	
TROW	PRICE (T. ROWE) GROUP	65.36	90.65	2	na	2	2	2	16.1	18	4.8	27	na	21.8	
CHKP	CHECK POINT SOFTWARE TECHNOLOGIES INC	34.41	114.02	4	1	2	3	1	20.9	22	10.3	47	5.2	18.9	
WYNN	WYNN RESORTS LTD	137.30	148.92	2	2	1	4	1	27.5	NM	7.3	NM	2.1	15.3	
WAT	WATERS CORP	47.00	179.52	1	2	1	4	2	23.5	23	12.3	53	4.1	14.3	
ADS	ALLIANCE DATA SYSTEMS CORP	152.77	221.55	1	2	5	1	1	11.4	26	(0.4)	NM	17.7	12.3	
CTXS	CITRIX SYSTEMS INC	55.49	76.82	2	3	4	1	2	16.0	25	6.9	28	7.5	11.6	
WYN	WYNDHAM WORLDWIDE CORP	61.65	105.41	1	3	1	1	1	16.3	51	4.3	8	6.9	10.8	
VRSN	VERISIGN INC	56.47	106.39	4	1	2	2	1	25.8	39	12.3	31	4.9	10.7	
JAZZ	JAZZ PHARMACEUTICALS PLC	143.63	146.25	3	3	2	1	2	12.5	20	4.4	22	6.6	8.8	
FFIV	F5 NETWORKS INC	118.56	120.56	2	1	5	1	2	13.7	33	4.4	13	8.8	7.7	
Average										18.0 x	26 %	6.0 %	23 %	5.9 %	
All Other Large-Cap Stocks										19.0 x	6 %	7.1 %	113 %	3.8 %	

Source: Empirical Research Partners Analysis.

**Exhibit 41: Changes to Our Large-Capitalization Core Portfolio
As of End of September 2017**

Symbol	Company	Suggested Weight	Price at Inclusion	Price at 09/29/17	Rationale
Additions					
ABBV	ABBVIE INC	1.0 %	\$88.86	\$88.86	Attractive
Increasing Weights					
COP	CONOCOPHILLIPS		\$44.00	\$50.05	Add to Energy
	Was	1.6 %			
	Now	2.6			
MS	MORGAN STANLEY		\$34.02	\$48.17	Move from AIG
	Was	2.0 %			
	Now	3.2			
Deletions					
AIG	AMERICAN INTERNATIONAL GROUP	1.3 %	\$59.39	\$61.39	Move to MS
DVA	DAVITA INC	1.1	69.01	59.39	Move to ABBV
RACE	FERRARI NV	0.7	41.55	110.48	Appreciation

Source: Empirical Research Partners Analysis.

**Exhibit 42: The Large-Capitalization Core Portfolio
Benchmarked to the S&P 500
As of End of September 2017**

Symbol	Company	Weight	Price at Inclusion	Price 09/29/17	S&P 500 Weight	Symbol	Company	Weight	Price at Inclusion	Price 09/29/17	S&P 500 Weight
CYCLICALS						GROWTH-ORIENTED (Cont.)					
Consumer Durables and Apparel						Health Care Equipment and Services					
LEA	LEAR CORP	2.2 %	\$109.51	\$173.08		ANTM	ANTHEM INC	3.0 %	\$75.58	\$189.88	
FCAU	FIAT CHRYSLER AUTOMOBILES NV	1.1	7.96	17.91		UNH	UNITEDHEALTH GROUP INC	2.6	37.16	195.85	
PHM	PULTEGROUP INC	1.1	24.36	27.33		SYK	STRYKER CORP	1.3	49.25	142.02	
GM	GENERAL MOTORS CO	1.0	36.14	40.38		CAH	CARDINAL HEALTH INC	0.9	35.27	66.92	
SNE	SONY CORP	0.5	30.88	37.34	2.5 %	HCA	HCA HOLDINGS INC	0.8	81.95	79.59	
		5.9 %						8.6 %			5.1 %
Capital Equipment						Retail, Media and Other Consumer Cyclicals					
BA	BOEING CO	2.1 %	\$74.78	\$254.21		H	HYATT HOTELS CORP	2.1 %	\$55.01	\$61.79	
NOC	NORTHROP GRUMMAN CORP	1.4	62.51	287.72		TJX	TJX COMPANIES INC	1.5	10.84	73.73	
SPR	SPIRIT AEROSYSTEMS HOLDINGS	1.1	54.55	77.72		COST	COSTCO WHOLESALE CORP	1.2	41.94	164.29	
HON	HONEYWELL INTERNATIONAL INC	1.1	27.16	141.74		WYN	WYNDHAM WORLDWIDE CORP	1.0	85.03	105.41	
CBI	CHICAGO BRIDGE & IRON CO	0.2	22.51	16.80	6.9 %	LVS	LAS VEGAS SANDS CORP	1.0	62.27	64.16	
		6.0 %				M	MACY'S INC	0.9	61.47	21.82	
Commercial Services								7.7 %			11.5 %
MCO	MOODY'S CORP	1.3 %	\$28.63	\$139.21		Consumer Staples					
		1.3 %			0.8 %	PM	PHILIP MORRIS INTERNATIONAL	2.0 %	\$42.16	\$111.01	
Industrial Commodities						CVS	CVS HEALTH CORP	1.7	79.27	81.32	
LYB	LYONDELLBASELL INDUSTRIES NV	2.2	\$67.53	\$99.05	2.7 %	PEP	PEPSICO INC	1.0	95.34	111.43	
		2.2 %						4.8 %			8.9 %
Transports						OTHER					
UAL	UNITED CONTINENTAL HOLDINGS INC	0.6 %	\$22.38	\$60.88	2.3 %	Financials					
		0.6 %				C	CITIGROUP INC	4.4 %	\$55.03	\$72.74	
GROWTH-ORIENTED						JPM	JPMORGAN CHASE & CO	3.9	46.90	95.51	
Technology						M5	MORGAN STANLEY	3.2	39.04	48.17	
MSFT	MICROSOFT CORP	4.2 %	\$52.15	\$74.49		COF	CAPITAL ONE FINANCIAL CORP	2.5	52.59	84.66	
GLW	CORNING INC	3.2	20.51	29.92		PNC	PNC FINANCIAL SERVICES GROUP INC	2.5	66.75	134.77	
AAPL	APPLE INC	3.1	63.25	154.12		GS	GOLDMAN SACHS GROUP INC	1.9	120.49	237.19	
XLNX	XILINX INC	2.3	35.08	70.83		BAC	BANK OF AMERICA CORP	1.3	35.40	25.34	
TSM	TAIWAN SEMICONDUCTOR MFG CO	2.2	9.16	37.55		CFG	CITIZENS FINANCIAL GROUP INC	1.2	26.77	37.87	
VRSN	VERISIGN INC	2.2	74.26	106.39		DFS	DISCOVER FINANCIAL SVCS INC	0.9	59.41	64.48	
FLEX	FLEX LTD	2.0	10.12	16.57		LM	LEGG MASON INC	0.4	62.76	39.31	
ACN	ACCENTURE PLC	1.9	50.25	135.07				22.2 %			17.8 %
FDC	FIRST DATA CORP	1.5	15.62	18.04		Energy					
TEL	TE CONNECTIVITY LTD	1.2	40.96	83.06		COP	CONOCOPHILLIPS	2.6 %	\$46.36	\$50.05	
EBAY	EBAY INC	1.2	24.57	38.46		HES	HESS CORP	1.3	67.69	46.89	
HPE	HEWLETT PACKARD ENTERPRISE	0.4	9.67	14.71		OXY	OCCIDENTAL PETROLEUM CORP	1.1	91.75	64.21	
HPQ	HP INC	0.3	14.98	19.96	20.8 %	MPC	MARATHON PETROLEUM CORP	1.0	20.00	56.08	
		25.8 %				NBL	NOBLE ENERGY INC	0.7	39.46	28.36	
Pharmaceuticals & Biotechnology						APA	APACHE CORP	0.4	97.66	45.80	
JNJ	JOHNSON & JOHNSON	2.0 %	\$50.87	\$130.01		MDR	MCDERMOTT INTL INC	0.2	17.28	7.27	
AMGN	AMGEN INC	1.6	132.53	186.45		CHK	CHESAPEAKE ENERGY CORP	0.2	25.64	4.30	
PFE	PFIZER INC	1.0	21.76	35.70				7.5 %			7.2 %
GILD	GILEAD SCIENCES INC	1.0	97.21	81.02		Telecommunication Services					
ABBV	ABBVIE INC	1.0	88.86	88.86		None		0.0 %			2.5 %
AGN	ALLERGAN PLC	0.8	229.32	204.95		Utilities					
		7.5 %			8.1 %	None		0.0 %			2.9 %
						TOTAL					
								100.0 %			100.0 %

Source: Empirical Research Partners Analysis.

**Exhibit 43: Changes to Our Large-Capitalization Value Portfolio
As of End of September 2017**

Symbol	Company	Suggested Weight	Price at Inclusion	Price at 09/29/17	Rationale
Additions					
WMT	WAL-MART STORES INC	1.5 %	\$78.14	\$78.14	Attractive
ABBV	ABBVIE INC	1.0	88.86	88.86	Attractive
Increasing Weights					
MS	MORGAN STANLEY	2.4 %	\$34.72	\$48.17	Move from VOYA
	Was	3.4			
COF	CAPITAL ONE FINANCIAL CORP	0.9 %	41.44	84.66	Add to Financials
	Was	1.9			
PHM	PULTEGROUP INC	1.1 %	24.36	27.33	Attractive
	Was	1.6			
OXY	OCCIDENTAL PETROLEUM CORP	0.9 %	56.03	64.21	Rebalance Energy
	Was	1.5			
	Now				
Deletions					
VOYA	VOYA FINANCIAL INC	1.2 %	\$41.14	\$39.89	Move to MS
SNI	SCRIPPS NETWORKS INTERACTIVE	1.0	75.84	85.89	Acquired
TRV	TRAVELERS COS INC	0.9	47.55	122.52	Appreciation
WPPGY	WPP PLC	0.7	45.81	92.80	Better opportunity elsewhere
RACE	FERRARI NV	0.7	31.53	110.48	Appreciation
Declining Weights					
GLW	CORNING INC		\$17.14	\$29.92	Appreciation
	Was	2.2 %			
	Now	1.2			

Source: Empirical Research Partners Analysis.

**Exhibit 44: The Large-Capitalization Value Portfolio¹
Benchmarked to the Russell 1000 Value Index
As of End of September 2017**

Symbol	Company	Weight	Price at Inclusion	Price at 09/29/17	Benchmark Weight	Symbol	Company	Weight	Price at Inclusion	Price at 09/29/17	Benchmark Weight
CYCLICALS:						GROWTH-ORIENTED CONT.:					
Consumer Durables & Apparel						Health Care Equipment & Services					
GM	GENERAL MOTORS CO	1.6 %	\$40.03	\$40.38		ANTM	ANTHEM INC	3.0 %	\$90.73	\$189.88	
PHM	PULTEGROUP INC	1.6	25.30	27.33		UNH	UNITEDHEALTH GROUP INC	2.6	51.21	195.85	
FCAU	FIAT CHRYSLER AUTOMOBILES NV	1.2	7.96	17.91		HCA	HCA HOLDINGS INC	1.7	51.26	79.59	
DLPH	DELPHI AUTOMOTIVE PLC	1.1	67.17	98.40		MCK	MCKESSON CORP	1.2	41.55	153.61	
LEA	LEAR CORP	1.1	142.65	173.08				8.5 %			5.8 %
SNE	SONY CORP	0.9	21.26	37.34		Retail, Media, and Other Consumer Cyclical					
		7.5 %			2.7 %	H	HYATT HOTELS CORP	2.2 %	\$55.18	\$61.79	
Capital Equipment						WMT	WAL-MART STORES INC	1.5	78.14	78.14	
BA	BOEING CO	2.2 %	\$74.78	\$254.21		WYN	WYNDHAM WORLDWIDE CORP	1.0	85.03	105.41	
NOC	NORTHROP GRUMMAN CORP	1.7	57.77	287.72		M	MACY'S INC	0.9	27.01	21.82	
HON	HONEYWELL INTERNATIONAL INC	1.6	53.15	141.74		DISCA	DISCOVERY COMMUNICATIONS INC	0.6	29.10	21.29	
DOV	DOVER CORP	0.9	21.80	91.39				6.1 %			6.1 %
		6.3 %			7.4 %	Consumer Staples					
Commercial Services & Supplies						PEP	PEPSICO INC	1.6 %	\$89.89	\$111.43	
None		0.0 %			0.7 %	PM	PHILIP MORRIS INTERNATIONAL	1.5	34.66	111.01	
Industrial Commodities						MO	ALTRIA GROUP INC	1.3	15.67	63.42	
LYB	LYONDELLBASELL INDUSTRIES NV	2.2 %	\$67.57	\$99.05		WBA	WALGREENS BOOTS ALLIANCE INC	0.8	86.54	77.22	
TECK	TECK RESOURCES LTD	1.2	25.39	21.09				5.2 %			7.7 %
CE	CELANESE CORP	1.1	85.99	104.27		OTHER: Financials					
		4.5 %			3.4 %	C	CITIGROUP INC	4.6 %	\$54.69	\$72.74	
Transports						MS	MORGAN STANLEY	3.4	38.70	48.17	
DAL	DELTA AIR LINES INC	1.7 %	\$13.54	\$48.22		JPM	JPMORGAN CHASE & CO	3.0	43.89	95.51	
UAL	UNITED CONTINENTAL HOLDINGS INC	1.1	22.38	60.88		BAC	BANK OF AMERICA CORP	2.5	25.90	25.34	
		2.8 %			1.1 %	PNC	PNC FINANCIAL SERVICES GROUP INC	2.1	64.26	134.77	
GROWTH-ORIENTED: Technology						COF	CAPITAL ONE FINANCIAL CORP	1.9	63.63	84.66	
AAPL	APPLE INC	3.4 %	\$76.33	\$154.12		WFC	WELLS FARGO & CO	1.9	27.52	55.15	
MSFT	MICROSOFT CORP	3.1	47.54	74.49		DFS	DISCOVER FINANCIAL SERVICES INC	1.8	45.94	64.48	
CHKP	CHECK POINT SOFTWARE TECHNOLOGY	2.5	52.75	114.02		HIG	HARTFORD FINANCIAL SERVICES	1.3	24.26	55.43	
TSM	TAIWAN SEMICONDUCTOR MFG CO	2.4	8.86	37.55				22.5 %			25.3 %
ADBE	ADOBE SYSTEMS INC	2.3	32.62	149.18		Energy					
EBAY	EBAY INC	1.4	20.39	38.46		NBL	NOBLE ENERGY INC	1.9 %	\$34.58	\$28.36	
GLW	CORNING INC	1.2	17.14	29.92		CXV	CHEVRON CORP	1.6	83.39	117.50	
ADS	ALLIANCE DATA SYSTEMS CORP	0.8	249.63	221.55		DVN	DEVON ENERGY CORP	1.5	49.14	36.71	
PYPL	PAYPAL HOLDINGS INC	0.6	10.09	64.03		OXY	OCCIDENTAL PETROLEUM CORP	1.5	59.46	64.21	
HPE	HEWLETT PACKARD ENTERPRISE	0.5	6.18	14.71		HES	HESS CORP	0.8	67.69	46.89	
HPQ	HEWLETT-PACKARD CO	0.4	9.57	19.96		MPC	MARATHON PETROLEUM CORP	0.7	45.49	56.08	
		18.6 %			13.2 %	APA	APACHE CORP	0.7	49.32	45.80	
Pharmaceuticals & Biotechnology								8.6 %			11.2 %
CELG	CELGENE CORP	2.1 %	\$134.15	\$145.82		Telecommunications					
PFE	PFIZER INC	2.0	22.41	35.70		CTL	CENTURYLINK INC	0.7	\$28.98	\$18.90	
BIIB	BIOGEN IDEC INC	2.0	67.38	313.12				0.7 %			4.4 %
AMGN	AMGEN INC	1.4	84.65	186.45		Utilities					
ABBV	ABBVIE INC	1.0	88.86	88.86		None		0.0 %			4.7 %
TEVA	TEVA PHARMACEUTICALS	0.3	60.70	17.60		TOTAL					
		8.7 %			6.4 %			100.0 %			100.0 %

Source: Empirical Research Partners Analysis.

¹The universe of eligible stocks is all large-cap issues.

**Exhibit 45: Changes to Our Large-Capitalization Growth Portfolio
As of End of September 2017**

Symbol	Company	Suggested Weight	Price at Inclusion	Price at 09/29/17	Rationale
Additions					
UNP	UNION PACIFIC CORP	1.5 %	\$115.97	\$115.97	Attractive
Increasing Weights					
EOG	EOG RESOURCES INC		\$101.00	\$96.74	Add to Energy
	Was	1.7 %			
	Now	2.7			
VMW	VMWARE INC -CL A		87.19	109.19	Attractive
	Was	1.6 %			
	Now	2.2			
MA	MASTERCARD INC		116.32	141.20	Attractive
	Was	1.1 %			
	Now	2.0			
Deletions					
SNI	SCRIPPS NETWORKS INTERACTIVE	1.5 %	\$75.84	\$85.89	Acquired
DIS	DISNEY (WALT) CO	1.1	110.37	98.57	Loss in model rank
PSX	PHILLIPS 66	0.6	34.05	91.61	Appreciation
Declining Weights					
MDT	MEDTRONIC PLC		\$53.50	\$77.77	Better opportunity elsewhere
	Was	1.7 %			
	Now	1.0			

Source: Empirical Research Partners Analysis.

**Exhibit 46: The Large-Capitalization Growth Portfolio
Benchmarked to the Russell 1000 Growth Index
As of End of September 2017**

Symbol	Company	Weight	Price at Inclusion	Price at 9/29/2017	Sector Benchmark Weight	Symbol	Company	Weight	Price at Inclusion	Price at 9/29/2017	Sector Benchmark Weight
CYCLICALS						GROWTH-ORIENTED (Cont.)					
Consumer Durables and Apparel						Health Care Equipment and Services					
None						ANTM ANTHEM INC 2.6 % \$45.60 \$189.88					
0.0 %						MDT MEDTRONIC PLC 1.0 53.50 77.77					
Capital Equipment						ESRX EXPRESS SCRIPTS HOLDING CO 0.6 31.52 63.32					
BA	BOEING CO	3.0 %	\$67.85	\$254.21	2.2 %	4.3 % 6.5 %					
ITW	ILLINOIS TOOL WORKS	1.5	45.36	147.96		Retail, Media, and Other Consumer Cyclical					
UNP	UNION PACIFIC CORP	1.5	115.97	115.97		AMZN	AMAZON.COM INC	3.1 %	\$832.35	\$961.35	
MMM	3M CO	1.4	160.62	209.90		COST	COSTCO WHOLESALE CORP	2.7	42.02	164.29	
HON	HONEYWELL INTERNATIONAL INC	1.3	73.54	141.74		WYN	WYNDHAM WORLDWIDE CORP	2.2	75.63	105.41	
8.6 %						LBTYA LIBERTY GLOBAL PLC 1.8 22.17 33.91					
Commercial Services						DISH DISH NETWORK CORP 1.2 24.42 54.23					
MCO	MOODY'S CORP	2.3 %	\$28.63	\$139.21	1.1 %	WYNN	WYNN RESORTS LTD	1.1	144.21	148.92	
2.3 %						LVS LAS VEGAS SANDS CORP 1.0 62.27 64.16					
Industrial Commodities						CMCSA COMCAST CORP 0.9 39.19 38.48					
None						14.0 % 15.7 %					
0.0 %						Consumer Staples					
Transportation						PEP PEPSICO INC 2.1 % \$75.13 \$111.43					
ALK	ALASKA AIR GROUP INC	0.6 %	\$46.03	\$76.27	2.1 %	MO	ALTRIA GROUP INC	1.2	15.52	63.42	
0.6 %						CL COLGATE-PALMOLIVE CO 1.0 35.82 72.85					
GROWTH-ORIENTED						WBA WALGREENS BOOTS ALLIANCE INC 0.9 75.26 77.22					
Technology						5.1 % 7.5 %					
AAPL	APPLE INC	4.6 %	\$31.15	\$154.12		OTHER					
MSFT	MICROSOFT CORP	4.3	33.64	74.49		Financials					
GOOGL	ALPHABET INC	2.5	424.27	973.72		GS	GOLDMAN SACHS GROUP INC	2.2 %	\$123.55	\$237.19	
VMW	VMWARE INC -CL A	2.2	92.84	109.19		COF	CAPITAL ONE FINANCIAL CORP	2.2	59.23	84.66	
MA	MASTERCARD INC	2.0	127.00	141.20		WFC	WELLS FARGO & CO	2.0	33.28	55.15	
LRCX	LAM RESEARCH CORP	1.9	82.66	185.04		DFS	DISCOVER FINANCIAL SERVICES INC	1.7	46.38	64.48	
CHKP	CHECK POINT SOFTWARE TECHNOLOGY	1.9	58.12	114.02		BX	BLACKSTONE GROUP LP	1.3	35.24	33.37	
FB	FACEBOOK INC	1.9	74.57	170.87		BLK	BLACKROCK INC	1.1	116.50	447.09	
TSM	TAIWAN SEMICONDUCTOR MFG CO	1.8	8.31	37.55		BRK.A	BERKSHIRE HATHAWAY	1.0	114,293.33	274,740.00	
ADBE	ADOBE SYSTEMS INC	1.8	23.89	149.18		BEN	FRANKLIN RESOURCES INC	1.0	43.11	44.51	
ACN	ACCENTURE PLC	1.7	42.54	135.07		12.6 % 9.8 %					
VRSN	VERISIGN INC	1.4	64.75	106.39		Energy					
ADS	ALLIANCE DATA SYSTEMS CORP	1.3	211.25	221.55		EOG	EOG RESOURCES INC	2.7 %	\$99.43	\$96.74	
TEL	TE CONNECTIVITY LTD	1.2	53.42	83.06		SLB	SCHLUMBERGER LTD	1.4	83.64	69.76	
WDC	WESTERN DIGITAL CORP	1.0	41.08	86.40		KMI	KINDER MORGAN INC	0.9	20.47	19.18	
NXPI	NXP SEMICONDUCTORS NV	1.0	69.96	113.09		5.0 % 3.6 %					
STX	SEAGATE TECHNOLOGY PLC	0.8	11.29	33.17		Telecommunications					
AKAM	AKAMAI TECHNOLOGIES INC	0.6	68.70	48.72		TMUS	T-MOBILE US INC	1.9	\$64.18	\$61.66	
33.8 %						1.9 % 0.8 %					
Pharmaceuticals & Biotechnology						Utilities					
BIIB	BIOGEN INC	2.5 %	\$52.15	\$313.12		None 0.0 % 0.0 %					
JNJ	JOHNSON & JOHNSON	2.2	55.25	130.01		Real Estate					
GILD	GILEAD SCIENCES INC	2.0	20.12	81.02		AMT	AMERICAN TOWER CORP	1.0	\$134.86	\$136.68	
AGN	ALLERGAN PLC	1.6	229.32	204.95		1.0 % 0.8 %					
TMO	THERMO FISHER SCIENTIFIC INC	1.5	72.64	189.20		TOTAL					
CELG	CELGENE CORP	1.1	124.05	145.82		100.0 % 100.0 %					
10.8 %						8.5 %					

Source: Empirical Research Partners Analysis.

**Appendix 1: Large-Capitalization Financial Stocks
Core Model Ranking
Sorted by Total Yield Within Model Rank
As of Late-September 2017**

		Quintiles (1=Best, 5=Worst)											
		Valuation						Capital Deployment			Core	Forward	Market
		Price	Total Yield	Price-to-Book Value	P/E Ratios:		Normalized Earnings	Valuation	Change in Shares Outstanding	Dividend Growth	Model Rank	P/E-Ratio	Capitalization (\$ Billion)
Symbol	Company				Trailing	Forward							
C	CITIGROUP INC	\$70.84	1	1	1	1	1	1	1	1	12.9	x	\$195.0
GS	GOLDMAN SACHS GROUP INC	230.26	1	1	1	1	1	1	2	1	12.2		92.8
MS	MORGAN STANLEY	47.74	1	1	1	2	1	1	1	1	13.0		87.8
STT	STATE STREET CORP	94.46	1	1	1	2	2	1	2	1	14.7		35.3
AMP	AMERIPRISE FINANCIAL INC	143.15	1	3	1	1	3	2	1	2	12.2		21.5
LNC	LINCOLN NATIONAL CORP	72.77	1	1	1	1	1	1	2	1	9.6		16.2
NLY	ANNALY CAPITAL MANAGEMENT	12.47	1	1	1	1	2	1	5	5	10.5		13.6
ALLY	ALLY FINANCIAL INC	23.27	1	1	1	1	2	1	1	1	9.6		10.5
XL	XL GROUP LTD	39.41	1	1	1	1	1	1	1	3	11.0		10.2
JPM	JPMORGAN CHASE & CO	94.12	1	1	1	1	1	1	2	2	13.2		331.2
COF	CAPITAL ONE FINANCIAL CORP	82.48	1	1	1	1	1	1	5	2	10.4		39.9
AFL	AFLAC INC	84.26	1	1	1	1	1	1	4	2	12.5		33.4
SYF	SYNCHRONY FINANCIAL	29.56	1	1	1	1	1	1	1	2	10.3		23.5
TROW	PRICE (T. ROWE) GROUP	87.32	1	3	1	2	2	2	1	4	15.5		21.0
FITB	FIFTH THIRD BANCORP	27.14	1	1	1	2	1	1	1	3	14.1		20.1
CFG	CITIZENS FINANCIAL GROUP INC	36.46	1	1	1	2	4	1	1	2	13.8		18.4
RF	REGIONS FINANCIAL CORP	14.48	1	1	1	2	2	1	1	3	13.8		17.4
IVZ	INVESCO LTD	34.23	1	2	1	1	2	1	2	5	13.0		13.9
WFC	WELLS FARGO & CO	54.03	1	1	1	1	1	1	2	5	12.7		268.4
AXP	AMERICAN EXPRESS CO	88.21	1	3	2	2	2	4	1	3	14.7		78.8
PRU	PRUDENTIAL FINANCIAL INC	105.36	1	1	1	1	2	1	2	3	10.0		45.0
DFS	DISCOVER FINANCIAL SERVICES	61.91	1	2	1	1	1	2	1	3	10.0		23.2
BX	BLACKSTONE GROUP LP	33.13	1	3	1	1	3	2	5	1	11.2		22.4
HIG	HARTFORD FINANCIAL SERVICES	54.68	1	1	1	1	2	2	1	3	12.4		19.9
CNA	CNA FINANCIAL CORP	49.52	1	1	1	2	3	1	3	5	14.7		13.4
BAC	BANK OF AMERICA CORP	24.76	2	1	1	1	2	1	1	1	12.8		261.2
BK	BANK OF NEW YORK COMPANY INC	52.20	2	1	1	2	2	1	1	2	14.2		53.9
MSCI	MSCI INC	116.01	2	5	4	4	5	5	1	1	28.6		10.5
PNC	PNC FINANCIAL SERVICES GROUP INC	133.52	2	1	1	2	2	2	2	3	15.4		64.1
BEN	FRANKLIN RESOURCES INC	43.41	2	2	1	2	1	1	1	2	14.9		24.2
UNM	UNUM GROUP	50.39	2	1	1	1	2	2	1	3	11.8		11.4
ALL	ALLSTATE CORP	91.04	2	1	1	2	1	2	2	2	14.5		32.9
STI	SUNTRUST BANKS INC	57.47	2	1	1	1	2	1	1	3	13.7		27.7

Source: Empirical Research Partners Analysis.