

# THE LEUTHOLD GROUP PERCEPTION EXPRESS

October 7, 2016



## MTI Stable At Bullish Levels

Overall, this work supports a constructive intermediate-term stance toward stocks; our tactical portfolios are positioned with equity exposure of 63%—a posture we consider aggressive given the relative maturity of both the economic expansion and the cyclical bull market.

## The Fog Of Uncertainty

Investing is, by its very nature, a forward-looking endeavor. The returns that are earned and the risks that are incurred by investments made today will only be determined tomorrow.

## Asset Valuation On “Day One”

Purchasing at an attractive going-in valuation is a recipe for success, while paying a premium makes earning an adequate return much less likely. With current valuations historically high, investors are rightly wondering what sort of returns could be expected from these levels.

## Low-Quality Stocks Continue To Dominate

Investors brushed off a global economic slowdown and drove up the value of risky assets. Current low-quality leadership has been in place for eight months thus far.

## Markets & Election—All Risk And No Reward

The upcoming election is likely to have wide-ranging impacts on both monetary and fiscal policies and we expect election risk to overshadow the Fed policy risk for the time being.

## Foreign Equities: Cure For Altitude Sickness?

When we complain about the stock market’s inflated valuation levels, we’re unintentionally giving short shrift to the 50% of the global-market capitalization that resides outside the U.S. We’d be hard-pressed to describe the valuation of Developed foreign markets as any higher than neutral.

## Guidance & Price Movement On Earnings-Release Day

We study the effect of company guidance on ER-day price volatility. Do companies issuing more frequent and detailed guidance help to prevent big surprises on ER day?

## Health Care Stocks & The Election

A look at Health Care groups’ historical performance both pre-election and post-election; we identify past trends of leaders and laggards in each period.

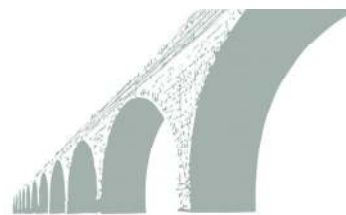
## Fund Flows Subdued In 2016

Bond mutual funds, bond ETFs, and domestic-focused equity ETFs are the only categories registering material positive cash flows YTD.

Major Trend Index: 1.27 ( <i>Positive</i> )	Normalized S&P P/E (1957): 21.7x
Core Equity Allocation: 63%	Normalized S&P 500 Earnings (1957): \$99.79
Global Equity Allocation: 64%	High Quality Favored Over Low Quality
Risk Aversion Index:	Growth Favored Over Value
Stayed On “Lower Risk” Signal	Large Caps Vs. Small Caps: No Preference
Up/Down Earnings Ratio: 1.22 ( <i>Weak But Improving</i> )	Favor High Quality Credits & HY Within Fixed Income

Research Disclosures Are On Page 65

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# INSIDE THE STOCK MARKET

...trends, cross-currents, and outlook

Prepared by: Doug Ramsey, unless otherwise noted



<http://leuth.us/stock-market>

## Beta Rotation Underway

We've speculated that a major extension of the bull market would require a rotation into High Beta groups from Low Volatility and economically-defensive themes. That rotation has been underway since late July and has accelerated in early October.

## How To Beat The S&P 500 With The S&P 500

Using a seasonal allocation strategy employing the equal-weighted and capitalization-weighted S&P 500 has bested the cap-weighted index in 21 of 26 years. Barring a violent Q4 reversal, 2016 will make it 22 years of outperformance.

## Stock/Bond Relationship Revisited

While long-term stock/bond differentials are certainly no longer close to the extremes seen in 2009, readings remain fairly low, indicating that further differential mean reversion could be in store.

## Only The Shadow Knows

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“When coming events cast their shadows before, the shadow falls on the New York Stock Exchange.”

-William Peter Hamilton, *The Stock Market Barometer*, 1922

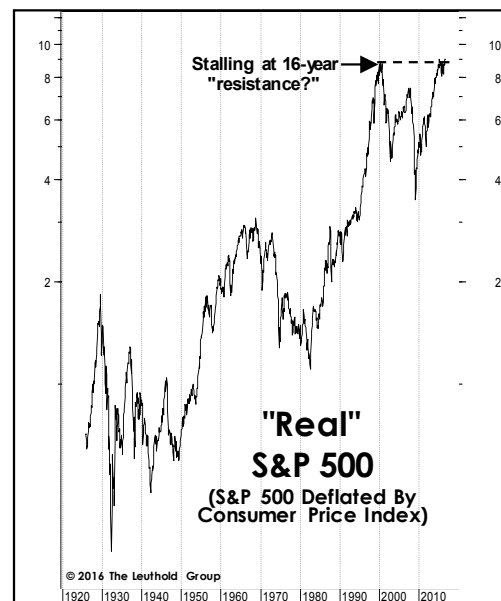
If the above observation from almost a century ago remains on the mark (as it has for almost a century), then both the cyclical bull market and accompanying economic expansion should remain in force during the next several months. Our models detect a few clouds, but not enough to cast a shadow.

Net equity exposure of 63% in our tactical funds remains on the high end of its 30-70% normal range.

We'd emphasize—as we have since the Major Trend Index turned positive in the spring—that the bullish outlook now quantitatively rests mostly on the *action of the stock market itself*. We would of course prefer a bullish stance based on *values* (ala 2009), but the numbers preclude us from making that case—even with the use of unsustainably high “Adjusted EPS” discounted (improperly, in our view) by near-zero interest rates to rationalize inflated P/E multiples.

That being said, we'd stop short of labeling the U.S. stock market (the priciest in the world) a bubble. The true bubble threshold is probably 20-25% higher than where the S&P 500 trades now.

We're tactically bullish... but with no price target in mind.



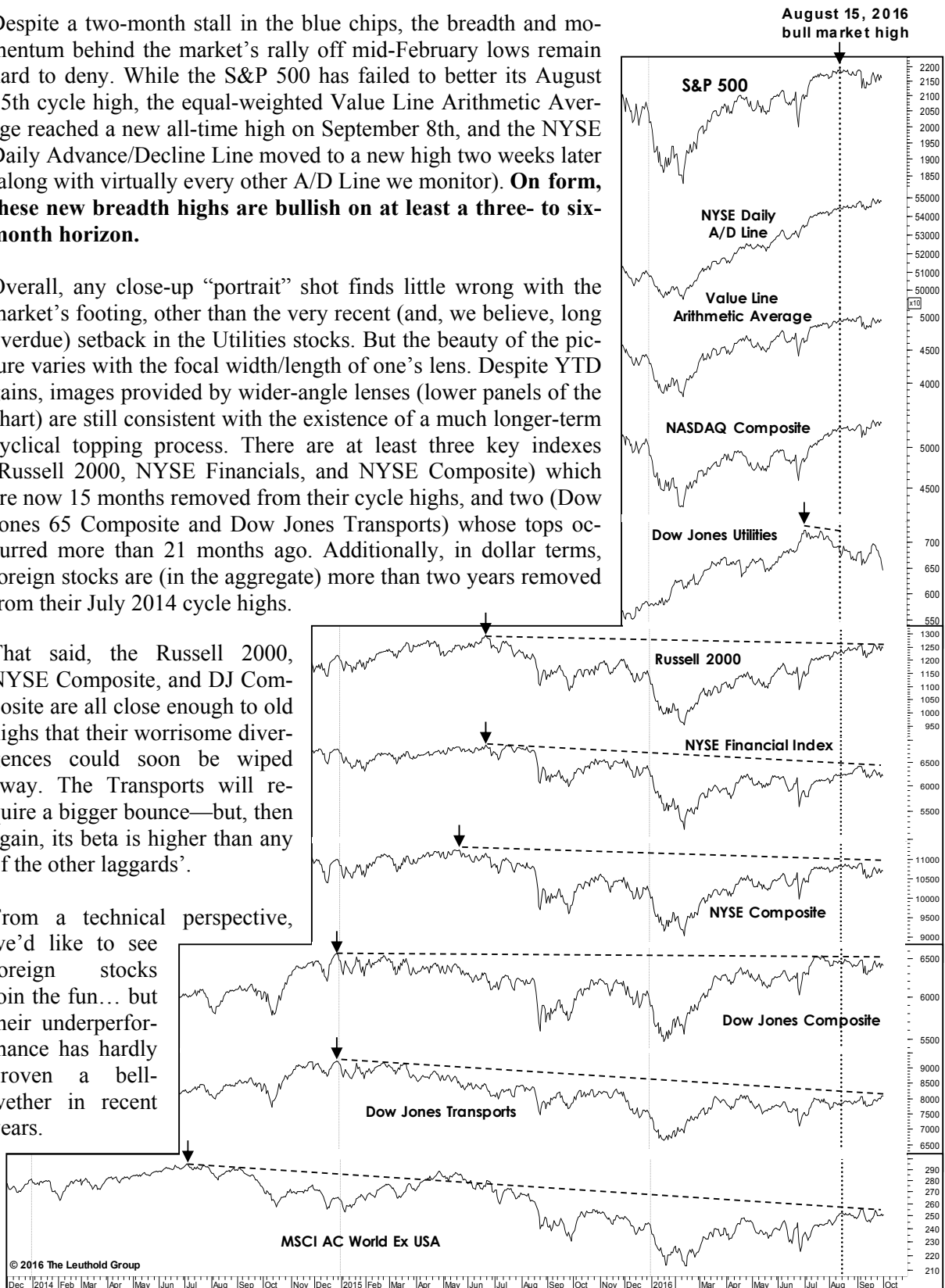
## Charts: Beware Of Myopia

Despite a two-month stall in the blue chips, the breadth and momentum behind the market's rally off mid-February lows remain hard to deny. While the S&P 500 has failed to better its August 15th cycle high, the equal-weighted Value Line Arithmetic Average reached a new all-time high on September 8th, and the NYSE Daily Advance/Decline Line moved to a new high two weeks later (along with virtually every other A/D Line we monitor). **On form, these new breadth highs are bullish on at least a three- to six-month horizon.**

Overall, any close-up "portrait" shot finds little wrong with the market's footing, other than the very recent (and, we believe, long overdue) setback in the Utilities stocks. But the beauty of the picture varies with the focal width/length of one's lens. Despite YTD gains, images provided by wider-angle lenses (lower panels of the chart) are still consistent with the existence of a much longer-term cyclical topping process. There are at least three key indexes (Russell 2000, NYSE Financials, and NYSE Composite) which are now 15 months removed from their cycle highs, and two (Dow Jones 65 Composite and Dow Jones Transports) whose tops occurred more than 21 months ago. Additionally, in dollar terms, foreign stocks are (in the aggregate) more than two years removed from their July 2014 cycle highs.

That said, the Russell 2000, NYSE Composite, and DJ Composite are all close enough to old highs that their worrisome divergences could soon be wiped away. The Transports will require a bigger bounce—but, then again, its beta is higher than any of the other laggards'.

From a technical perspective, we'd like to see foreign stocks join the fun... but their underperformance has hardly proven a bellwether in recent years.



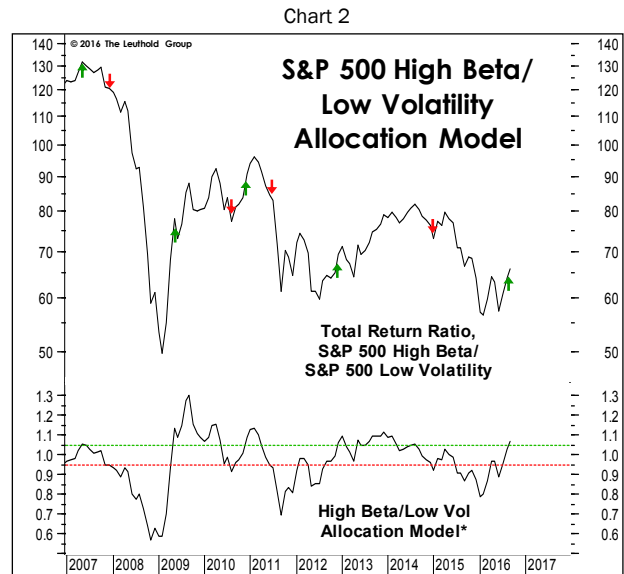
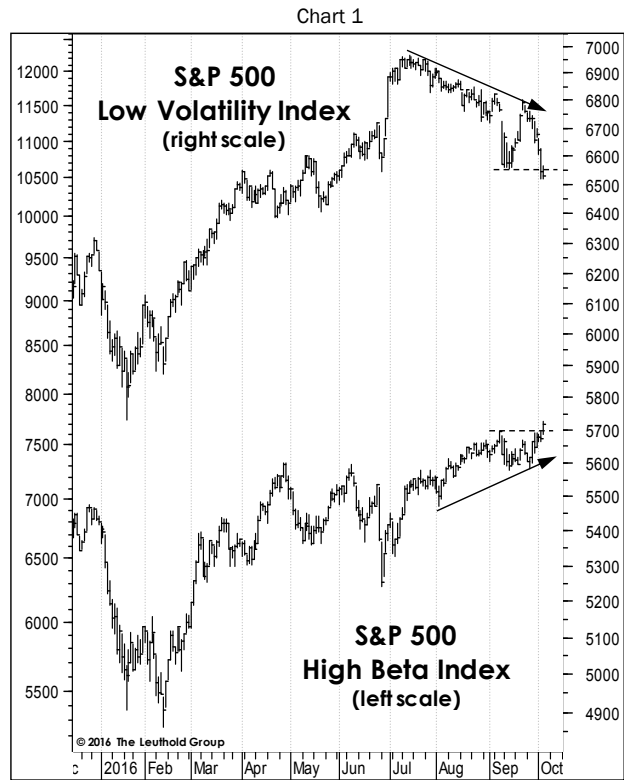
# Beta Rotation Underway

For months we've speculated that any major extension of the bull market would require a rotation into High Beta groups from the Low Volatility and economically-defensive themes that were the market's big winners from mid-2015 to mid-2016. That rotation has been underway since late July and has accelerated in early October (Chart 1)—although the blue chip indexes have failed to move higher during this transition.

Our valuation work suggests there's plenty of room ahead for the new leadership trend. The Leuthold 3000 Low Volatility Index peaked at 23x EPS in June, a 70% premium to the Leuthold 3000 High Beta Index. Typically, these cohorts trade near *P/E parity*.

While valuation is a poor timing tool, the same can't be said of our High Beta/Low Volatility Allocation Model—which issued a new BUY signal for the S&P 500 High Beta Index at the end of September (Chart 2). The model's parameters are identical to those used in our Emerging Markets Allocation Model discussed in last month's Green Book, though we'd acknowledge that it's been a bit more prone to “whipsaws” in its application to the High Beta/Low Volatility allocation decision. Nonetheless, the model would have proven helpful in averting the worst of the last three cycles of High Beta underperformance in 2008, 2011, and 2015. Overall, switching between High Beta and Low Volatility based on the model would have generated an annualized return of +11.6% since 1992, compared with +10.8% for the Low Volatility Index and +7.3% for the High Beta Index (Table 1).

Note, though, that the model provides only limited support for the notion that a healthy bull market requires High Beta leadership. When the Allocation Model has favored High Beta, the S&P 500 has delivered an annualized return of +10.3%, compared with a +7.8% return when the model favors Low Volatility. This performance spread is small enough that relative “beta” of existing leadership probably shouldn't play a major role when assessing the bull's (or bear's) sustainability. Still, we're glad to see the infatuation with Low Volatility stocks subsiding (in part because we've not been exposed to them).



\*Buy High Beta when Total Return Ratio breaks above upper band, and remain positioned there until Ratio drops below lower band, triggering a switch into the Low Volatility Index.

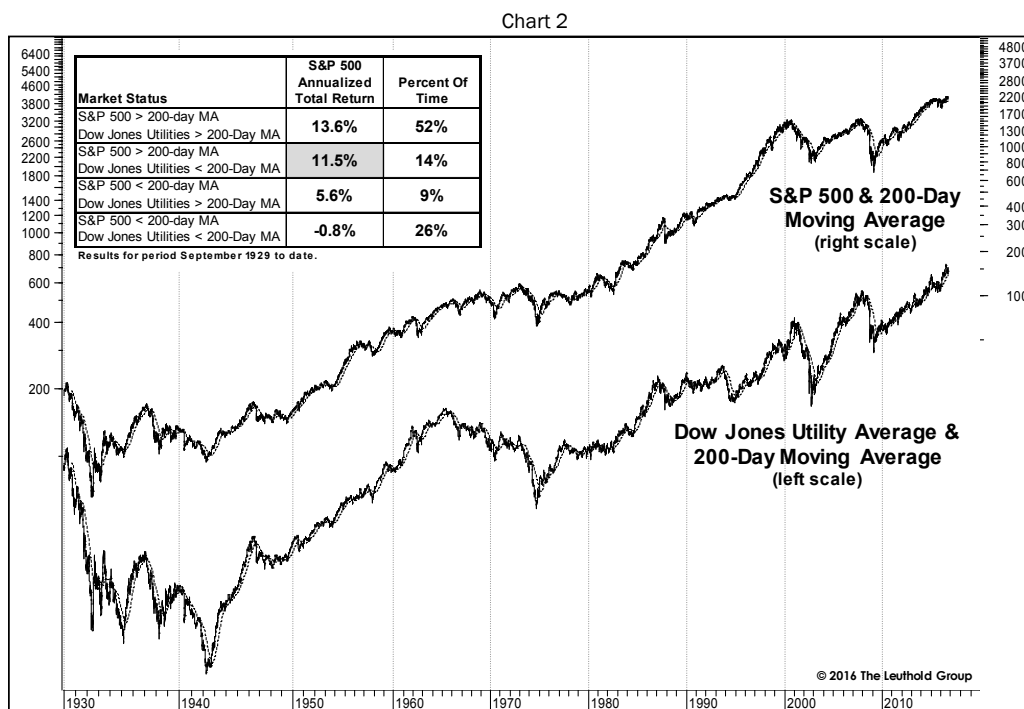
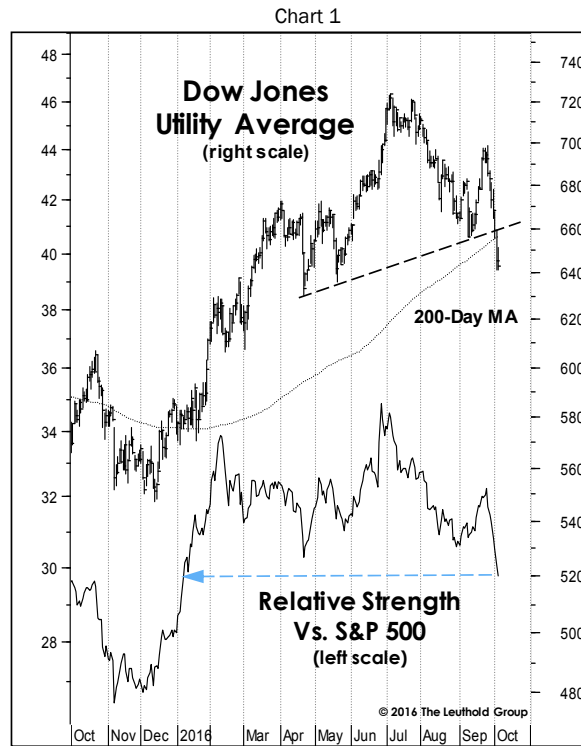
Table 1  
High Beta/Low Volatility  
Allocation Model Performance, 1992 To Date

© 2016 The Leuthold Group	Annualized	Annualized
	Total Return	Standard Deviation
S&P 500 High Beta Index	7.3 %	28.1 %
S&P 500 Low Volatility Index	10.8 %	11.0 %
<b>Allocation Model</b>	<b>11.6 %</b>	<b>16.3 %</b>
S&P 500 When Model Favors High Beta	10.3 %	14.0 %
S&P 500 When Model Favors Low Vol	7.8 %	14.7 %

## Is The Crack In Utilities A Broader Market Warning?

A few months ago, we mentioned the valuation risks that had built up in the stodgy Utilities sector, which at its mid-summer peak commanded a trailing P/E multiple of 24x—almost 10 points above its 1990-to-date median of 14.7x. The Dow Jones Utility Average has since suffered a setback of -11%, wiping away most of its YTD performance edge versus the S&P 500, and pulling the index below its 200-day moving average in the process (Chart 1).

We examined the interaction between trends in the S&P 500 and the Utility Average back to the late 1920s' inception of each index. It turns out that an incipient downtrend in the Dow Utilities (defined as a break below the 200-day moving average) is not—in and of itself—a good enough reason to abandon the stock market. When Utilities are trending down while the S&P 500 remains in an intermediate-term uptrend (i.e., above its 200-day moving average), the S&P 500 has generated an annualized return of +11.5%—a bit above its long-term average of +9.9%. (We expected a larger impact.) **The true bear scenario doesn't arise until both the S&P 500 and Dow Utility Average sink into intermediate-term downtrends.** Under those conditions, the S&P 500 has generated a small total return loss (-0.8% annualized) over the last 87 years (Chart 2). We'd certainly view the Utilities' action as a potential warning crack, but not yet a justification to sell.





# Financials: All's Well If You Don't Look Far

So long as one maintains a “nationalistic” perspective, Financial sector indicators support a bullish view toward both the economy and stock market. Spreads on domestic high yield bonds have contracted by about 350 basis points from their peak (Chart 1), and U.S. Bank and Brokerage stocks are now flat on the year after having been down more than 20% YTD at the February lows (measured by the BKX and XBD indexes, respectively).

- Foreign Financial sector trends are not so reassuring. Admittedly, that’s been the case ever since the Greek debt crisis erupted in early 2010, and domestic equity investors would probably have been best-served by relinquishing their passports and limiting their reading to *USA Today*. Both the Japanese and European banks continue to suffocate under the burdens of NIRP, and global bond yields are still below the levels prevailing when stocks bottomed in mid-February (Chart 2).

Chart 1



- We noted in early 2015 that the level of global bond yields has become something of a harbinger of domestic and foreign central bank policy moves. Since the late 1990s, every initial decline below a “round number” in the G7 10-year bond yield has ushered in an increasingly creative (desperate?) round of monetary stimulus (Chart 3). Under this theory, a drop to the zero level might prove to be a catalyst for a policy Hail Mary that Janet Yellen has recently refused to dismiss: outright Fed purchases of equities.

Chart 2

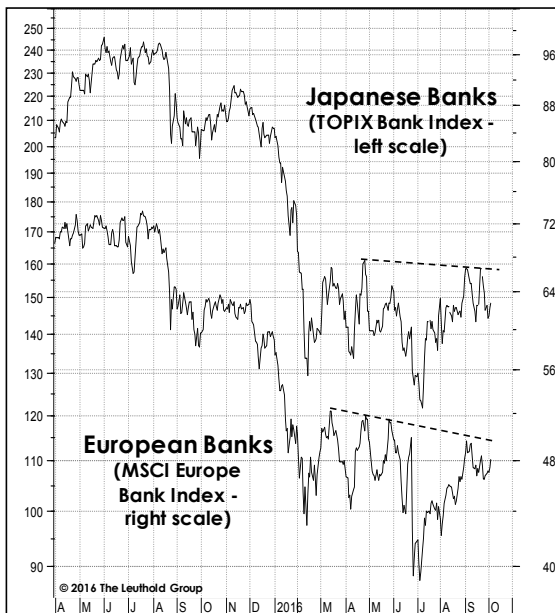
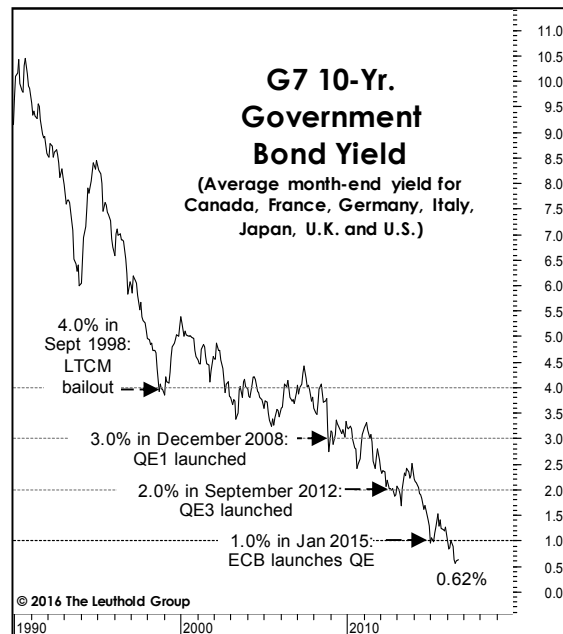
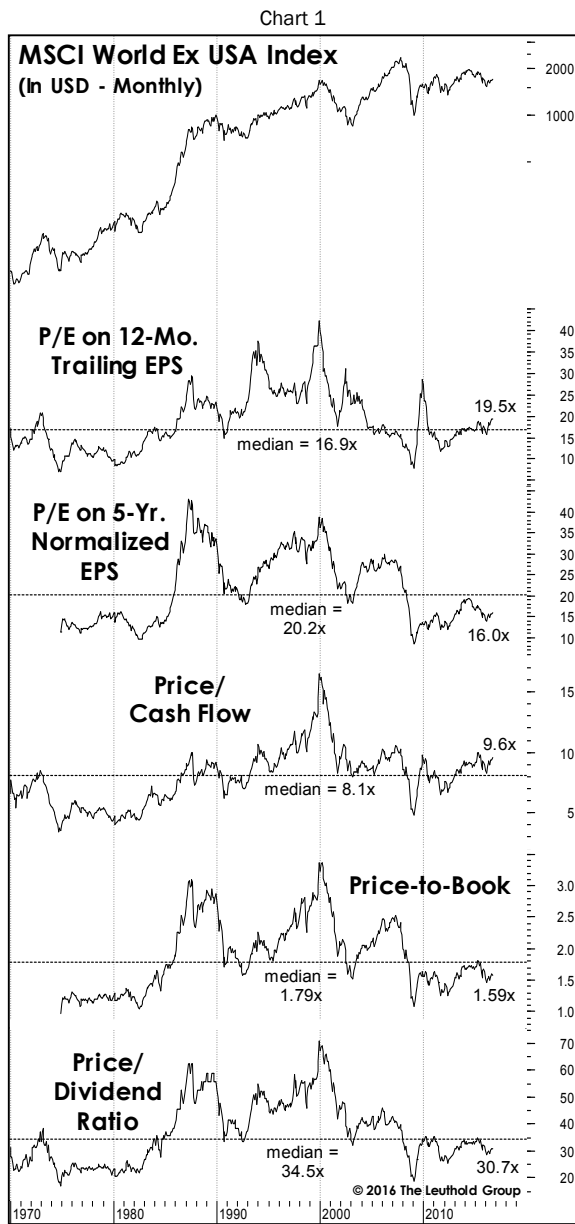


Chart 3



# Foreign Equities: Cure For Altitude Sickness?

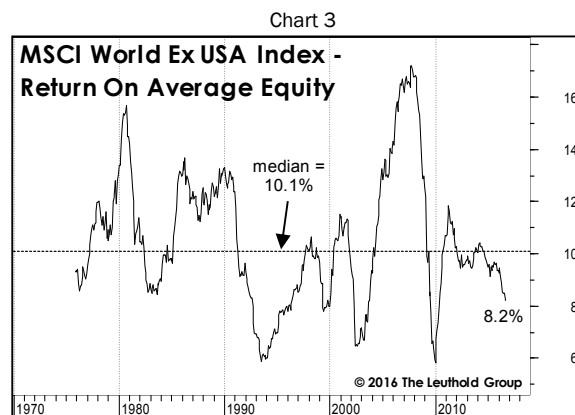


When we complain about the stock market's inflated valuation levels, we're unintentionally giving short shrift to the 50% of global market capitalization that resides outside the U.S. We'd be hard-pressed to describe the valuation of Developed foreign markets as any higher than neutral (and, as discussed in last month's Green Book, *Emerging Markets can still be considered outright cheap*).

Despite Mario Draghi's and Shinzo Abe's joint campaigns of shock and awe, three of the five valuation ratios in Chart 1 have failed to better their long-term medians during the cyclical bull market. (At least Bernanke and Yellen have an overvalued stock market to show for their efforts.)

The cheapest among the five measures happens to be the one we generally consider the most reliable from a returns-forecasting perspective: the P/E on 5-Year Normalized EPS (which trades at 16.0x today versus a 1974-to-date median of 20.2x). The Normalized EPS figure itself has flat-lined over the last eight years, with returns on equity for most of this decade slipping below the long-term median of 10.1%.

As profitability (measured by ROE) broke out to a new record high of 17% in early 2007, investors awarded the MSCI World Ex-USA Index a Normalized P/E of almost 30x. **With both ROE (Chart 3) and the Normalized P/E near half those levels today, the opportunity in foreign stocks looks intriguing, despite the economic headlines.**





**Foreign Equities** (continued)

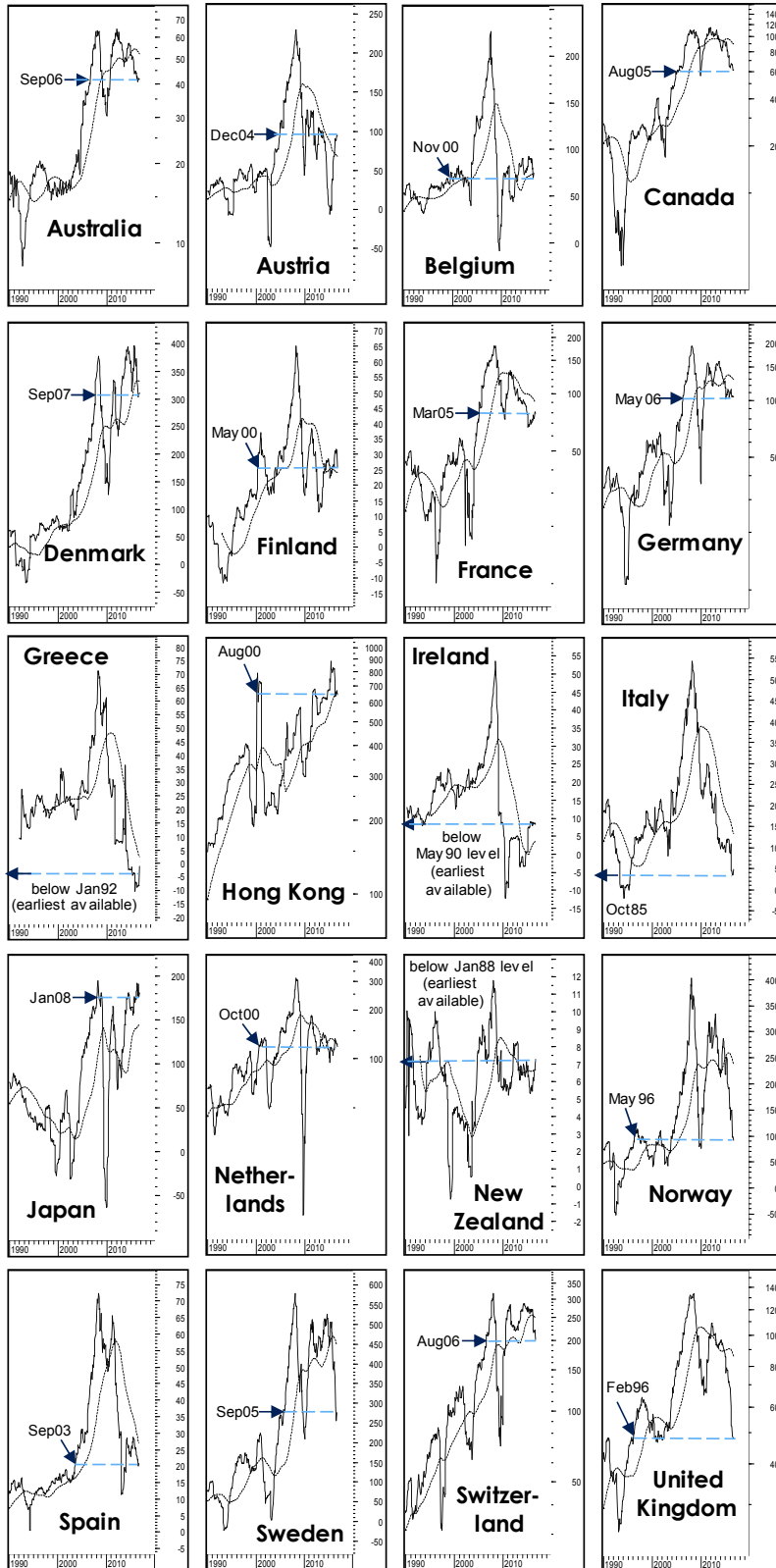
Chart Set 1  
**Trailing 12-Mo. EPS (Solid Lines) & 5-Yr. Normalized EPS (Dotted Lines)**  
**For MSCI All 22 Developed Foreign Markets (In USD)**

Chart Set 1 provides the gory country-level detail behind this cycle's profitability slump in foreign markets. If the U.S. is mired in an earnings recession, then there can be no other label for the foreign earnings debacle than *depression*.

Among the 22 foreign countries in the MSCI World Index, 17 failed to exceed the EPS peaks established in the last economic cycle, and an identical number now have *declining* 5-Year Normalized EPS (with Japan, surprisingly, not making the latter list). And this occurred despite a steady (if relatively slow) expansion in many of these countries' largest trading partner, the United States.

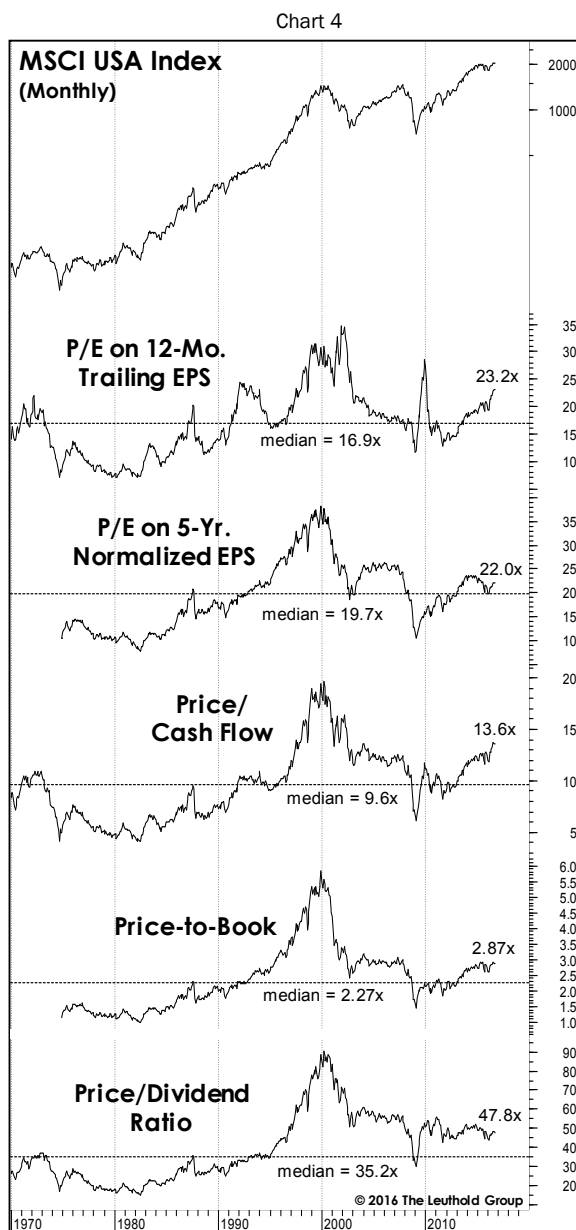
EPS levels in Greece, Ireland, New Zealand, and Portugal are all below those seen at the inception of their historical data series (ranging from 1988 to 1992).

Contrarians should smell an opportunity here. Foreign exposure in our Global Industries equity portfolio is now 66%, up from 50% in the spring.



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## Foreign Equities (continued)



To facilitate a direct comparison with the foreign valuations shown in Chart 1, we calculated the same five valuation measures for the MSCI United States Index, whose construction is similar to the S&P 500. The contrast is striking (to the surprise of no one who's paid even casual attention to global stocks in recent years).

All five measures are well above their long-term medians, with the trailing P/E and Price/Cash Flow ratios the most inflated relative to historical norms (Chart 4). But the *least* inflated one here is the venerable 5-Year Normalized P/E, which—at a current 22.0x—is just 12% above its 42-year median.

We then applied our “Estimating The Downside” calculations to both the USA and World Ex-USA Indexes, keeping in mind that valuation histories here are shorter (dating back to 1970-74) than with our monthly “Appendix” discipline (1957). Despite the shorter history, results for the MSCI USA Index essentially mirror the results for the S&P 500: The estimated downside to long-term median valuations is -23% (Table 1).

The identical exercise for the World Ex-USA Index yielded a bit of surprise. A return to weighted-average valuation medians on the five measures yields a bit of market *upside* (+2%, Table 2), something we've not seen domestically since 2011. And keep in mind these ratios reflect foreign fundamental measures that are relatively depressed, along with U.S. fundamentals that are still cyclically healthy. In short, the true valuation gap is probably wider than appears here.

Table 1  
MSCI USA Index:  
Estimating The Downside

© 2016 The Leuthold Group	Sep. 30 Level	1970-to Date Median	Gain/Loss From Here
P/E on 12-Mo. Trailing EPS	23.2	16.9	-27%
P/E on 5-Yr. Normalized EPS	22.0	19.7	-10%
Price/Cash Flow	13.6	9.6	-29%
Price-To-Book	2.87	2.27	-21%
Price/Dividend	47.8	35.2	-26%
<b>*Weighted Average</b> (Price-to-Book and Price/Dividend are given a half weighting.)			<b>-23%</b>

Table 2  
MSCI World Ex USA Index:  
Estimating The Upside

© 2016 The Leuthold Group	Sep. 30 Level	1970-to Date Median	Gain/Loss From Here
P/E on 12-Mo. Trailing EPS	19.5	16.9	-13%
P/E on 5-Yr. Normalized EPS	16.0	20.2	26%
Price/Cash Flow	9.6	8.1	-16%
Price-To-Book	1.59	1.79	13%
Price/Dividend	30.7	34.5	12%
<b>*Weighted Average</b> (Price-to-Book and Price/Dividend are given a half weighting.)			<b>2%</b>

## How To Beat The S&P 500 With The S&P 500

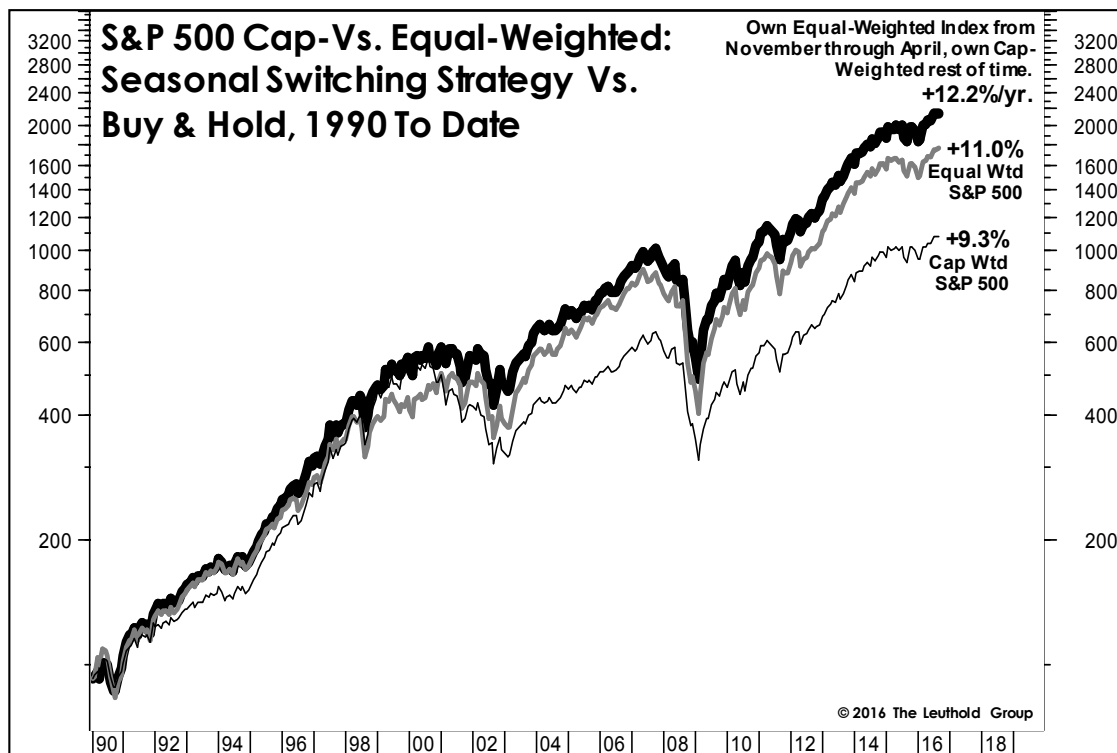
While 2016 is shaping up to be one of the most difficult years ever (on a relative basis) for active equity managers, one cannot blame the usual culprit of “narrow” market participation. To the contrary, the equal-weighted S&P 500 is about 250bp ahead of the S&P 500 YTD, and the broad Value Line Arithmetic Average has almost doubled the S&P 500’s roughly 6% gain.

Chart 1 shows the equal-weighted S&P 500 relative surge was compacted entirely into a three-month window lasting from late-January through April. Relative action since May has been irregularly sideways—consistent with a strong *seasonal* pattern in market breadth we’ve previously discussed.

- This pattern is nothing more than the “Sell In May” phenomenon, whose impact on the major averages is well-known but whose influence on breadth is less recognized. The period from November through April is traditionally the market’s “strong” period, and the effects have been far more visible in High Beta, Small Cap, and unweighted market measures than the blue chip averages.
- As an illustration, we tested a hypothetical portfolio which held the equal-weighted S&P 500 during the traditionally strong seasonal months, while hiding out in the relative “safety” of the cap-weighted S&P 500 during the seasonal period of weakness (May to October). The strategy has topped the cap-weighted benchmark by almost 3% since 1990 (Chart 2).



Chart 2



## Beat The S&P 500 With The S&P 500 (continued)

Table 1 shows the annual results of our hypothetical, seasonal allocation strategy. It's clear the track record is not merely the result of one or two "home run" trades: last year broke a string of 15 consecutive years in which the seasonal-switching strategy bested the capitalization-weighted S&P 500 benchmark. In all, barring a violent reversal in the fourth quarter, this simple strategy will have beaten the benchmark in 22 of the 27 years for which we have data. (We consider this a relatively short backtest period, but have observed the same effect in Small Cap returns back to 1926.)

The strategy "alpha" of 2.9% per annum is remarkable considering the holdings of both portfolios are identical 100% of the time, and the weighting of the holdings are identical 50% of the time. "Active share" of the portfolio—a concept which is not currently in vogue—is thereby minimized.

We neither offer nor recommend this portfolio (the relevant ETF tickers are SPY and RSP). But if history repeats itself into year-end, active managers in the aggregate should expect to pare some of the YTD gaps against their cap-weighted benchmarks.

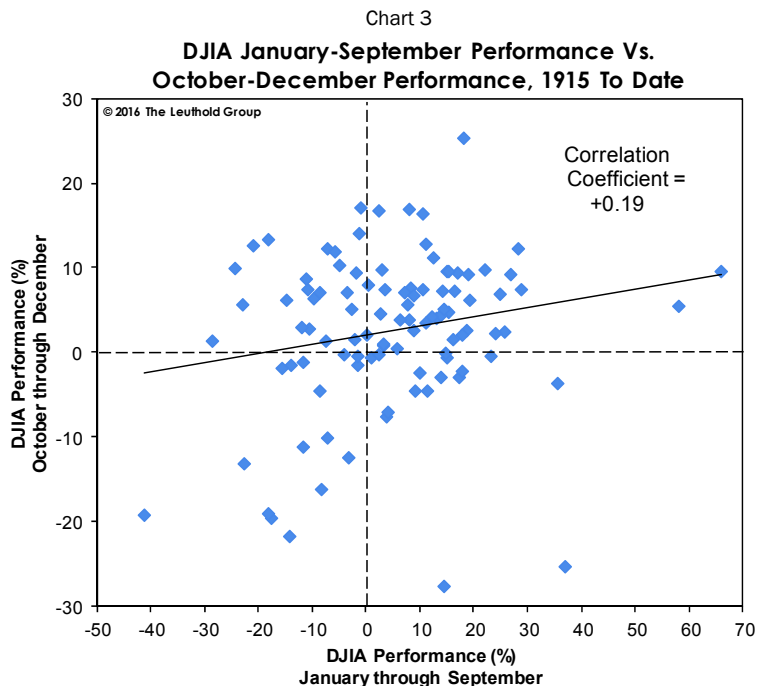
Table 1

Year	S&P 500 Total Return	Equal/Cap-Wtd Switching Strategy Tot. Ret.
1990	-3.2	-1.9
1991	30.5	36.0
1992	7.7	14.8
1993	10.0	13.9
1994	1.3	1.4
1995	37.4	37.0
1996	23.1	25.0
1997	33.4	26.7
1998	28.6	21.6
1999	21.0	18.7
2000	-9.1	1.2
2001	-11.9	-1.0
2002	-22.1	-12.8
2003	28.7	30.8
2004	10.9	14.3
2005	4.91	4.94
2006	15.8	17.7
2007	5.5	6.2
2008	-37.0	-36.7
2009	26.5	41.9
2010	15.1	21.1
2011	2.1	2.3
2012	16.0	18.3
2013	32.4	33.8
2014	13.7	15.1
2015	1.4	0.9
2016ytd	7.8	10.6
<b>1990-2016ytd, Annl.</b>	<b>9.3 %</b>	<b>12.2 %</b>
<b># Winning Years</b>	<b>5</b>	<b>21</b>

### Fourth Quarter Rally?

The DJIA's YTD gain of +5.1% through the first three quarters somewhat improves the odds of a fourth quarter rally, relative to years in which the first three quarters have been down. The relationship between January-through-September returns and fourth quarter results is a weak one (as shown in Chart 3), but the correlation has been a positive one (+0.19).

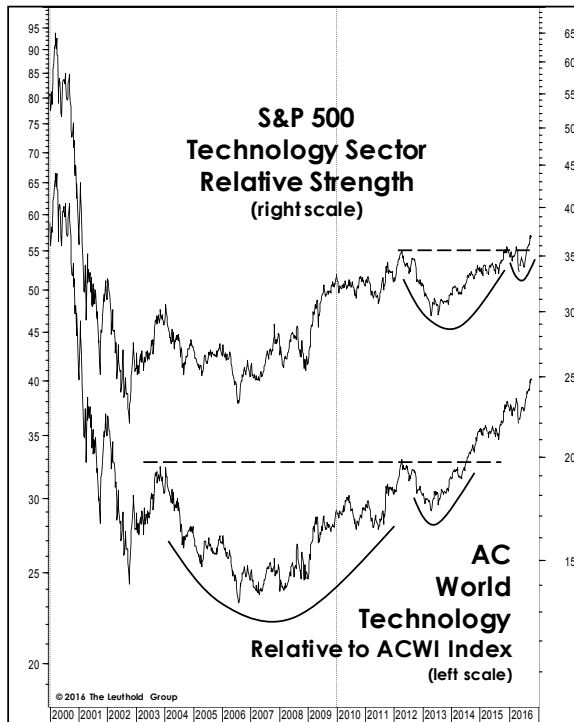
The most encouraging takeaway from the chart is that following all years in which the Dow return was positive for the first nine months, only two years saw losses of more than 10% in the final quarter (1929 and 1987).



## Tech: Prices (And P/E Ratios) Breaking Out

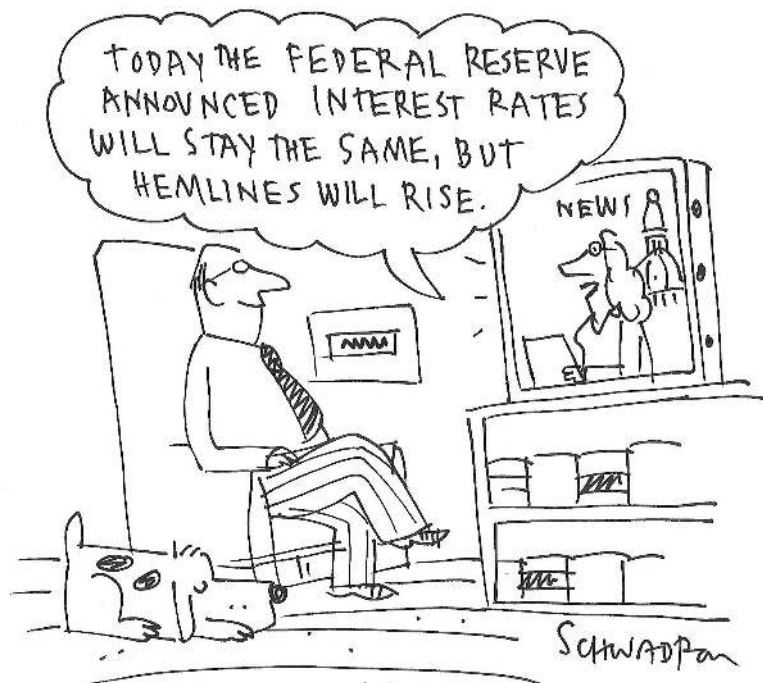
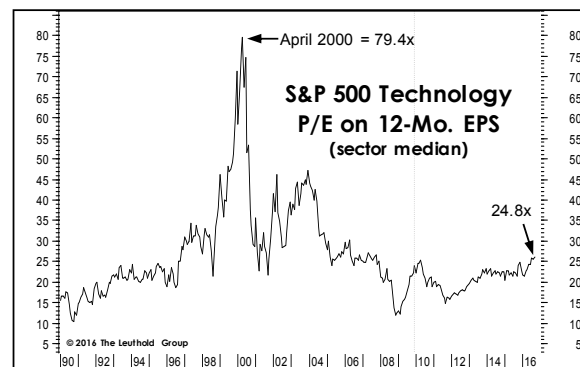
Technology has proven a bright spot in an otherwise disappointing year for our Group Selection (GS) Scores, and it sits atop the sector rankings for the third consecutive month as of October. Eight Technology groups currently rate Attractive, with another four in the High Neutral zone. No industry group within the sector currently rates Unattractive, which can't be said of any of the other nine traditional broad sectors.

Chart 1



- U.S. Tech sector relative strength has staged a bullish breakout from a miniaturized version of a pattern we pointed out in the All Country World Technology sector two years ago (Chart 1). The sector P/E has reached a cycle high of 25x. That represents a P/E premium of 20% compared with 40-45% at the 2007 peak and 300% (not a typo) at the 2000 peak (Chart 2).

Chart 2



Investing is by its very nature a forward-looking endeavor. The returns that are earned and the risks that are incurred by investments made today will only be determined tomorrow. The time and effort we spend analyzing the past serves to enlighten us about what has happened and what may happen, but alas we cannot transport past outcomes into the future.

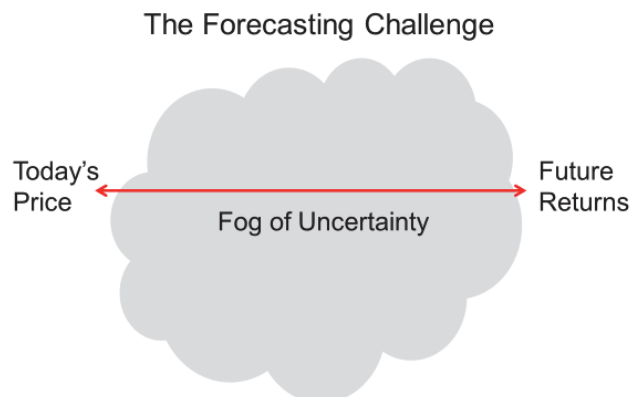
Investment decisions that rely on the future for validation are particularly maddening because the future that ultimately unfolds is just one of many alternative histories that could have occurred. **The set of outcomes that may happen is populated beyond our imagination, but the set of outcomes that does happen has but a single member.**

Every investment program, even a passive buy-and-hold index fund, embodies an expectation about the future. If that expectation comes to pass we will be well-satisfied, and if not we will be equally disappointed. Furthermore, uncertainty regarding the multitude of possible futures is what creates the investment risks we struggle to contain. **If there were no uncertainty there would be no risk.**

*In all environments the only certainty is uncertainty. The future remains as obscure as ever – and will remain so until the end of time.*

*Peter Bernstein*

Predicting the future with any notion of certainty is a fool's game, and I can think of very few successful investors who employ this approach. As an investment style it's difficult to the point of being unworkable, and yet we cannot avoid the fact that the future will determine our investment success or failure. I often describe our inability to predict the future as "the fog of uncertainty." The future is out there, it is coming, and we cannot "take a pass," we cannot "sit this one out." The fog of uncertainty obscures the future and yet we must successfully navigate through it to reach our investment objectives.



Humans are uncomfortable with uncertainty. We prefer to avoid it when possible, but forward-looking activities do not allow us that luxury. We do not like uncertainty (*or more accurately the risk it creates*) yet we're forced to confront it head on; this is a troublesomeness which we cannot avoid.

One way investors grapple with the future is to rely on forecasts, particularly by experts. In times past, seers would use sunspots or chicken entrails to predict the future, to see through the fog. Today our methods are more sophisticated but the psychological need for comfort and certainty has not changed.

## The Fog Of Uncertainty (continued)

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Believing that someone else can understand the future makes us feel better, like whistling past the graveyard. We ourselves may not be able to see what's coming next, but relying on the comfort and encouragement of expert forecasts gives us confidence in navigating through the fog. **I believe the desire to wish away the risk of an unknowable future is what makes us so susceptible to listening to and acting on forecasts. Expert predictions create the illusion of certainty,** and I believe this is why predictions and forecasts are so common and so coveted in our profession.

It may seem that following expert predictions is just harmless fun, and who knows, they may be right once in a while! I propose a contrary argument — that acting on assertive predictions is dangerous and to be avoided. **Believing in forecasts can unwittingly create a sense of overconfidence which will inevitably lead to poor decision making and excessive risk taking.** In fact, relying on forecasts *creates new investment risks* (on the behavioral side) rather than reducing them. The inherent risks of an uncertain future are quite enough without our adding to them by betting big on predictions that suggest an undue level of certainty.

*No one likes having to invest for the future under the assumption that the future is largely unknowable. On the other hand, if it is, we had better face up to it and find other ways to cope than through forecasts.*

*Howard Marks*

What is an investor to do? Industry veterans know that our brand of fog is not a picturesque morning mist over the fields, it is more akin to a London pea-souper that compels us to remain safely in port for the duration. However, every investment decision to act or not to act carries an assumption about the future and we cannot avoid that discomfort. *Fortunately, there are several tools and mental models that enable investors not to predict the future but rather to move forward, in some cases, with a sound plan of action that carries a reasonable chance of success.*

I offer three of my favorite analytical methods for peering through the fog: **(1) economic disequilibrium;** **(2) regression to the mean;** and, **(3) dependence on initial conditions** (the focus of this month's companion article in the "Of Special Interest" section). Each of these models helps us understand and even anticipate the future without resorting to bold predictions of what will happen.

Identifying an **economic disequilibrium** is a reliable forecasting tool that carries the highly attractive feature of simplicity. The notion of disequilibrium is based on the theory of supply and demand, and has proven itself many times over in the course field of economic analysis. A disequilibrium arises when supply exceeds demand, or when demand exceeds supply. Economic theory teaches, and life experience confirms, that if supply exceeds demand the free market will act such that supply is reduced until it matches demand. Profit margins will fall, capacity will exit the industry, and eventually the balance (equilibrium) between supply and demand is restored. Likewise, if demand exceeds supply, producers will earn excess profits and draw new supply into the industry until balance is once again achieved.

The beauty of the economic disequilibrium analytical tool is that we are not required to predict the future, we are only required to understand the present situation. If we can identify a disequilibrium today, we can rely on the principles of ECON 101 to drive it back into balance in the future. The risk here is not the uncertainty of forecasting, but the risk that economic laws and the free market fail to act properly. We can be confident that the profit motive will generally move events in the expected direction.



## The Fog Of Uncertainty (continued)

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The second analytical model is **regression to the mean**. Once again, our challenge is not to predict the future, but more simply, to understand the present. Many aspects of investing, economics, and business in general are strongly influenced by regression to the mean and the idea that there is a central tendency toward which a particular piece of data is repeatedly drawn. Unusually high or low readings have a strong habit of regressing to the mean, to be pulled toward the central tendency as if by gravity.

**The investor's challenge becomes identifying which data points and which time series are influenced by central tendency, and which are not.** There are aspects of everyday life that are not driven by regression and in these instances the wise investor will utilize other tools. For the many areas of business that are influenced by this powerful economic force, reliance on regression to the mean becomes another tool which allows us to see through the fog and anticipate what may come next.

The third analytical tool is **dependence on initial conditions**. This notion is drawn from chaos theory and postulates that the future state of a complex system is dependent on its initial conditions. **Begin in one state and you will end up with one result, begin in a different state and you will end up with a different result.** This again becomes a useful analytical tool because our challenge is to determine where we are today, to determine the initial conditions.

Dependence on initial conditions works well in business and economics because so much of what happens is cyclical in nature. We see business cycles, market cycles, sector rotation, and return patterns all driven by the notion of cyclicity. The critical aspect of cyclicity is not simply the repetition of a pattern through time, as winter follows summer which follows winter. **There is a much more powerful influence to cyclicity, and that is the understanding that one event does not merely follow another, but that one event causes or leads to another. The cyclicity we can use to understand the future is all about cause and effect, about the inter-relatedness of events.** Easy credit terms today will lead to (cause) higher defaults tomorrow. High market valuations today will lead to (cause) lower returns in the future. Economic conditions do not arise randomly out of thin air; everything has a cause; today's conditions will lead to tomorrow's events. Recognizing that today's state of affairs will cause the future to look a certain way gives investors another tool to anticipate the future without making predictions. If we know where we are in a cycle today, we can sometimes know how cause and effect will impel the cycle to play out in the future, *which is a subtlety but significantly different than predicting the future*. Every now and then understanding where we are today, and understanding how economic and market forces typically respond to those conditions, permits us to anticipate what may come next with considerable confidence.

These three powerful analytical models have several features in common which should be taken into account if they are to be used effectively.

1. **Each tool relies on understanding where we are today.** This is a much easier hurdle to clear than trying to predict what will happen in the future. If we can understand the present, we can anticipate the future with some degree of assurance.
2. **Each tool is simple, straightforward, and based on the workings of basic economic principles.** Each has proven reliable over many decades of use and shows no signs of fading or becoming obsolete.
3. **Each tool is only helpful now and then.** Supply and demand is often close to equilibrium, data points are often close to the mean, and cycles are near normal more often than they are at the extremes. In those cases, the future is much more subject to random moves and the best investment strategy is to maintain a neutral position.

## The Fog Of Uncertainty (continued)

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4. When these indicators are present, they serve as powerful signs of what may or even should happen in the future. However, **they tell us very little about when things will happen.** Because these tools offer little in the way of timing insights, my position is that “I am occasionally willing *to anticipate what will happen, but never when.*”
5. Because these indicators are not helpful at timing, they are also virtually useless in signaling near-term changes in the economy or the markets. Disequilibria and initial conditions might resolve themselves in a week, a year or even longer, all in their own good time. Long-term investors are well advised to rely on these tools but short-term speculators must look elsewhere for their timing calls.

**These techniques can be trustworthy indicators of the future direction of events, but their timing is imprecise and they require patience. They do not offer exactitude and give no short-term signals, however they are powerful and reliable ways to understand the coming chain of events as they flow from today.**

*I confess that I prefer true but imperfect knowledge, even if it leaves much undetermined and unpredictable, to a pretense of exact knowledge that is likely to be false.*

*Friedrick Hayek*

This memo opens with the premise that predicting the future is difficult to the point of impossible. It then asserts that acting on predictions with undue confidence results not in lower uncertainty but, counterintuitively, creates more investment risk through heightened behavioral errors in decision making. It concludes by offering analytical tools that admit to the folly of forecasting, yet allow investors to anticipate or preview what the future might hold. **Investors face a critical choice as they commit capital to risky ventures; they can make decisions by trying to predict the unknowable future, or they can make decisions by understanding the current conditions. The first alternative is exceedingly difficult while the second is in the reach of most diligent investors.**

I am firmly in the second camp, and much of the research work at The Leuthold Group is aligned with that thought. If we can understand important relationships, where markets have been, and where they stand today, we can occasionally opine with some confidence as to what may happen next.

*For the gods perceive things in the future, ordinary people things in the present, but the wise perceive things about to happen.*

*Philostratus*

Achieving the vision of a Greek god is well outside our skill set, but intelligent investors can certainly aim to understand opportunities better than the ordinary person. Our experience is that tools such as these provide the intelligent investor with the perception needed to understand what may be about to happen and successfully navigate through the fog of uncertainty.

**Revisiting The Historical Relationship Between Stock And Bond Returns**

Herein we further explore this month’s theme of “point-in-time relationships” and subsequent market returns. We review and update a study we initially conducted and published in June 2009.

**Notion Of Risk/Reward Goes Astray**

The premise behind this study is straightforward; it examines the difference, or “the differential,” between trailing stock and bond returns over both short and long periods of time. A basic assumption made by investors is that, over the longer-term, “riskier” investments such as stocks should provide reasonably higher returns than “safer” investments such as long-term government bonds—and historically this has indeed been the case a majority of the time. But back in early-2009, as the bear clawed toward the final market bottom, investors found that this notion had been (temporarily) turned on its head. At the end of Q1 2009, bonds had been *outperforming* stocks not only over shorter-term spans of time (such as one, three, and five years), but also over very long periods, from 10 years to 25 years. Stocks still managed to (barely) outperform bonds over what we would term “generational” lengths of time (30-to-50 years), but even these stock/bond performance differentials had reached historical extremes.

Table 1 shows the results from our original 2009 study. Differentials across rolling time-frames, from one year to fifty years, were each registering in the **fifth percentile, or lower**, when compared to their respective distributions of quarterly readings back to 1926. The differentials over a number of the longest rolling-time periods ranked *in the first percentile* of their historical distributions, *many at all-time lows* — meaning, **99% of the time they measured higher**.

Table 1

<b>Stocks vs. Bonds: Trailing Total Return Performance (As Of Q1-2009)</b>				
	<b>S&amp;P 500</b>	<b>10-Year Treasuries</b>	<b>Differential</b>	<b>1926-To-Date Percentile Rank</b>
1 Year	-38.1%	9.7%	-47.8%	<b>2nd</b>
3 Year (ACR)	-13.1%	10.3%	-23.4%	<b>3rd</b>
5 Year (ACR)	-4.8%	6.2%	-11.0%	<b>5th</b>
10 Year (ACR)	-3.0%	6.8%	-9.8%	<b>1st</b> →
15 Year (ACR)	5.9%	7.5%	-1.6%	<b>4th</b>
20 Year (ACR)	7.4%	8.5%	-1.1%	<b>1st</b>
25 Year (ACR)	9.4%	9.7%	-0.4%	<b>1st</b>
30 Year (ACR)	10.3%	9.4%	1.0%	<b>1st</b>
35 Year (ACR)	9.8%	8.8%	1.0%	<b>1st</b> →
40 Year (ACR)	8.7%	8.4%	0.4%	<b>1st</b> →
50 Year (ACR)	8.9%	7.2%	1.7%	<b>1st</b>

©The Leuthold Group 2016 → Indicates All-Time Low

**Exploiting A Market Anomaly**

In early-2009 we found ourselves smack in the middle of a major market anomaly. To assess whether this rare event could be exploited, we “tested the differential.” As expected, our study found that when the *longer-term* rolling differentials (10-to-50 years) reached extremely low levels, **stocks were likely to outperform over the ensuing three, five, and even ten-plus years compared to performance seen following the other 90-95% of periods**. On the flip side, **bonds tended to underperform in ensuing years**. (*As an aside, these stock/bond performance prospects are part of the rationale for our having maintained below-normal fixed income exposure in Leuthold tactical allocation portfolios.*)

This stock/bond relationship generally got stronger as one moved up the time ladder (20-to-50 years). The same trend of stock outperformance following low long-term differentials would occur not only from the lowest decile of readings, but also from less-extreme readings stretching to the second and third deciles. However, looking at forward returns from the second and third deciles was less helpful in predicting future *bond* performance. Also, shorter differential time frames from one-to-five years are too volatile, proving unhelpful in predicting future stock or bond returns, even when tested from extremely low levels.

## A Stock/Bond Relationship Revisited (continued)

### Exploiting A Market Anomaly (continued)

The latest occurrence of extremely low differential readings is a great example of future market-return trends playing out exactly as anticipated by the study. The 10-year performance differential (Chart 1), reached an **all-time low** in Q1 2009; it proceeded to register negative for the following three-plus years! Over the last seven and a half years, stocks have outperformed while bond performance has been muted (data in larger box, Chart 1).



Prior to now, we last updated and published this study using data through Q4 2013. At that time, we were surprised to see that even after an enormous run in stocks since 2009, *half* of the longer-term performance differentials were *still* registering in the lowest quartile of their historical distributions, and *all* still registered below their historical medians—one even registered negative (see 10 years to 50 years, Table 2). **We concluded that, while differentials certainly were moving back toward historical norms, more mean reversion could still be in store. In retrospect, that conclusion proved correct.**

Table 2

Stocks vs. Bonds: Trailing Total Return Performance (As Of Q4-2013)				
	<u>S&amp;P 500</u>	<u>10-Year Treasuries</u>	<u>Differential</u>	<u>1926-To-Date Percentile Rank</u>
1 Year	32.4%	-8.6%	40.9%	95th
3 Year (ACR)	16.2%	3.2%	13.0%	74th
5 Year (ACR)	17.9%	1.3%	16.6%	89th
10 Year (ACR)	7.4%	4.6%	2.8%	37th
15 Year (ACR)	4.7%	5.0%	-0.3%	<b>10th</b>
20 Year (ACR)	9.2%	5.8%	3.4%	47th
25 Year (ACR)	10.3%	7.2%	3.1%	33rd
30 Year (ACR)	11.1%	8.2%	2.8%	<b>21st</b>
35 Year (ACR)	11.9%	8.3%	3.6%	36th
40 Year (ACR)	10.9%	7.9%	3.1%	<b>19th</b>
50 Year (ACR)	9.9%	7.1%	2.8%	<b>12th</b>

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## A Stock/Bond Relationship Revisited (continued)

### Where Do We Stand Today?

Interestingly, even after a seven and a half year bull market in equities, all ten-plus year differentials *still* register in the 32nd percentile, or lower, of their respective 1926-to-date distributions. Table 3 offers a bit more color as to why these current rankings remain so low. For one, the 10-to-20 year differential range appears lower due more so to muted stock performance over the period. The S&P 500 15-year ACR of 7.1%, for example, is currently comparing to Q3 2001, which preceded another strong leg down during a two-plus year bear market. Alternatively, 30-plus year differentials are registering at lower levels due to outsized bond returns. The current 35-year ACR is comparing to 10-year U.S. Treasury total return index levels in 1981 (when bond yields were at their peak), and still registers at only the 12th percentile of the measurement's 90 years' worth of quarterly differential readings.

Table 3

	<u>S&amp;P 500</u>	<u>10-Year Treasuries</u>	<u>Differential</u>	<u>1926-To-Date Percentile Rank</u>
1 Year	15.4%	5.5%	9.9%	57th
3 Year (ACR)	11.2%	5.4%	5.8%	49th
5 Year (ACR)	16.4%	2.7%	13.7%	81st
10 Year (ACR)	7.2%	5.6%	1.7%	28th
15 Year (ACR)	7.1%	5.2%	2.0%	30th
20 Year (ACR)	7.9%	6.2%	1.7%	<b>15th</b>
25 Year (ACR)	9.3%	6.5%	2.8%	30th
30 Year (ACR)	10.2%	6.9%	3.3%	32nd
35 Year (ACR)	11.6%	9.1%	2.5%	<b>12th</b>
40 Year (ACR)	11.0%	7.9%	3.1%	<b>20th</b>
50 Year (ACR)	10.2%	7.4%	2.8%	<b>14th</b>

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As previously mentioned, low differentials for the *longer* windows registering in the second and third decile range of their historical distributions tend to lead to outsized future stock returns. Examples are shown in Charts 2 & 3. We looked at forward returns for the 20-year differential (which currently ranks in the 15th percentile), comparing the **lowest 30% of readings** to the remaining 70%. While at these decile levels, median forward bond performance is consistent at around 4%, while median forward stock performance is quite robust.

**We'll end with a conclusion similar to that at the end of 2013: while long-term differential readings are certainly no longer close to the extremes seen in 2009, readings remain fairly low, indicating that further differential mean reversion could be in store.**

Chart 2

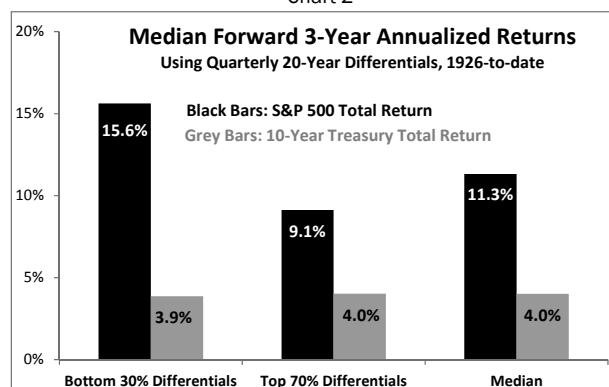
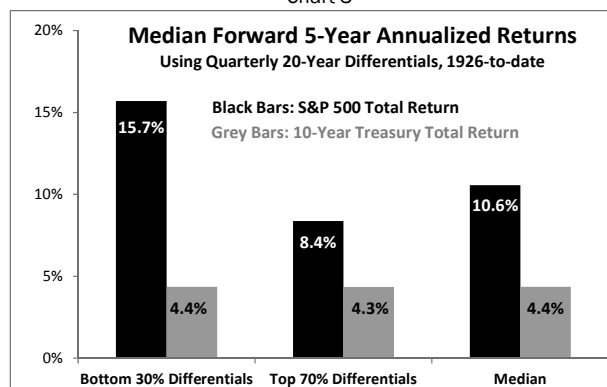


Chart 3

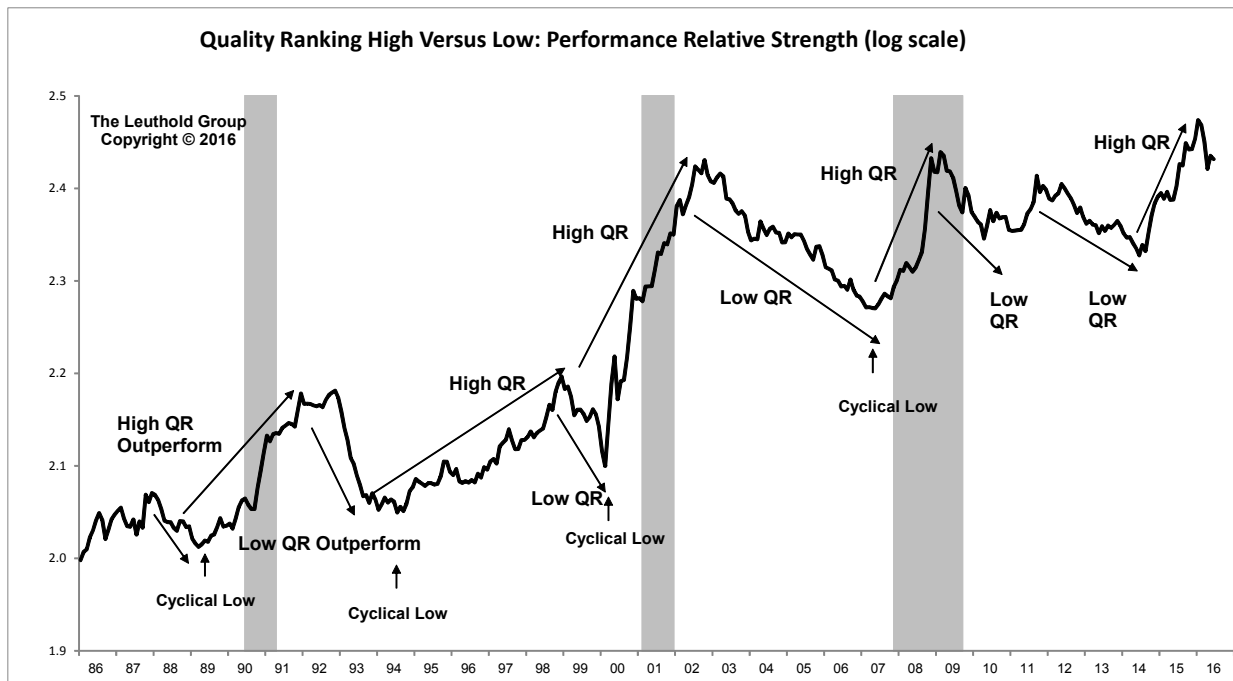


As we embark on the last quarter of the year, the market rolls on and the Low Quality Stock rally continues. Investors brushed off a global economic slowdown and drove up the value of risky assets in anticipation of continued loose monetary policies around the globe. Valuations of Low Quality stocks are moving higher.

**Low Quality Stocks Outperform In Q3 & YTD**

Low Quality stocks were up 7.5% in Q3, far ahead of High Quality stocks’ gain of 4%. YTD, the performance of High Quality stocks is also trailing that of its Low Quality counterparts. The relative strength of High Quality versus Low Quality has reversed from the recent peak reached in January (Chart 1).

Chart 1



If we are entering a Low Quality Cycle, the bad news is that it could last quite awhile. Since 1985, we identified six major Low Quality Cycles prior to the current year (Table 1). The duration of these Low Quality Cycles ranged from 14 months to 55 months, during which time Low Quality stocks outperformed by +17.4% at the low end, to +93.8% at the high end.

The current leadership trend of Low Quality has lasted for eight months so far, with a performance advantage of +16%. **If investors remain in a risk-seeking mode, we could see the rest of the year dominated by lower quality issues.**

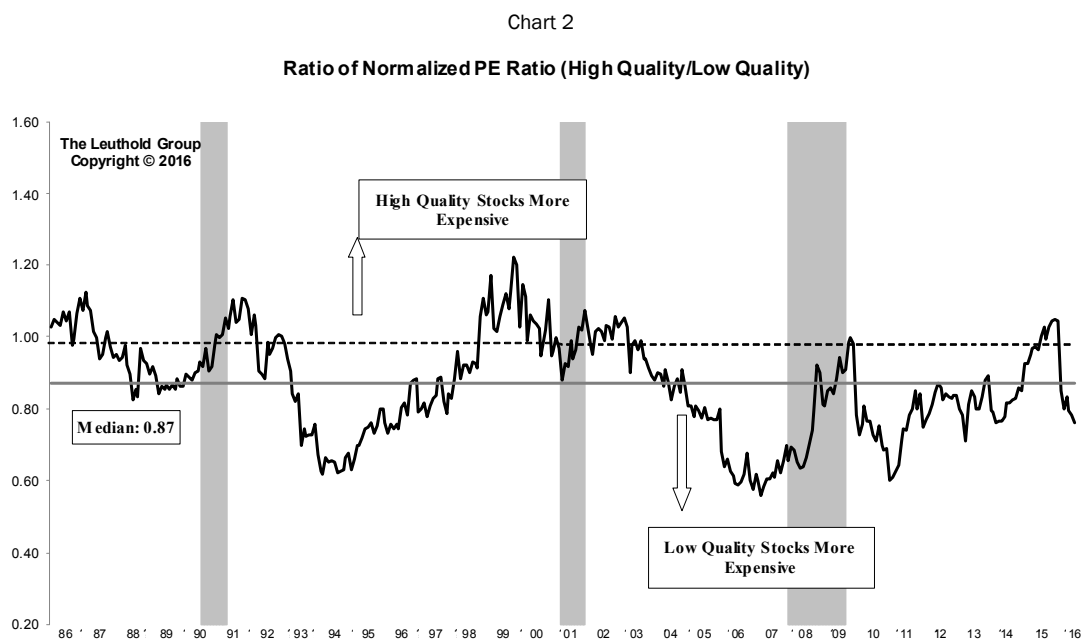
Table 1

<b>Seven Periods With Low Quality Stocks Outperforming</b>		
<u>Periods</u>	<u>Duration</u>	<u>Low Quality Stocks Outperformance</u>
Dec 87 - Feb 89	15 Months	17.4%
Nov 92 - Jan 94	14 Months	36.8%
Dec 09 - Feb 00	14 Months	28.6%
Oct 02 - May 07	55 Months	93.8%
Nov 08 - Apr 10	17 Months	35.7%
Sep 11 - Jun 14	33 Months	38.8%
Jan 16 - Present	8 Months	16.0%

### Low Quality Stocks Now Look Relatively Expensive

Lower valuations entering 2016 likely aided the relative performance of Low Quality stocks. In late-2015, the relationship of the High/Low Quality stock segments reached a milestone, as the relative valuation of High Quality stocks surged and the two segments reached valuation parity. Historically, High Quality stocks have traded at an average discount of 13% (Chart 2).

Following February this year, the “risk on” mode drove up Low Quality stocks’ relative valuations. The **High Quality to Low Quality valuation discount has now widened to 23% (versus the historical average of 13%)**. To put this in historical perspective, investors chasing Low Quality stocks drove the valuation discount to 44% in late-2006 — High Quality stocks were 44% cheaper than Low Quality stocks at that time.



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### Our Quality Ranking Methodology

We use three factors to rank the largest 1500 stocks in our Leuthold 3000 (L3000) Universe. The top quintile is defined as our High Quality Rank (QR) basket, and the bottom quintile is our Low Quality Rank (QR) basket. The three factors are:

- ROE Rank: Average rank of the last five years’ ROE
- Leverage Rank: Debt/Assets ratio is used as a leverage indicator
- Operational Stability Rank: Sales and earnings trends are used to gauge stability

We use a relative ranking system to segment a universe of 1500 stocks into quintiles, while S&P assigns ratings to each stock on a stand-alone basis. In our dynamic ranking system, if the fundamentals of a majority of stocks improve or deteriorate, a stock could see its Quality Ranking change just by keeping the status quo.



**Earnings-Release Price Impact**

Earnings season is not only important for fundamental investors; it can be equally so for quant managers. For quants that incorporate fundamental data, like us, historical trends and changes in consensus estimates may weigh heavily on model output.

In recent years, a variety of options strategies have been employed to capitalize on the volatility of prices due to earnings releases. Additionally, fundamental investors buy options to hedge earnings risk, thereby reducing portfolio volatility and/or write covered calls as a way to generate extra income.

Last month, we explored the impact of analyst coverage on Earnings-Release (ER) day price movement and found that the declining quality of analyst coverage may account for the rising price volatility on ER days. Post 2008-09 financial crisis, it seems increasingly difficult for analysts to estimate companies' earnings accurately, and this phenomena is more acute among small companies.

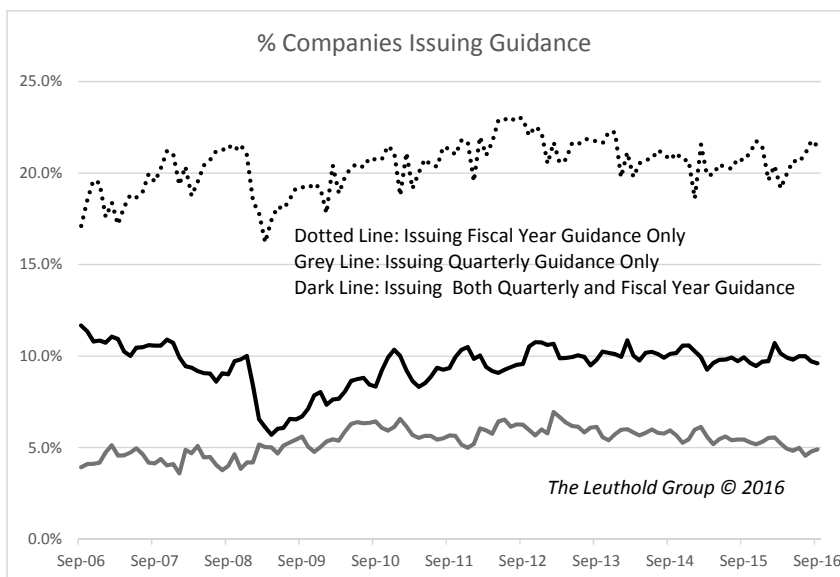
This month, we study the effect of company guidance on ER-day price volatility. Would companies issuing more frequent and detailed guidance help to prevent big surprises on ER day? We have some interesting observations on this topic.

**Number Of Companies Issuing Guidance**

Restrained by the availability of historical data, this research is limited to observations from 2006 to present. Each month, we tallied the number of companies that reported over the past three months, reviewed how many issued either quarterly or fiscal-year guidance, and then looked at the stock-price results on ER day.

Companies that issue financial guidance—quarterly, fiscal-year end, or both—are included in Chart 1. The percentage of companies announcing guidance has been fairly consistent except for a drop during the 2008-09 financial crisis. On average, for the past ten years, 28% of companies announce fiscal-year guidance only, 5% announce quarterly guidance only, and 10% announce both fiscal year and quarterly guidance.

Chart 1



## Guidance & Price Movement On Earnings-Release Day (continued)

### Guidance Issuers: Slightly Higher Chance Of Large ER-Day Price Movement

If lack of transparency leads to big surprises on ER day, one would think that companies issuing financial guidance would have fewer ER surprises and thus less chance of large price movement on ER day. The back testing surprised us. **Companies issuing either quarterly and/or fiscal year-end guidance had a slightly higher chance of moving more than 5% (in either direction) on ER day.**

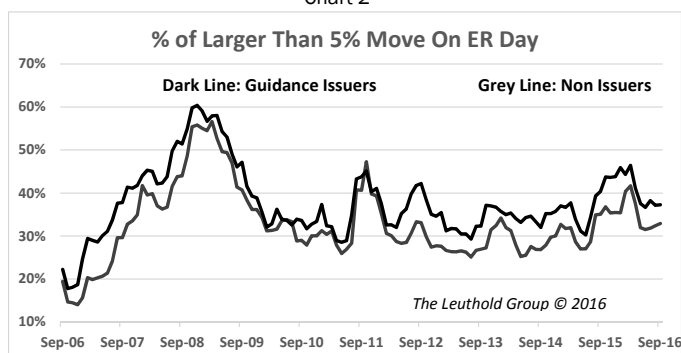
Table 1

Companies Issuing Either Quarter or Fiscal Year End Guidance				
	ALL TRADING DAYS		ER DAYS	
	Issuers	Non-issuers	Issuers	Non-issuers
Less than 5% Move	95%	92%	63%	72%
Between 5% to 10% Move	4%	7%	22%	18%
Larger than 10% Move	1%	1%	15%	10%
	100%	100%	100%	100%

Notes: Stats based on data from 2006 to 2016

Among the largest 3000 companies' ER incidents from 2006 to 2016, those issuing any sort of guidance had one-day returns larger than 5% on ER day 37% of the time. In contrast, that number is 28% for companies that do not issue any guidance. Considering that when looking at *all* trading days, only 5% of the time guidance issuers move more than 5%, lower than non-issuers at 8%, the ER day discrepancy cannot be explained by intrinsic volatility of guidance issuers (Table 1). In addition, slightly higher ER-day price volatility for guidance issuers is a consistent observation over the ten-year study (Chart 2).

Chart 2



### Quarter-End Guidance Issuance Seems To Be The Culprit

Since guidance-issuing companies either issue quarterly, fiscal year-end, and/or both, we studied the effect on ER-day price movement for each approach. Charts 3 & 4 show that companies issuing fiscal year-end guidance have about the same chance of large ER-day price movements as all other companies, while companies issuing quarter-end guidance have a much higher chance of larger price movements on ER day.

Chart 3

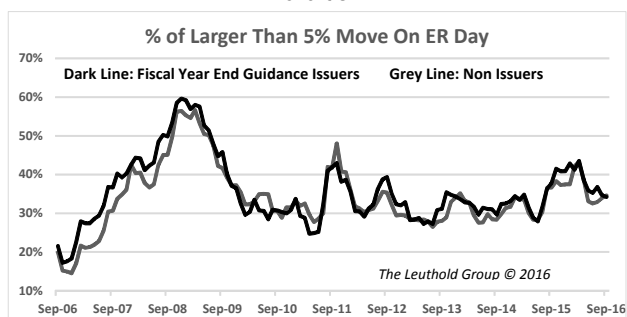
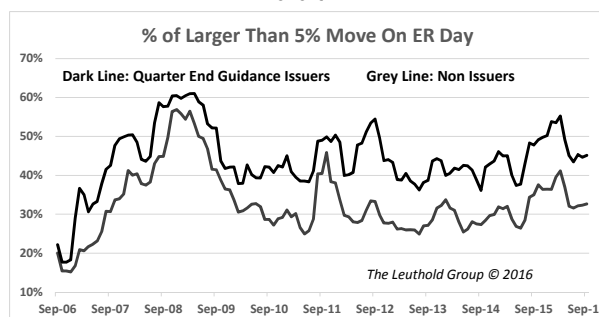


Chart 4



## Guidance & Price Movement On Earnings-Release Day (continued)

### Quarter-End Guidance Issuance Seems To Be The Culprit (continued)

Since most quarter-end guidance issuers also issue fiscal year-end guidance, we stripped out these dual issuers to see the effect of quarter-end only guidance more clearly. Around 5% of the largest 3000 companies issue guidance quarter-end only, and among them, 21% had a price move of more than 10% on ER day — a much larger percentage than non-issuers at just 11% (Table 2). The percentage of 5-10% moves is also much higher among companies issuing just quarter-end guidance. In contrast, companies only issuing fiscal year-end guidance saw just a slight increase over non-issuers in large price movements on ER days.

Table 2

Quarterly Guidance Increases Chances of Large ER-Day Price Movement				
	Year End Only		Quarter End Only	
	Issuers	Non-issuers	Issuers	Non-issuers
Less than 5% Move	67%	71%	51%	71%
Between 5% to 10% Move	21%	18%	28%	18%
Larger than 10% Move	12%	11%	21%	11%
	100%	100%	100%	100%

Notes: Stats based on data from 2006 to 2016

### Granulated Guidance Affect

The next question is whether issuing more granulated guidance would help reduce price volatility on ER day. We picked five major financial metrics including EPS, Sales, Net Income, Free Cash Flow, and EBIT. Since issuing only quarter-end guidance does not help reduce ER-day price volatility, we tested these metrics among companies issuing only year-end guidance.

For guidance issuers, EPS target is the most important data to disclose, which is closely followed by Sales numbers. Much fewer companies guide on Net Income, Free Cash Flow, and EBIT. For example, in the past three months, among the largest 3000 companies, 906 guided on year-end EPS, 848 on Sales, 268 on Net Income, 217 on Free Cash Flow, and 182 on EBIT.

Aggregating ER events since 2006, the results are inconclusive. For example, companies that issue all five of the major financial metrics appear to experience a reduced number of large ER-day price movements (measured as 10% either direction). Other than that, we did not find a significant volatility-reduction benefit by including one-to-three more financial metrics in the guidance (Table 3).

Table 3

ER-Day Price Return And Guidance Detail					
No. of Financial Items Guided:	<u>1 of 5</u>	<u>2 of 5</u>	<u>3 of 5</u>	<u>4 of 5</u>	<u>5 of 5</u>
Less than 5% Move	67%	61%	59%	62%	68%
Between 5% to 10% Move	20%	24%	24%	25%	24%
Larger than 10% Move	13%	16%	17%	13%	9%
	100%	100%	100%	100%	100%

Notes: Stats based on data from 2006 to 2016

### Conclusion

This study found that, contrary to conventional wisdom, management guidance does not reduce price volatility on ER day, especially for those that announce shorter-term targets. Companies issuing quarter-end guidance had a much higher chance of large price movement compared to companies issuing fiscal-year guidance, or those that do not issue any guidance at all.

We can think of a few possible explanations for this phenomena. First, it might be difficult for company management to accurately guide quarterly results. Since analysts have a tendency of moving estimates toward management guidance, it's likely that analyst consensus numbers are, more often than not, misleading, driving an increase in surprises on ER day. Management may be better able to forecast longer-term targets, overall, such as fiscal-year results.

Second, post earnings release, stocks normally trade according to the guidance of the next quarter. Between two earnings' releases, stocks may be more latent and slow to reflect new information. When the ensuing ER-day arrives, prices move to reflect either the negatives or positives not built-in during the interim period. The fact that companies issuing quarterly guidance also tend to have less volatility on non-ER days seems to support this hypothesis.

And finally, since these companies normally announce guidance upon quarterly-earnings release, ER days can represent a double-event day: investors not only see the past-quarter results, but also read into the next quarter. That extra layer of information may add to the price volatility. Even though companies issuing fiscal-year guidance also usually update their target upon quarterly-earnings release, because such year-end targets are farther away on the horizon, investors may be less inclined to react in the near term.

This study also looks at how granulated guidance affects ER-day price volatility. We separated companies into groups disclosing one to five major financial metrics and calculated their chances of large price movement on ER day. We found that when companies disclosed *all five* major financial metrics, the chance of having a 10% or more jump/drop does indeed decrease. However, other than that, we don't see a linear relationship between the number of guided financial metrics used and reduced price volatility on ER day.

# OF SPECIAL INTEREST

...Examining a significantly timely topic

Prepared by: *Scott Opsal*



<http://leuth.us/special-interest>

## DEPENDENCE ON INITIAL CONDITIONS

### Valuations And Forward Returns

#### Current Valuations And Forward Returns

With today's distinctive combination of high valuations and low bond yields, we take a deeper dive to examine the topic.

#### Asset Valuation On "Day One"

Purchasing at an attractive going-in valuation is a recipe for success, while paying a premium makes earning an adequate return much less likely. With current valuations historically high, investors are rightly wondering what sort of returns could be expected from these levels.

#### Time Horizons Matter With Forward Returns

We look at which deciles may offer the best forward returns and the time horizons necessary for valuation to "work its magic" and influence returns.

#### Evaluating Entry Point Valuations & Forward Returns

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A client inquiry led us to take a fresh look at the relationship between current valuations and subsequent stock market returns, which is a regular feature in our *Benchmarks* publication. With today's distinctive combination of high valuations and low bond yields, we agreed a deeper dive to examine the topic was in order. (*This memo is a companion to our "Fog of Uncertainty" thought piece in this month's "Inside The Stock Market" section.*)

A critical determinant of an investment return is the asset's valuation on "day one." Purchasing at an attractive going-in valuation is a recipe for success, while paying a premium makes earning an adequate return much less likely. Current valuations are historically high and investors are rightly wondering what sort of returns could be expected from these levels. This project examines the relationship between entry-point stock market valuations and subsequent returns in order to evaluate how this seemingly self-evident concept has played out in past decades.

We compiled quarterly S&P 500 data back to 1927 and focused on P/E ratio as the measure of initial valuation. Each quarter's P/E ratio is ranked into deciles from low to high, and forward returns are calculated over three, five, seven, and ten-year rolling windows. Our hypothesis is that quarters having the lowest initial P/E ratios would generate the best returns, and quarters sporting the highest decile P/E ratios would struggle to deliver strong results. **Looking at different time horizons allows us to consider the holding period needed for valuation to "work its magic" and influence returns.**

## Dependence On Initial Conditions: Valuations & Forward Returns (continued)

### Evaluating Entry Point Valuations & Forward Returns (continued)

Another project parameter was the use of three alternative EPS measures. The base case used trailing 12-month earnings for each quarter, which introduces earnings recessions into the P/E calculation and muddies the water (Table 1). Normalized EPS is the second measure, which makes some adjustment for write-offs and smooths earnings over a five-year window (Table 2). Our third EPS data point is past peak earnings calculated as the highest 12-month reported EPS up to that date (Table 3). **Normalized and peak earnings are helpful in looking past temporary earnings downturns which could artificially inflate P/E ratios, and may offer better insight as to what future earnings really could be.**

We conducted our analysis using the two starting points of 1927 and 1958; the first because it represents the beginning of S&P 500 data and the second because it's a more recent point in time when P/E ratios were close to average. We found minimal differences between the two windows of time and selected the 1958 data for this study.

Coinciding with Tables 1-3, current decile ranks are:

- ⇒ **T12 EPS = 9th decile**
- ⇒ **Normalized 5-year EPS = 7th decile**
- ⇒ **Peak EPS = 10th decile**

Our analysis produced a few conclusions that were in line with our hypothesis, but there were also some surprising twists. Beginning with the expected—buying in the low valuation decile offered very high returns and buying in the most expensive decile offered the poorest returns. Enough said.

Table 1

AVERAGE RETURN BY T12 P/E DECILE 1958 TO 2016					
	Decile	3 Years	5 Years	7 Years	10 Years
Low P/E	1	15.8%	17.5%	17.2%	16.5%
	2	13.5%	13.1%	14.0%	14.5%
	3	15.0%	12.4%	12.3%	14.7%
	4	16.2%	11.6%	11.3%	11.7%
	5	8.2%	8.4%	7.8%	9.1%
	6	4.6%	7.2%	6.7%	7.2%
	7	7.2%	7.2%	5.9%	5.3%
	8	11.7%	8.5%	8.2%	9.9%
High P/E	9	8.0%	9.2%	11.5%	8.3%
	10	3.8%	6.1%	4.0%	2.4%

Table 2

AVERAGE RETURN BY NORMALIZED P/E DECILE 1958 TO 2016					
	Decile	3 Years	5 Years	7 Years	10 Years
Low P/E	1	16.9%	17.6%	17.6%	16.3%
	2	15.2%	14.3%	14.2%	14.7%
	3	12.1%	11.2%	11.9%	12.2%
	4	10.9%	11.9%	11.4%	11.0%
	5	9.1%	9.7%	10.6%	11.0%
	6	9.0%	9.0%	8.4%	7.6%
	7	11.7%	13.5%	9.7%	8.3%
	8	10.1%	8.2%	7.8%	7.6%
High P/E	9	6.8%	4.9%	4.4%	6.4%
	10	2.2%	0.9%	2.9%	3.0%

Table 3

AVERAGE RETURN BY PEAK P/E DECILE 1958 TO 2016					
	Decile	3 Years	5 Years	7 Years	10 Years
Low P/E	1	15.8%	17.8%	17.2%	16.5%
	2	15.9%	14.4%	14.0%	14.7%
	3	13.8%	12.8%	14.3%	15.0%
	4	12.1%	11.1%	12.3%	13.3%
	5	12.8%	11.6%	9.5%	8.8%
	6	9.0%	10.6%	8.4%	7.9%
	7	7.0%	8.2%	8.3%	7.6%
	8	5.7%	7.6%	6.2%	6.8%
High P/E	9	11.4%	7.3%	6.5%	6.8%
	10	0.5%	-0.2%	2.3%	2.0%

## Dependence On Initial Conditions: Valuations & Forward Returns (continued)

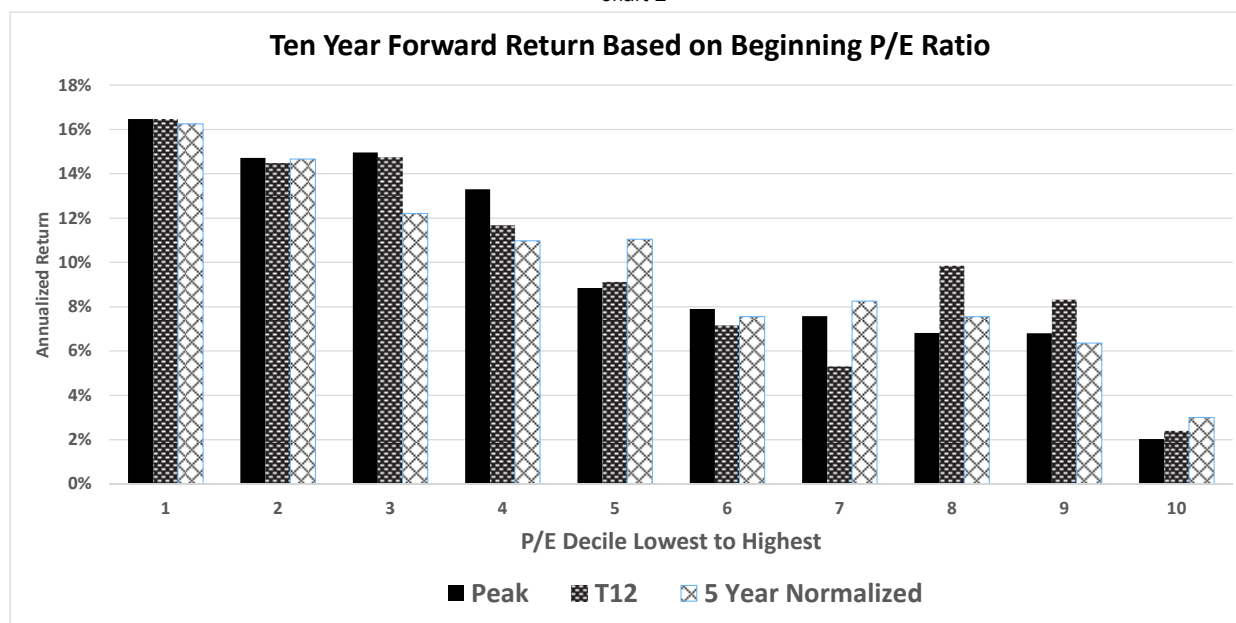
### Evaluating Entry Point Valuations & Forward Returns (continued)

A second finding was that the three-year return profile was rather choppy with each of the EPS alternatives, and we caution that this may not be a long enough time for valuation level to matter; high prices can easily carry on for such a span. The other time frames seem to be long enough for initial valuation to meaningfully impact future results. Five and seven year returns look reasonable, but our preference is for the longer ten-year window which allows central tendencies to have the strongest effect (Chart 1).

The unexpected results came not in the direction of the relationship between valuation and subsequent returns, but rather in the patterns that emerged as we move from low to high deciles. The first surprise was that buying at the absolute lowest valuation is not necessary for earning excellent future returns. **Investing in any of the four cheapest valuation deciles produced strong double-digit returns over the following decade. When relying on initial conditions to set investment expectations, investors do not need to push the deep value boundaries**—each of the four lower deciles offers a favorable entry point.

The second unforeseen result was the unusual strength in the 8th and 9th deciles, particularly for T12 EPS. We assumed returns would fade from the cheapest decile to the most expensive in some sort of consistent pattern, but our data shows unusually strong returns in these two higher cut-points. We looked into the granular results and found, as have many market historians, that the late 1990s' tech bubble skewed the otherwise typical data points. S&P 500 earnings fell in 1990, troughed in 4Q 1991, and remained weak until the end of 1993. During that earnings recession, P/E ratios ranked in the higher deciles as investors looked past the slowdown to better times. This window contains many unattractive 8th and 9th decile valuation readings, yet these starting dates benefited from the tremendous market run that peaked in early 2000 and closed before the payback that came in the bear market of 2001-02.

Chart 1





### Evaluating Entry Point Valuations & Forward Returns (continued)

A similar effect appears in time frames ending around the late-2007 bull market peak. Beginning valuations were expensive, but returns benefited from the long upswing. Time periods that expired near the peak posted high returns “inflated” by the fact that they caught the 2007 peak, but not the 2008 crash. **In both the 1991 and 2000 examples we had earnings weakness and high P/E ratios, followed by a 10-year time frame where the market surged and the return window closed before each of those bull markets collapsed.**

Note that this strange strength in the 8th and 9th deciles doesn’t occur in the Peak EPS data set. Because P/E is driven by past-peak EPS on each date, earnings recessions do not cause inflated P/E ratios as in the other two techniques. An investor who believes the economy will generally grow over the long term may rightly view past-peak EPS as a measure of earnings potential the next time the economy is “in gear.” For investors who prefer to look past temporary earnings downturns, this measure offers a reasonable alternative to multi-year smoothing. Perhaps this suggests that **valuations driven by near-term results matter less to investors, and less to future market returns, than valuations based on peak or potential earnings power.** Peak P/E is an intriguing smoothing technique for this very reason; it deals well with temporary earnings weakness that produces unusually high and possibly misleading P/E ratios.

Another unexpected result surfaced when we added interest rates to our analysis. Considering today’s extraordinary interest rate environment, and given the generally agreed upon importance of interest rates to stock market valuations, we matched up the ten-year government bond rate with our quarterly valuation deciles (Table 4). Higher rates were indeed correlated with the lowest valuation deciles. However, the average bond rates for the top six valuation deciles were almost flat across the range, indicating that low valuations are linked with high rates, but high valuations are not necessarily associated with low rates.

The final aspect of initial conditions that we tested was the return outlook for a balanced 60% stock/40% bond portfolio. For each quarter we matched that date’s valuation decile with our ten-year Peak EPS return (from Table 3) to select an expected forward return (not the actual return associated with that beginning date) for the stock portion, and used the beginning interest rate as the expected return for the bond portion. For example, a date ranking in the fifth valuation decile would be assigned an expected ten-year return of 8.8% (see Table 3) along with the ten-year bond yield on that date. Weighting the two sleeves gives us a forward-looking expectation of total return based on the historical relationship between P/E ratios and subsequent stock performance (Chart 2).

Table 4

AVERAGE 10 YEAR YIELD BY P/E DECILE		
	<u>Decile</u>	<u>Yield</u>
Low P/E	1	10.5%
	2	9.6%
	3	8.3%
	4	5.9%
	5	5.1%
	6	4.9%
	7	4.6%
	8	5.1%
	9	5.0%
High P/E	10	4.8%

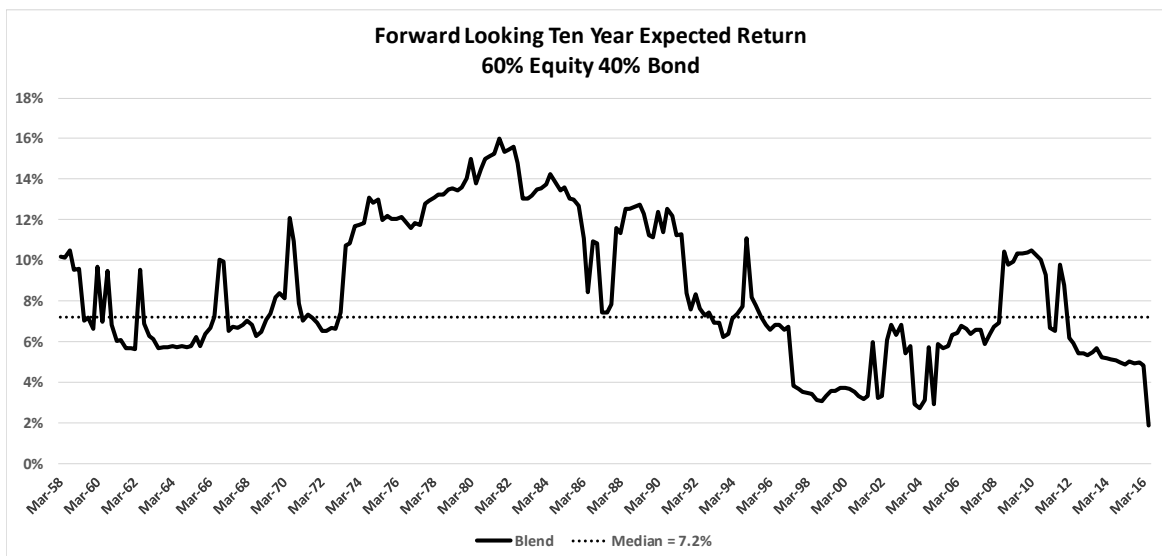
## Dependence On Initial Conditions: Valuations & Forward Returns (continued)

### Evaluating Entry Point Valuations & Forward Returns (continued)

Since stocks rank in the worst valuation decile today and bond yields are near rock bottom, it's not surprising that our forward-looking return graph stands at a paltry 1.9% against a long-term median of 7.2%. The median return strikes us as representative of the returns actually earned over the last 60 years, but today's record low rates are discouraging for asset accumulators looking to build future wealth in a balanced portfolio strategy. *(The peak expected return in 1991 was driven by the combination of a 7.6 P/E ratio and a 15.3% bond yield... like shooting fish in a barrel.)*

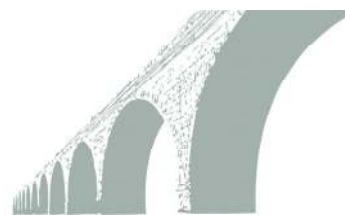
This review provides a deeper look into the important role that beginning valuation plays in determining future investment outcomes. The evaluation on initial conditions is one of the best tools investors have to see through the fog of uncertainty that prevents us from accurately predicting the future. Precise forecasting is difficult and fraught with behavioral traps that ensnare the overly-confident investor, but understanding where we are today is well within our powers, and on occasion may give us a sound basis to anticipate what may come next. As for market valuations and interest rates, today's conditions sadly lead us to expect returns well-below median in coming years. P/E ratios would need to fall and bond rates would need to rise (both to a substantial degree) before investors could anticipate earning historical long-term returns once again.

Chart 2



# INSIDE THE BOND MARKET

Prepared by: *Chun Wang*



<http://leuth.us/bond-market>

## **Markets & Election—All Risk And No Reward**

- Last month's increase in volatility was partly due to lackluster economic data and partly a reflection of the anxiety surrounding the BoJ and Fed meetings.
- Given the fickle nature of markets and economic data, we are not at all confident that a rate hike will actually happen in December.
- The upcoming election is likely to have wide-ranging impacts on both monetary and fiscal policies and we expect election risk to overshadow the Fed policy risk for the time being.
- Given the more aggressive nature of Trump's policy proposals, we would expect higher interest rates and a moderately stronger dollar if Trump wins. If Clinton wins, however, the policy impact would be largely neutral.

## **Risk Aversion Index: Stayed On “Lower Risk” Signal**

We maintain our favorable view towards spread products within fixed income, but given the election and the Fed hike risk, caution is warranted.

## **U.S. Investment Grade Corporates: Maintain Favorable**

Although the spread cushion is thinner than it was a couple years ago, these bonds still offer the attractive combination of quality and spread.

## **U.S. Municipal Bonds: Maintain Unfavorable**

These bonds are still overvalued relative to Corporate bonds; we expect Munis to underperform Corporate bonds going forward.

## **U.S. High Yield Corporate Bonds: Maintain Favorable**

Although uncertainties abound, the search for yield isn't likely to go away until interest rates are materially higher. Maintain Favorable, with a preference for bank loans.

## Markets & Election—All Risk And No Reward

September was another great example of “all risk and no reward” where the S&P 500 ended flat for the month but volatility surged. The percent of trading days in a 21-day window with S&P daily moves greater than 0.5% jumped from an extreme low of 14% in August to around 60% in September (Chart 1).

Last month’s increase in volatility was partly due to lackluster economic data and partly a reflection of the anxiety surrounding the BoJ and Fed meetings. Both of these meetings turned out to be positive for risk assets. The BoJ’s new “Yield Curve Control” experiment was viewed favorably, particularly for banks, and it actually achieved the rare feat of driving up the Nikkei and Japanese bank stocks. The Fed, still on a tightening path, also calmed the market with no hike. As we stated in the last report, we believe the Fed will continue to be supportive of the risk rally. After all, what other option does it have now?

Despite a no-hike in September, hope springs eternal for a hike by year end. The odds of a December hike have been oscillating between 50% and 65% in the last few months, slapped around by the recent string of very mixed economic data and highly contradictory Fed speeches. But overall, expectations of the Fed hike still dominate the price action in the U.S. 10-year yield (Chart 2). Given the fickle nature of markets and economic data, we are not at all confident that a rate hike will actually happen in December.

The U.S. election has been widely cited as a reason for the no-hike in September and could still be an excuse for a no-hike in December if markets react poorly to election results. It’s fair to say this election is likely to have wide-ranging impacts on both monetary and fiscal policies. Chart 3 shows that in the last few years U.S. fiscal policy has been more restrictive (lower deficits) and monetary policy has been tighter. **Perhaps the one thing in common between a Clinton and a Trump presidency is that fiscal policy is likely to be more expansive**, echoing the general global trend of shifting policy focus from monetary stimulus to fiscal stimulus.

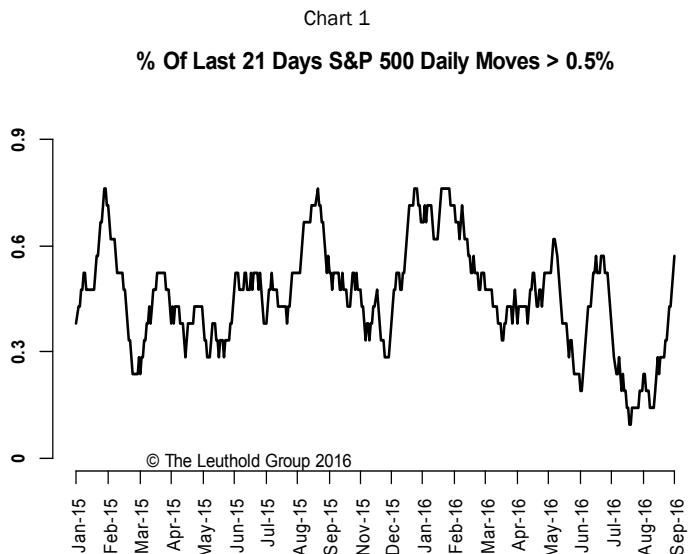


Chart 2  
US 10-Year Yield vs. Probability of a 25bps Fed Hike by Dec 2016

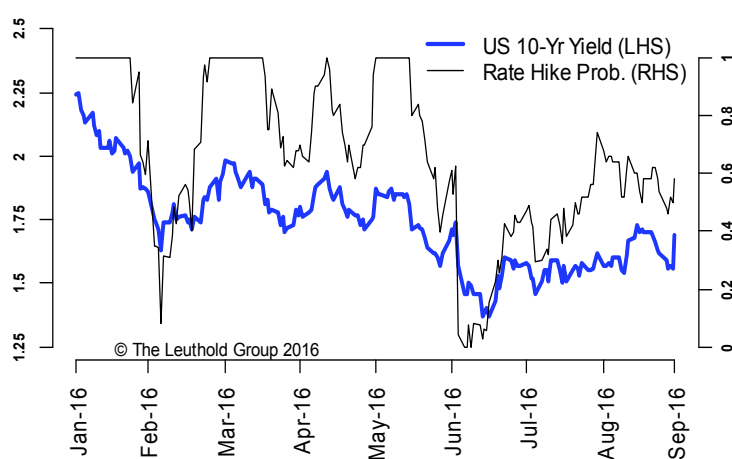
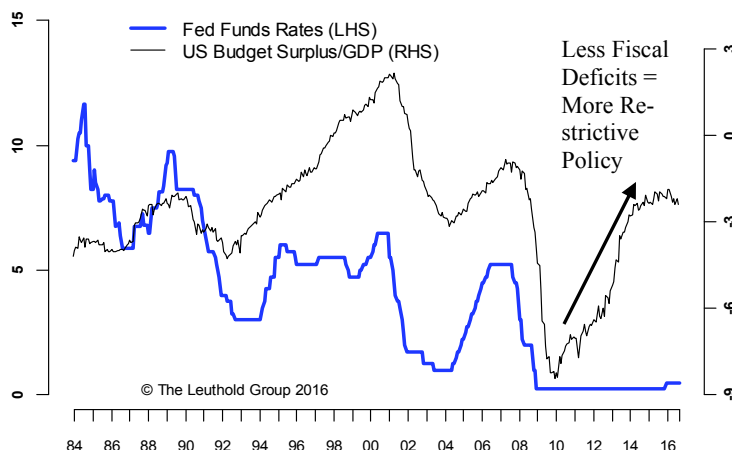


Chart 3  
US Monetary Policy vs. Fiscal Policy



## Markets & Election—All Risk And No Reward (continued)

It's also quite fitting to call this election "all risk and no reward" as we are choosing between Scylla and Charybdis\*. So far, the market seems to have priced in a "Trump premium." Chart 4 shows a stronger Russian Ruble and a weaker Mexican Peso this year. The widening gap means Trump is still very much in the game and it would be wise to consider the potential impacts of both candidates' economic policies.

Up to now, the proposed policies have been vague at best, but taking them at face value, we believe Trump's policies are much more extreme while Clinton's policies are closer to the status quo, with some unwinding of previous policies. **Regarding potential impacts of these policies on interest rates, the biggest one is perhaps on inflation and inflation expectations.** First of all, trade barriers are likely to be much higher under a Trump presidency, which would significantly reduce U.S. imports from lower-cost countries. That means domestic consumers are likely to face higher prices. In other words, the substantial influence of import prices on the overall CPI (Chart 5) is likely to weaken if Trump is elected.

Also, as a result of reduced international trade (higher trade barriers), there will be less U.S. dollar recycling back into U.S. Treasuries from trade surplus countries like China and Japan. Chart 6 shows the net purchase of U.S. Treasuries by foreigners has already shrunk in recent years. This trend is much more likely to continue under a Trump presidency and that typically leads to higher bond yields. Obviously, the current unprecedented negative yield regime in other countries has overwhelmed the supply/demand influence on U.S. bond yields over the last couple years. **But the net effect here is that higher inflation expectations and less foreign buying should drive bond yields higher.**

\* In Greek mythology, Scylla and Charybdis are the two sea monsters that guard the Strait of Messina. Today, one sports pantsuits and the other a full head of blinding hair.

Chart 4  
Mexican Peso vs Russian Ruble

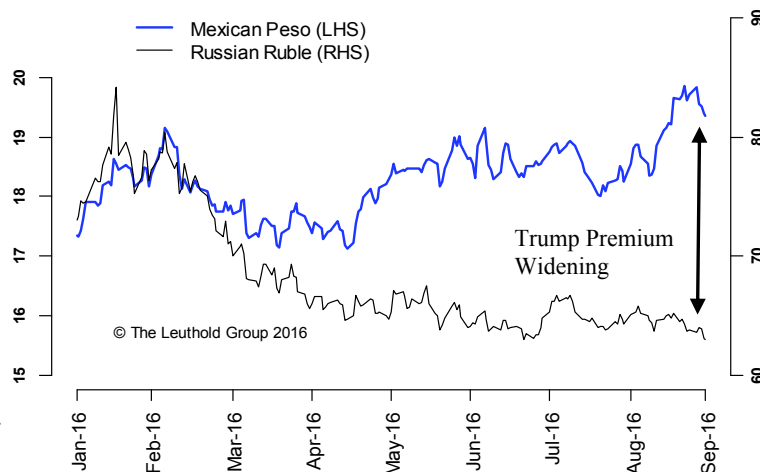


Chart 5  
US CPI vs. Import Price 12-Month Change

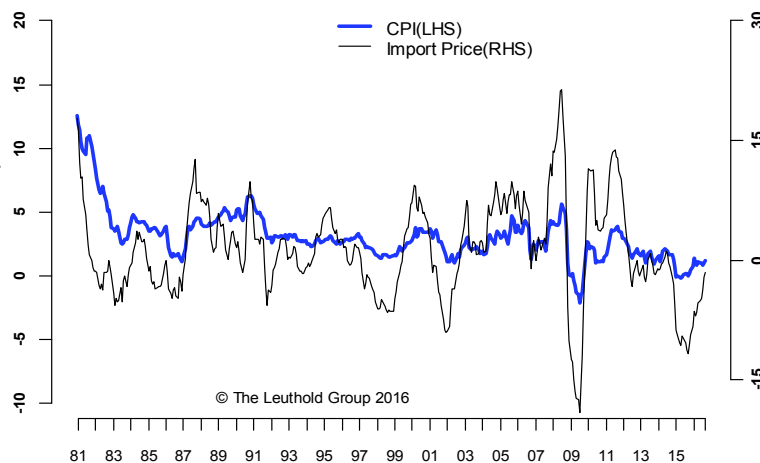
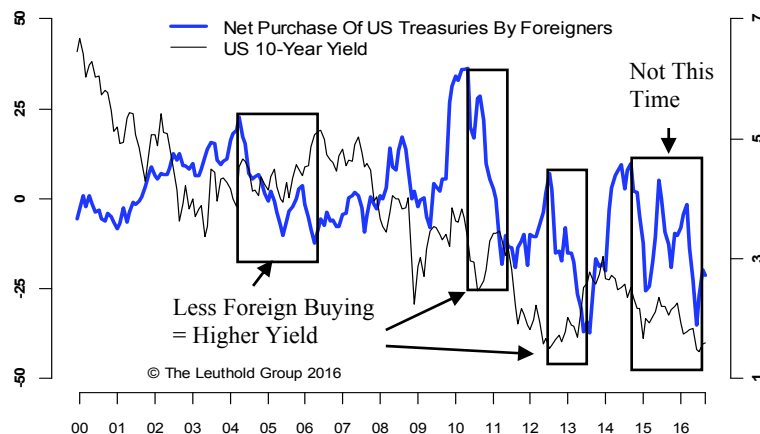


Chart 6  
Net Purchase Of US Treasuries By Foreigners vs. US 10-Year Yield



## Markets & Election—All Risk And No Reward (continued)

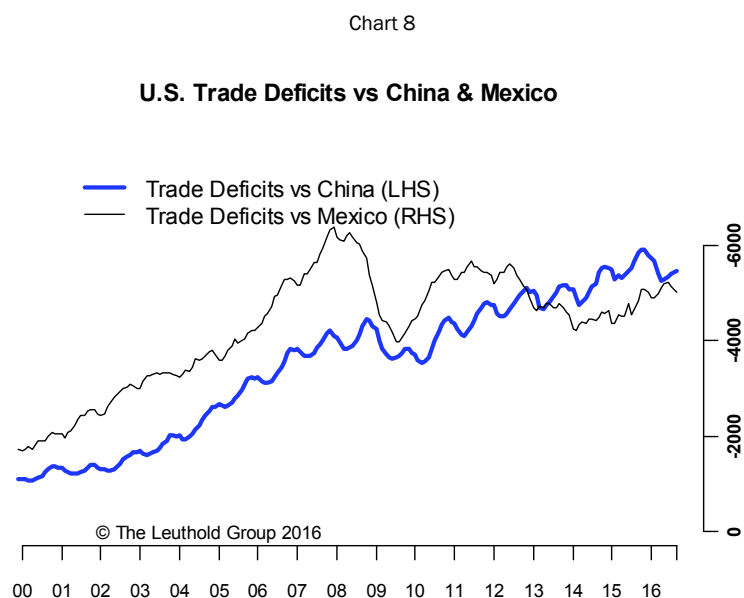
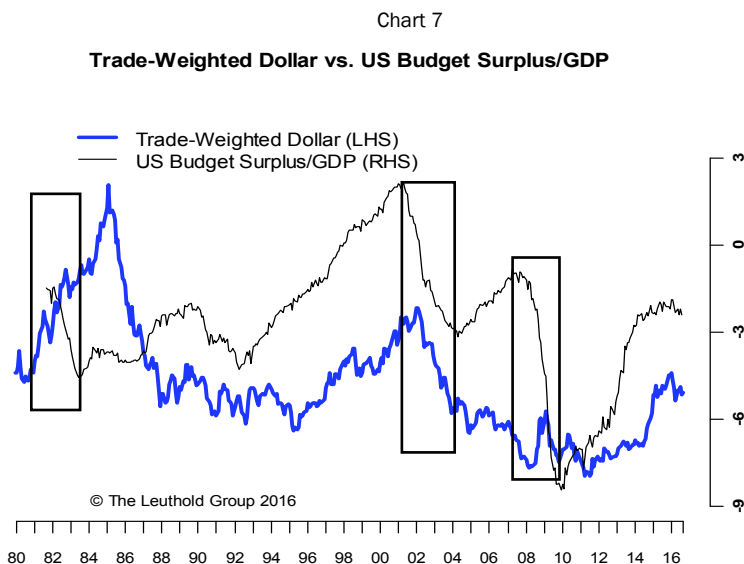
As we mentioned earlier, fiscal stimuli are likely to ramp up under either presidency but Trump's fiscal policy is widely expected to be more aggressive. Besides the big increase in infrastructure investment proposed by both candidates, Trump would also lower corporate taxes. The end result would be a bigger deficit under a Trump presidency.

Expansive fiscal policies, in theory, should support the strength of the dollar but empirical data shows the relationship between fiscal policy and the dollar is weak at best (boxed areas on Chart 7). The dollar strengthened in the early 1980s as a result of both Reagan's fiscal stimulus and Volcker's monetary tightening. During the later episodes of fiscal expansion (after the dotcom bubble and the 2008 financial crisis), the dollar depreciated as the Fed's monetary easing more than offset the effect of fiscal stimulus. In other words, **the impact on the dollar from fiscal policy alone is likely to be uncertain.**

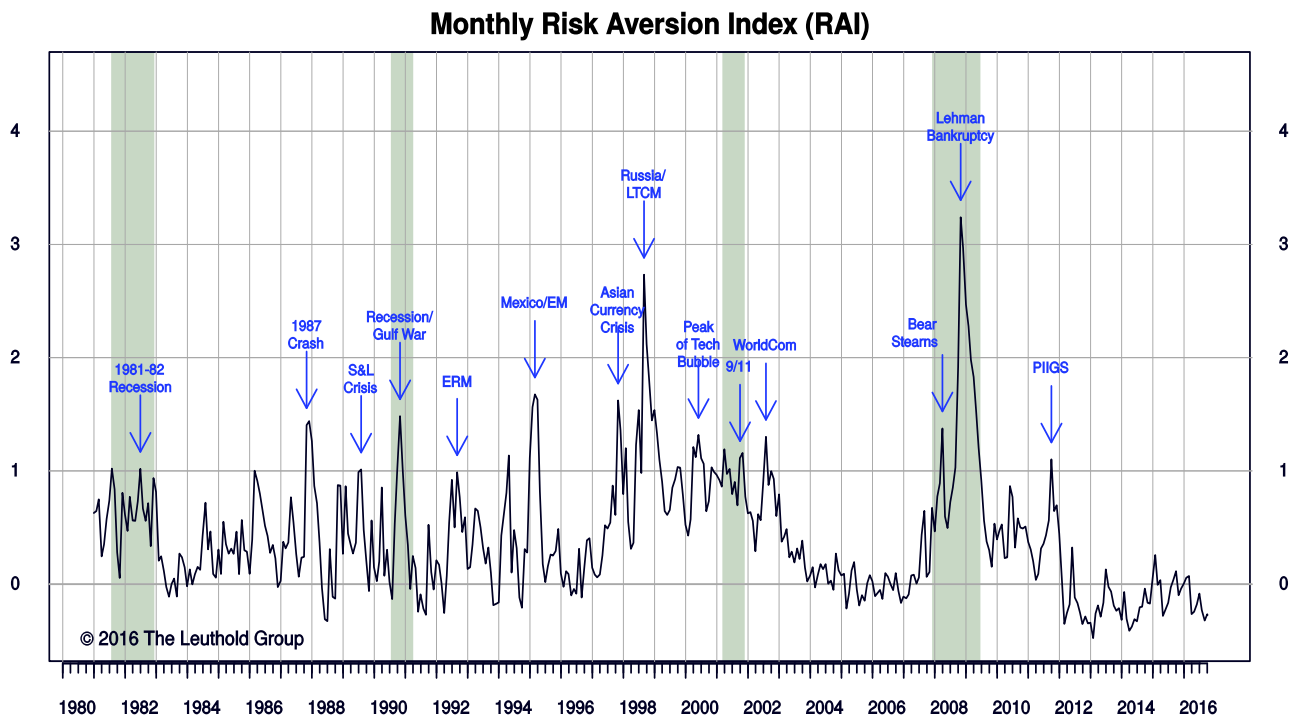
**What is more certain is Trump's hostile view towards the current Fed.** Under a Trump presidency, Yellen is highly unlikely to be reappointed as the Fed Chair and a more hawkish replacement is likely to move the monetary policy towards a less-dovish stance. That would be a bigger plus for the dollar. Another potential support for the dollar under Trump's policy is the enormous repatriation of U.S. corporate profits from abroad. None of these would be an issue under a Clinton presidency, so the impact on the dollar is likely neutral if Clinton wins.

If Trump wins, the dollar is also likely to appreciate against EM currencies. As Trump has made very clear, trades with China and Mexico would likely be negatively impacted. This is not surprising, given the ballooning trend of U.S. trade deficits against these countries (Chart 8). As a result, the Chinese Yuan and the Mexican Peso would likely come under further pressure. **So, all else being equal, the chances of a stronger dollar are probably better under a Trump presidency.**

In the near term, we are facing the very unpleasant prospect of an unpopular election outcome (no matter who wins) and the uncertainty of a Fed hike. We expect election risk to overshadow the Fed policy risk for the time being and volatility to remain high in most markets. Given the more aggressive nature of Trump's policy proposals, we would expect higher interest rates and a moderately stronger dollar. If Clinton wins, however, the policy impact would be largely neutral.

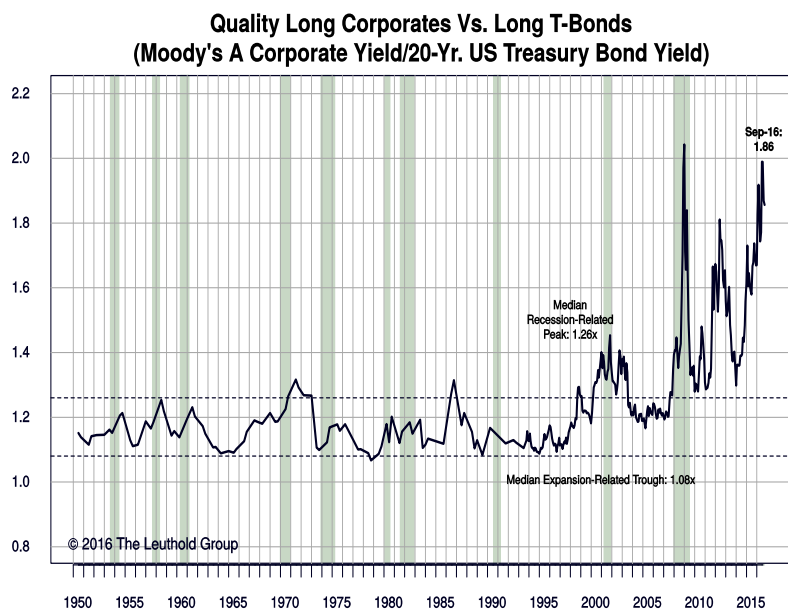


## Risk Aversion Index: Stayed On “Lower Risk” Signal



Our Risk Aversion Index stayed on the “Lower Risk” signal this month. Despite the big rise in intra-month volatility, a lot of risky assets ended essentially unchanged in September. Stocks, credits, and Emerging Market assets were all flat. The strong rally in commodities was offset by a stronger Yen and higher Libor costs. The credit rally took a pause but the recent strong trend stayed intact. **We maintain our favorable view towards spread products within fixed income, but given the election and the Fed hike risk, caution is warranted.**

## U.S. Investment Grade Corporate Bonds: Maintain Favorable

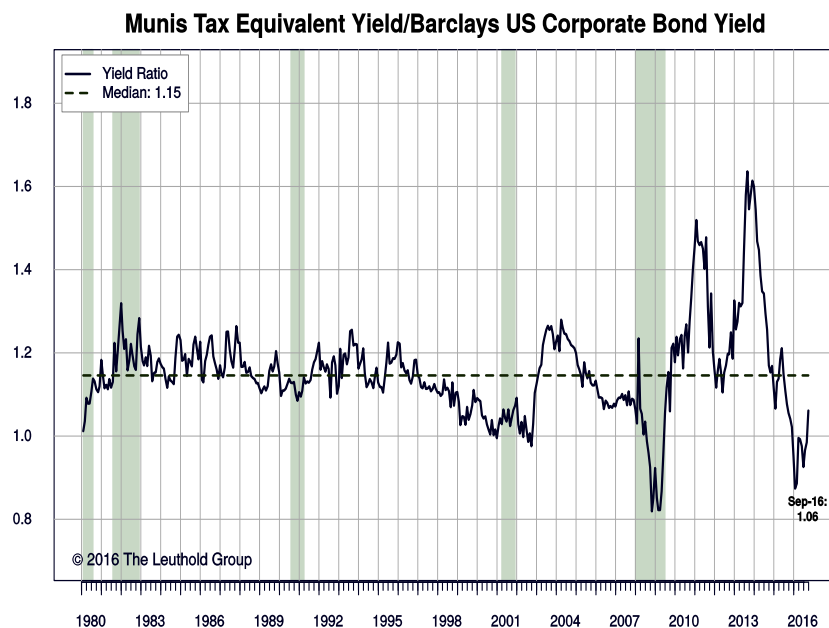


Moody's A Corporate yield rose 11 bps in September, while the U.S. long-term Treasury yield was up 9 bps. The ratio of Moody's A Corporate/U.S. long-term Treasury yield fell to 1.86x.

Corporate spreads held relatively steady despite the recent surge in volatility across asset classes. Although the spread cushion is thinner than it was a couple years ago, these bonds still offer the attractive combination of quality and spread. **We maintain our Favorable view on investment grade Corporate bonds.**



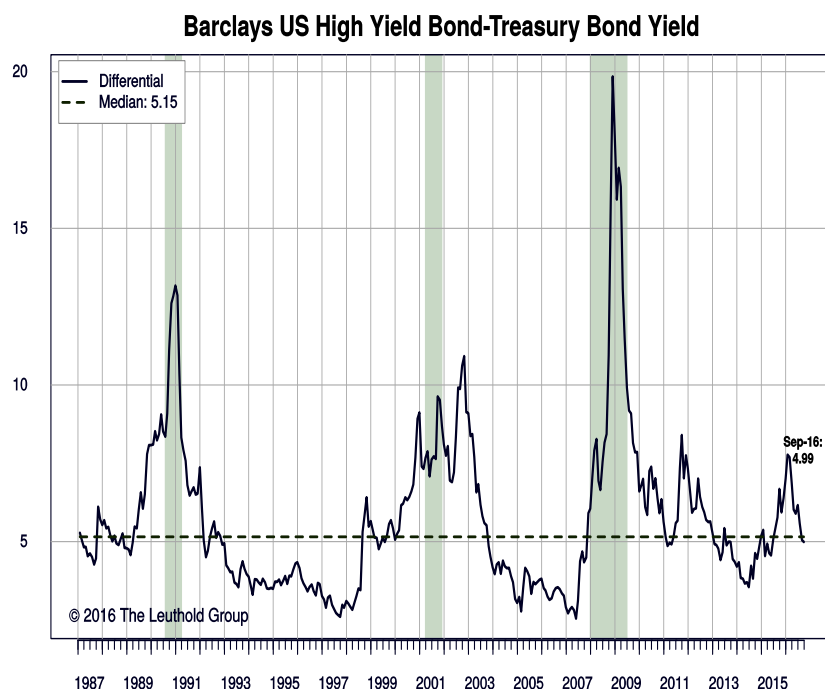
## U.S. Municipal Bonds: Maintain Unfavorable



The Barclays U.S. Municipal bond yield rose 16 bps to 1.82% in September, and Munis ended their record 14-month winning streak. The ratio of the Muni tax equivalent yield (assuming a 39.6% tax rate) to U.S. Corporate bond yields increased to 1.06x, still much lower than the 1.15x historical median.

The Municipal market continued to benefit from strong inflows into tax-exempt bond mutual funds. However, due to their overvaluation relative to Corporate bonds, we expect Munis to underperform Corporate bonds going forward. **We maintain our Unfavorable view on Munis.**

## U.S. High Yield Corporate Bonds: Maintain Favorable



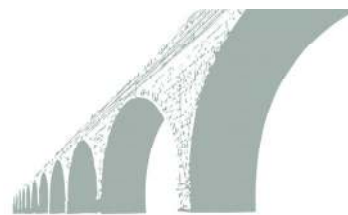
The yield on Barclays U.S. High Yield bond fell 14 bps in September. The spread versus Treasuries narrowed by 14 bps and it's currently fairly valued versus its long-term median.

Oil rallied nicely on the back of the Fed's no-hike decision and the proposed production cut near the end of the month. Although uncertainties abound, the search for yield is not likely to go away until interest rates are materially higher. We are not in a hurry to call for a big jump in interest rates and we **maintain our Favorable view, with a preference for bank loans.**

# EQUITY STRATEGIES

## Group-Level Analysis Of The Equity Markets

Prepared by: *The Leuthold Research Team*



<http://leuth.us/equity-strategies>

### Health Care Stocks & The Election

A look at Health Care groups' historical performance both pre-election and post-election; we identify past trends of leaders and laggards in each period.

### GS Score Sector Rankings

Information Technology, Industrials, and Financials are the top-rated sectors based on our Group Selection (GS) Score model; Energy, Utilities, and Telecom Services are the lowest rated sectors as of October.

### Highlighted Attractive Groups

We examine the factor category strength behind Auto Parts & Equipment, Household Durables, and Paper Packaging. Each of these groups has rated Attractive or High Neutral for two consecutive months.

## Do Health Care Stocks & Elections Mix?

Prepared by: *Kristen Hendrickson*

### As Pre-Election Jitters Abound, Is There Anywhere To Hide In Health Care?

Periods leading up to presidential elections can be unnerving times for equity investors; one area that is particularly prone to political and regulatory uncertainty is undoubtedly the Health Care sector. This election cycle has certainly been no exception, especially in an age when a political candidate can send stocks tumbling via a single-fired tweet.

While some investors might choose to avoid this sector all together in the months leading up to an election, for many this may not be an option. As the election swiftly approaches, we thought it timely to look to history to see what trends in health care stocks we could find, if any, leading up to past elections—we examine patterns at both the Health Care sector and industry group levels. Finally, we dig a bit further to see what has typically transpired for health care stocks immediately *following* elections. This exercise has very limited observation periods (we were only able to look back as far as the election of 1988), but some interesting trends presented themselves nonetheless—stay tuned!

Within this study we largely utilize total return data from our proprietary Leuthold 3000 (L3000) Universe. We did this for a few reasons: 1) We have a longer history of sector-level total return data versus S&P 500's sector data; 2) It corresponds directly with our proprietary industry group data; and 3) We've argued that L3000 data may look more like an investor's live portfolio compared to S&P 500 index data. This is because it's an all-cap universe that employs a proprietary weighting scheme which is more realistic relative to the market-capitalization weighting approach used by S&P.

## Do Health Care Stocks & Elections Mix? (continued)

### As Pre-Election Jitters Abound, Is There Anywhere To Hide In Health Care? (continued)

Our first observation from this exercise is that health care stocks do indeed tend to *underperform* the market leading up to presidential elections (Chart 1). In fact, when utilizing our L3000 data, in the roughly three months leading up to each of the past eight elections (*includes* 2016 data through Oct. 4th), the Leuthold Health Care sector (LHC) has underperformed the L3000 every time *except* for the two elections that fell during cyclical bear markets. In other words, the hit rate of pre-election underperformance in Health Care is 75% overall, but 100% outside of bear markets (details Table 1). The median performance spread is  $-2.3\%$ .

Fortunately, digging a little deeper, we see a couple of potential Health Care hiding places (bolded, Table

2). Interestingly, Managed Health Care (MHC)—an industry often considered more politically-risky—has actually performed well in the three months leading up to an election. As shown in Table 2, it has outperformed LHC 88% of the time and has produced median *relative* returns of more than  $+4\%$  compared to both the LHC *and* L3000 (note, the *outperformance* hit rate is lower for the latter). The one pre-election time MHC did *not* outperform LHC was the 2008 bear market year. Another constructive group leading up to elections has been HC Equipment, with an outperformance hit rate of 71% to both LHC *and* L3000. This one makes a bit more sense to us as it's relatively more politically benign, compared to say, Pharma and Biotech. Speaking of which... **Biotech, HC Distributors, and HC Facilities (grayed, Table 2), appear to be industries in which to tread lightest leading up to elections.** Each has an outperformance hit rate of 38% *or lower* compared to either LHC or L3000. Most other HC industry groups exhibit mixed results (and/or are industry groups with shorter histories, leaving even fewer observations from which to draw conclusions).

Chart 1

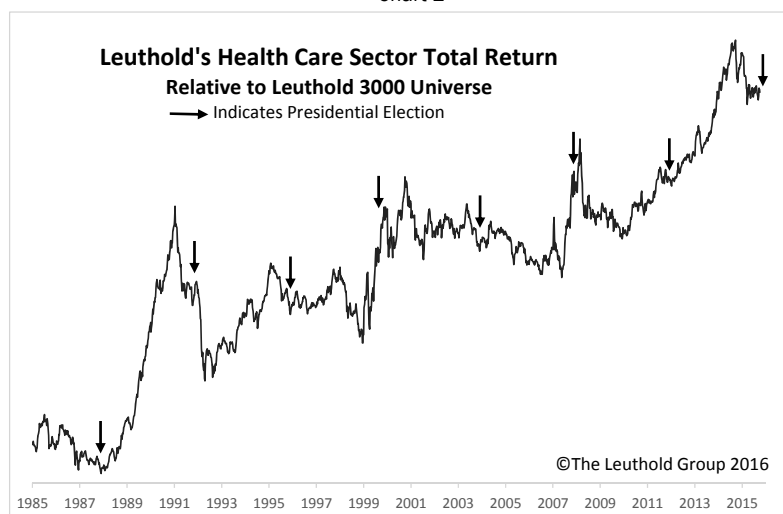


Table 1

Total Returns <b>Leading Up To Elections (1988-to-date)</b> End of July to Election Day (approx. 3 months)	Total Return (%)		Underperformance Hit Rate (of 8)
	Average	Median	
S&P 500	0.1	1.4	
Leuthold 3000 Universe (L3000)	0.0	1.8	
S&P 500 Health Care Sector (7 observations)	0.5	-3.9	
Leuthold's Health Care Sector (LHC)	0.3	-0.6	
<b>Difference (LHC - L3000)</b>	<b>0.3</b>	<b>-2.3</b>	<b>75%</b>

Total Returns <b>Leading Up To Elections (1988-to-date)</b> End of July to Election Day (approx. 3 months)	Total Return (%) Relative to LHC		Outperformance Hit Rate 8 Observations*	Total Return (%) Relative to L3000		Outperformance Hit Rate 8 Observations*
	Average	Median		Average	Median	
<b>Leuthold's Health Care Industry Groups</b>						
Biotech...Small/Micro* (7 observations)	0.5	4.5	57%	1.1	-1.2	43%
Biotechnology	-2.3	-3.0	38%	-2.0	-6.3	25%
Health Care Distributors	-1.7	-1.1	38%	-1.4	-3.1	25%
<b>Health Care Equipment</b>	<b>0.1</b>	<b>1.7</b>	<b>71%</b>	<b>0.4</b>	<b>0.5</b>	<b>71%</b>
Health Care Facilities	1.3	-1.4	38%	1.6	-5.1	25%
Health Care Services	2.0	-0.1	50%	2.3	-3.8	43%
Health Care Supplies	-1.4	-0.9	50%	-1.1	-0.1	50%
Health Care Technology* (5 observations)	1.0	0.7	60%	3.1	1.7	60%
Life Sciences Tools & Services* (5 observations)	-0.1	1.1	60%	2.0	1.3	60%
<b>Managed Health Care</b>	<b>4.6</b>	<b>4.3</b>	<b>88%</b>	<b>4.9</b>	<b>4.5</b>	<b>63%</b>
Pharmaceuticals	-0.1	-1.5	38%	0.2	-2.1	50%

## Do Health Care Stocks & Elections Mix? (continued)

### Health Care Trends Post-Election

What has happened to health care stocks *following* the past seven elections? Table 3 shows that sector-level results are mixed when looking out seven months post-election, with LHC outperforming L3000 four times and underperforming three times. Two of the three underperforming periods were following elections coinciding with equity bear markets, when Health Care sector trends reversed. The third instance was the 1992 election when LHC outperformed for only one month following the election, and then took an extreme relative strength dive (Chart 1). We also looked out a full twelve months post-election and the outcome was similar: five of seven instances produced outsized Health Care returns.

Table 3

Total Returns Following Elections (1988 to 2012) Election Day through the following May (approx. 7 months)	Total Return (%)		Outperformance Hit Rate (of 7)
	Average	Median	
S&P 500	7.4	9.1	
Leuthold 3000 Universe (L3000)	9.9	13.4	
S&P 500 Health Care Sector (6 observations)	6.3	4.3	
Leuthold's Health Care Sector (LHC)	9.1	14.8	
LHC - L3000	-0.7	2.2	57%

The better news here is that, post election, more distinct Health Care *industry group* patterns emerge (Table 4). Managed Health Care, for one, *continues* to perform really well, typically outperforming both the sector *and* broad market (by a land slide, on average). HC Facilities is another obvious winner (having a big reversal post-election), with double-digit outperformance versus LHC and L3000, 100% and 86% of the time, respectively. Reversing in the other direction is HC Equipment. After strong returns leading *into* elections, this group generally has been one of the *worst* performers post-election, outperforming LHC in only *one* instance. Biotechnology also serves up especially poor relative returns post election.

Table 4

Total Returns Following Elections (1988 to 2012) Election Day through the following May (approx. 7 months)	Total Return (%) Relative to LHC		Outperformance Hit Rate 7 Observations*	Total Return (%) Relative to L3000		Outperformance Hit Rate 7 Observations*
	Average	Median		Average	Median	
<b>Leuthold's Health Care Industry Groups</b>						
Biotech...Small/Micro* (6 observations)	-3.7	3.5	67%	-5.6	-2.4	67%
Biotechnology	-4.5	-7.1	29%	-5.2	-4.6	14%
Health Care Distributors	4.3	-1.5	43%	3.5	-2.0	43%
Health Care Equipment	-4.9	-4.9	14%	-5.7	-2.8	29%
<b>Health Care Facilities</b>	<b>14.8</b>	<b>13.1</b>	<b>100%</b>	<b>14.1</b>	<b>15.8</b>	<b>86%</b>
Health Care Services	-1.9	-0.9	43%	-2.7	-4.9	43%
Health Care Supplies	4.0	3.7	71%	3.2	2.3	57%
Health Care Technology* (4 observations)	3.7	2.5	50%	4.8	5.8	50%
Life Sciences Tools & Services* (4 observations)	-6.9	-4.0	25%	-5.9	-2.9	50%
<b>Managed Health Care</b>	<b>20.7</b>	<b>12.4</b>	<b>86%</b>	<b>20.0</b>	<b>4.5</b>	<b>86%</b>
Pharmaceuticals	-0.3	-0.5	29%	-1.1	1.3	71%

Table 5

Finally, we offer a bit more industry-level color via the current rankings of our proprietary Group Selection (GS) Scores (Table 5). Coupled with our election-year findings, **the unmistakable stand-out is the Attractively-rated Managed Health Care group**. Not only has this group been a consistent winner both pre- and post-election over the past 30 years, it is also ranked well via our quantitative work, and has been a holding in our Select Industries Portfolio for nearly seven years. Over this period it has been the best performing of 110 industry groups, returning a cumulative 420%-plus through October 4th (compared to S&P 500's +134% total return). **If looking for a Health Care hiding-place during the volatile election season and the months to follow, Managed Health Care may be your best bet.**

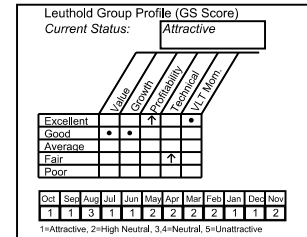
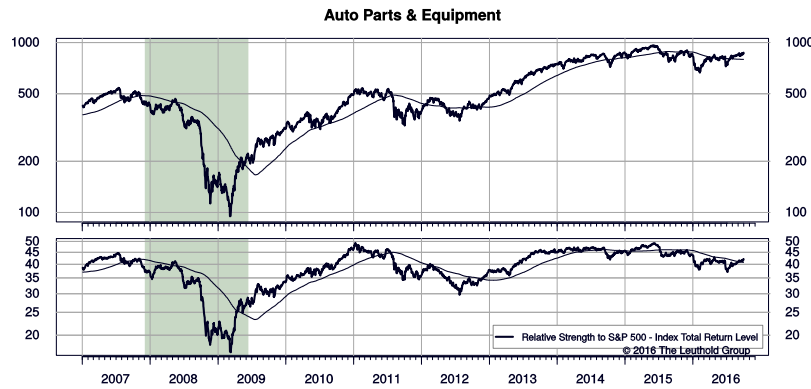
Leuthold's Health Care Industry Groups	Leuthold GS Score	YTD Total Return (10/4)
Biotechnology	Attractive	-12.0%
Life Sciences Tools & Services	Attractive	7.7%
Managed Health Care	Attractive	2.3%
Health Care Supplies	High Neutral	17.3%
Health Care Distributors	Neutral	-12.1%
Health Care Equipment	Neutral	16.8%
Health Care Facilities	Neutral	-3.3%
Health Care Services	Neutral	-6.7%
Health Care Technology	Neutral	8.2%
Biotech...Small/Micro	Unattractive	-10.8%
Pharmaceuticals	Unattractive	-15.0%

## GS Score Sector Rankings With Attractive & Unattractive Rated Industry Groups

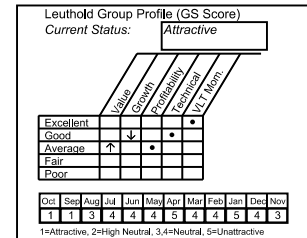
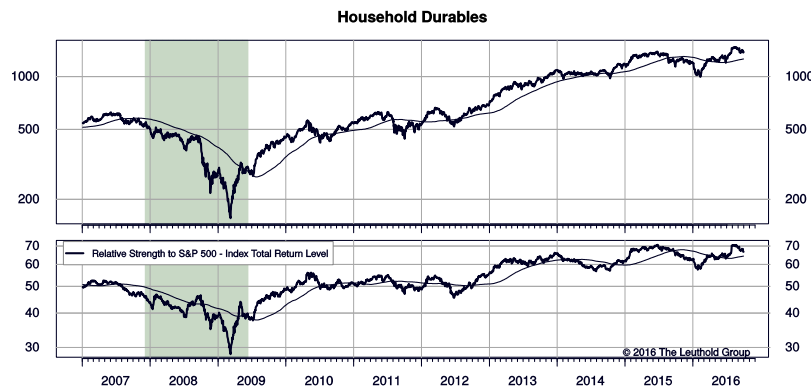
Sector	ATTRACTIVE Groups	UNATTRACTIVE Groups
<b>Information Technology</b> 14 Groups	↑↑ Communications Equipment ↑ <b>Data Processing &amp; Outsourced Services</b> <b>Electronic Manufacturing Services</b> ↑ <b>Home Entertainment Software</b> ↑ <b>IT Consulting &amp; Other Services</b> <b>Semiconductor Equipment</b> Semiconductors Technology Hardware Storage & Peripher...	
<b>Industrials</b> 16 Groups	<b>Building Products</b> ↑ Commercial Services Research & Consulting Services <b>Trading Companies &amp; Distributors</b>	↓ Environmental & Facilities Services
<b>Financial</b> 13 Groups	<b>Emerging Diversified Banks</b>	Multi-Line Insurance
<b>Health Care</b> 11 Groups	↑ <b>Biotechnology</b> Life Sciences Tools & Services <b>Managed Health Care</b>	Biotech...Small/Micro Pharmaceuticals
<b>Consumer Discretionary</b> 22 Groups	Apparel Retail <b>Auto Parts &amp; Equipment</b> Department Stores Household Durables Specialty Stores	Internet Retail Publishing Specialized Consumer Services
<b>Real Estate</b> 2 Groups		
<b>Materials</b> 9 Groups	↑ Paper Packaging	Diversified Metals & Mining Fertilizers & Agricultural Chemicals
<b>Consumer Staples</b> 9 Groups		Beverages ↓ Household Products Tobacco
<b>Telecommunications Services</b> 3 Groups		Alternative Carriers ↓ Wireless Telecommunication Services
<b>Utilities</b> 5 Groups		↓ Electric Utilities Gas Utilities Independent Power Producers & Energy T... Multi-Utilities
<b>Energy</b> 6 Groups		Integrated Oil & Gas Oil & Gas Drilling Oil & Gas Equipment & Services Oil & Gas Refining & Marketing

**BOLD** denotes holding in Select Industries portfolio.

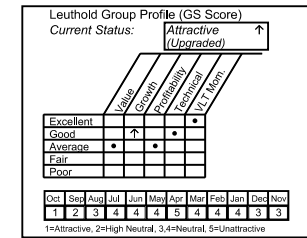
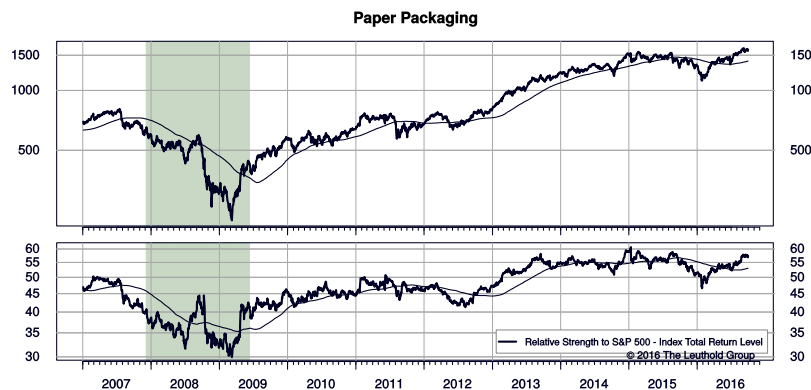
↑ **Category Upgrade**  
 ↓ **Category Downgrade**



**Auto Parts & Equipment** scores well in every portion of the model except the Technical category, which could improve if the group continues to strengthen. While there are legitimate concerns about the long-term viability of some of these companies in an autonomous car world, those fears have eased of late as the Auto Parts suppliers will be integral in the buildout of that fleet.



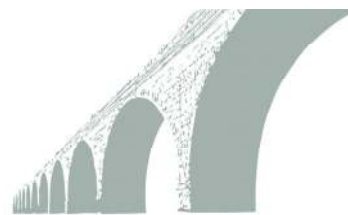
**Household Durables** moved into Attractive last month for the first time since mid-2007. Positive Estimate Revisions and Technicals helped push the group into the top tier. This group, along with Building Products, is telling us there is a positive theme developing for those that benefit from an increase in housing activity.



**Paper Packaging** moved into Attractive this month and is now the only Materials group in the top quintile. The group has reasonable valuations, but the Growth and Technical categories pushed it into Attractive. It hasn't been Attractive since mid-2010.

# QUANTITATIVE STRATEGIES

Prepared by: *Greg Swenson*



<http://leuth.us/quant-strategies>

## September Factor Performance

Value, Growth, and Profitability were all negative, while Momentum turned around its recent negative performance streak.

## Low Volatility Continues Reversion

After strong performance during 2015 and January of 2016, low-volatility stocks have underperformed high-volatility stocks by 20%. The correlation between high momentum and low-volatility stocks has also broken down.

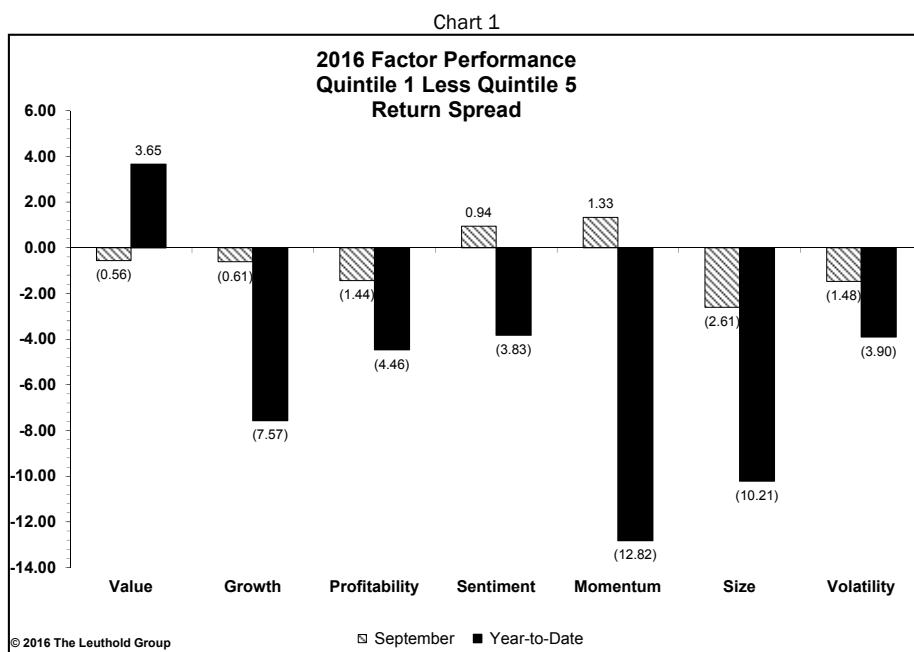
## Factor Performance By Sector

Health Care was a focal point for volatile factor performance during September, mainly driven by small cap Biotech stocks, which were up 11%.

## September Factor Performance

September factor performance was mixed with Value, Growth, and Profitability all posting negative return spreads. After taking a beating the prior two months, Momentum turned in positive performance, although the small 1.3% gain doesn't eat into the large negative year-to-date deficit. Low Volatility continued to get hit after a large move earlier in 2016.

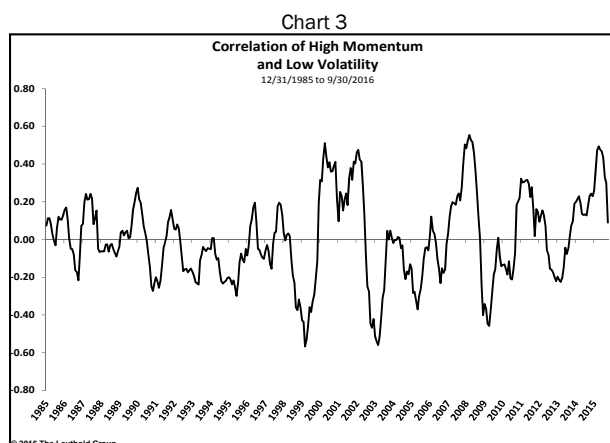
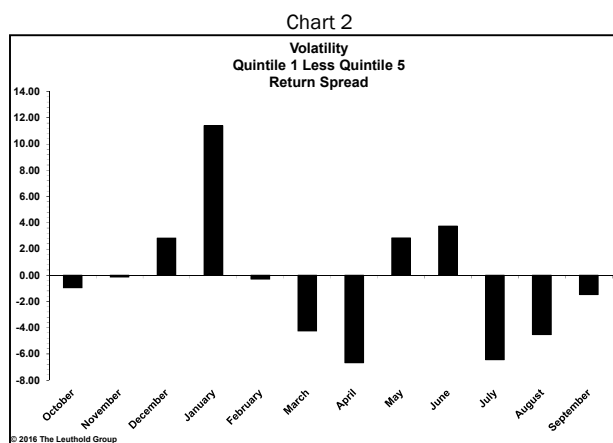
The black bars in Chart 1 show the cumulative return spread so far in 2016. Needless to say, it's been an unpleasant year for quantitative investors. **Momentum is down double digits after a three-year winning streak from 2013-2015**, while Growth and Profitability have also been hit hard. This year has, however, provided some respite for Value, which is now up 3.7%.



## September Factor Performance

During the market downturn last summer, low-volatility stocks were one of the only safe havens, outperforming their high-volatility counterparts through the end of the year and into early 2016. For all of 2015 the low-vol quintile outperformed the high-vol quintile by 17% and then added another 11% in January of 2016. Naturally, billions of dollars flowed into low or minimum volatility ETFs in time for the performance trend to reverse course (Chart 2). **After the strong January for low-vol, the quintile has underperformed high-vol by 20%.**

Outperformance by low-volatility names was most surprising during May and June, when the market was sitting near all-time highs. We noted that the high correlation of high-momentum stocks and low-volatility stocks near market highs was extremely unusual (Chart 3). As the market has gone on to higher highs that relationship has completely broken down and the correlation sits at only .09 currently, after peaking at .49 at the end of March. **If the market goes on to make new highs, we would expect this relationship to break down even further.**



## Sector Detail—September Performance

While factor performance at the market level was fairly muted, certain sectors saw outsized performance in both directions. Health Care saw some of the largest swings, with the Value spread at  $-5.9\%$  and Profitability at  $-7.6\%$ , both due to small cap Biotech having a good month ( $+11\%$  return). Materials was also a challenging sector as Growth and Profitability were hit hard. On the other end of the spectrum, Financials and Consumer Discretionary were both pretty quiet.

September Factor Performance - Quintile 1 less Quintile 5 Spread - By Sector

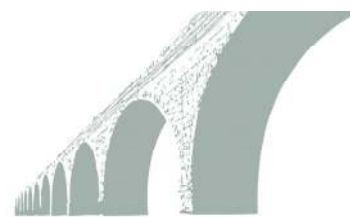
Sector	Value	Growth	Profitability	Sentiment	Momentum	Size	Volatility
Consumer Discretionary	(0.03)	(3.48)	(0.36)	2.76	(0.37)	(1.16)	(2.79)
Consumer Staples	(2.10)	(2.64)	1.41	4.18	1.79	(1.61)	(0.47)
Energy	(1.18)	(0.46)	(3.02)	0.51	0.60	(1.90)	(2.75)
Financials	0.42	0.00	0.14	0.61	1.23	(1.62)	1.06
Health Care	(5.92)	1.35	(7.64)	(3.00)	(3.06)	(11.66)	(8.13)
Industrials	2.66	(1.94)	(0.61)	(1.25)	(1.19)	(1.53)	(1.03)
Information Technology	1.61	(1.09)	(2.23)	3.05	1.39	(0.41)	(2.83)
Materials	1.93	(4.57)	(6.66)	2.48	0.87	(4.53)	(3.35)
Telecommunication Services	(1.03)	4.45	0.90	4.36	5.91	(4.64)	(2.71)
Utilities	(3.09)	(0.40)	1.08	(0.01)	1.52	(1.89)	(1.10)



# STOCK MARKET INTERNALS

Earnings Momentum, Small/Mid/Large Caps,  
Growth/Value/Cyclicals, and Additional Factors

Prepared by: *Phil Segner*



<http://leuth.us/market-internals>

## Earnings Momentum

### Up/Down Earnings: Best Quarter Since Q1 Of 2015

Our final Up/Down Ratio for Q2 sports a reading of 1.22. As was the case the two previous months, our final number is the highest since the first quarter of 2015.

### Median Q2 2016 YOY Revenue Comparisons: The Top-Line Bleeding Stops?

We've now clocked six consecutive quarters of S&P 500 YOY top-line shrinkage. The estimated growth rate in Q3 is +2.6%.

### Median Company Earnings: Same Sinking Feeling

Yet another S&P 500 YOY earnings decline (-3.5%)—that makes five quarters of decline in a row. LTM EPS on the index has shrunk 7% over the past 22 months.

## Q2 Sector Earnings Wrap-Up

The Information Technology sector posted the highest median surprise figure of Q2 (+8.1%). For the third quarter in a row, the Energy sector produced the lowest median figure (+1.7%).

## Small/Mid/Large Caps

### Ratio Of Ratios Holds Steady

Matching our 13-year low made last month, our Ratio of Ratios shows Small Caps at a 6% discount to Large Caps using non-normalized trailing operating earnings.

### Performance

Small Cap stocks outperformed in another muted performance month. Looking at a little wider window, the Russell 2000 bested both Mid and Large Caps by posting a 9% gain for the third quarter.

## Growth/Value/Cyclical

### Value Stocks Looking Relatively Expensive

Growth remains especially cheap relative to Value in Small Caps and our Royal Blue segment. Small Cap Growth was the best performing segment for Q3 (+9.2%).

## Additional Factors

### S&P 500: Q3 Recap

The S&P 500 has quietly put together a string of four consecutive modestly-positive quarters—up nearly 13% for that stretch. Volatility in the most recent quarter was almost non-existent. The only sector not trading with a LTM P/E above its five-year median is Consumer Discretionary.

## Stock Market Internals... Earnings Momentum

### Up/Down Earnings: Best Quarter Since Q1 Of 2015

As we close out the final month of Q2 2016 earnings reports, our Up/Down Ratio sports a reading of 1.22. Not surprisingly, this is little changed from our “two-month” number as only 225 firms were left to release results. As was the case the two previous months, our final number is the highest since the first quarter of 2015.

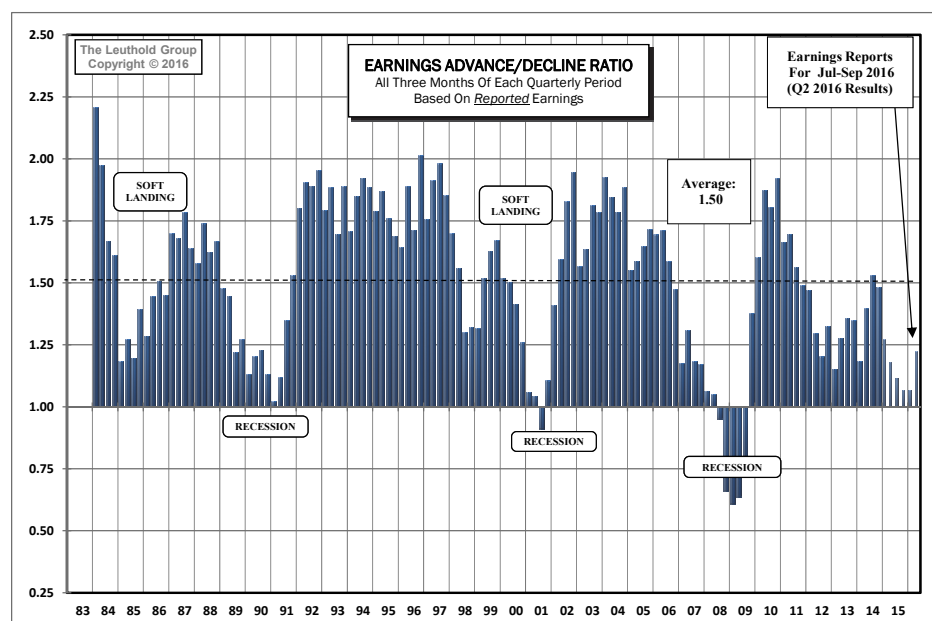
#### Current Up/Down Earnings Ratio: 1.22

Reporting Period: Jul—Sep  
(Q2 2016 Results)

Earnings Reported:  
2258 Higher  
1847 Lower

Total: 4105

Each day we log all of the company earnings reports published by *Investor's Business Daily*. These are segmented into the “up” earnings (higher YOY EPS) and the “down” earnings (lower YOY EPS).



### Median Q2 2016 YOY Revenue Comparisons: The Top-Line Bleeding Stops?

With Q2 reports now in the books, we’ve clocked six consecutive quarters of S&P 500 YOY top-line shrinkage. Since April of 2015, LTM sales per share has gone down about 3% — which is nothing compared to the 17% drop we saw in 2009. However, when top lines aren’t expanding, executives tend to get guarded in their decision making.

The S&P 500 estimated growth rate for Q3 is +2.6%. Looking at our median figures (Table), each market cap (outside of Mega Caps) has improved each of the past two quarters.

#### Year Over Year Sales Momentum: Largest 3000 Companies

	Q2 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015
<b>Mega Caps (Top 50)</b>	-0.6%	0.6%	0.9%	2.2%	0.6%
<b>Bottom (2000)</b>	4.7%	4.4%	3.6%	3.9%	5.5%
<b>Large Cap (Top 300)</b>	2.5%	2.5%	-0.2%	0.7%	0.2%
<b>Mid Cap (Next 900)</b>	3.5%	3.1%	1.7%	2.2%	2.8%
<b>Small Cap (Next 1200)</b>	5.2%	4.8%	4.2%	4.7%	5.5%
<b>Micro Cap (Last 600)</b>	3.6%	3.4%	2.9%	2.4%	5.0%
<b>Consumer Discretionary</b>	3.3%	5.5%	3.8%	5.6%	5.1%
<b>Consumer Staples</b>	2.0%	1.9%	0.8%	0.4%	0.2%
<b>Energy</b>	-21.2%	-26.2%	-31.3%	-28.7%	-23.8%
<b>Financial</b>	6.4%	6.1%	5.5%	5.3%	6.4%
<b>Health Care</b>	11.2%	11.9%	9.8%	10.1%	11.8%
<b>Industrials</b>	1.3%	1.6%	-1.5%	-0.3%	0.9%
<b>Information Technology</b>	9.0%	7.4%	6.4%	7.0%	6.7%
<b>Materials</b>	-3.3%	-5.2%	-9.6%	-8.9%	-6.2%
<b>Real Estate</b>	8.1%	NA	NA	NA	NA
<b>Telecommunications Services</b>	-0.2%	-0.7%	2.0%	0.9%	-2.2%
<b>Utilities</b>	-0.8%	-6.3%	-7.6%	0.0%	-3.0%

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## Earnings Momentum (continued)

### Median Company Earnings: Same Sinking Feeling

Another quarter in the books and yet another S&P 500 YOY earnings decline (-3.5%). That makes five consecutive quarters of decline. On a LTM basis, we hit peak EPS (\$119.22) on the S&P 500 in November of 2014. Over the next 22 months, that figure has been steadily trimmed by a little more than 7% (\$110.40). Energy has been, and continues to be the biggest drag on earnings, yet the sector still turned a net profit of \$2 billion for the quarter—but that's down from \$12.6 billion in Q2 of 2015. As a reference, the Energy sector posted net income of \$45.6 billion in Q3 of 2008. If we focus on the other nine sectors, YOY earnings increased by 0.62% in Q2.

### Year Over Year Earnings Momentum: Largest 3000 Companies

	Q2 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015
<b>Mega Caps (Top 50)</b>	-1.3%	-4.5%	8.7%	3.4%	2.0%
<b>Bottom (2000)</b>	4.2%	0.0%	1.5%	0.0%	2.1%
<b>Large Cap (Top 300)</b>	0.0%	0.0%	2.7%	2.5%	4.3%
<b>Mid Cap (Next 900)</b>	7.5%	5.6%	1.5%	2.4%	4.2%
<b>Small Cap (Next 1200)</b>	5.9%	2.9%	2.5%	1.9%	2.7%
<b>Micro Cap (Last 600)</b>	-1.7%	-5.6%	-4.3%	-8.7%	-0.8%
<b>Consumer Discretionary</b>	8.9%	11.4%	9.3%	10.2%	9.8%
<b>Consumer Staples</b>	6.0%	9.9%	7.1%	2.7%	7.4%
<b>Energy</b>	-41.6%	-45.5%	-69.3%	-63.2%	-41.7%
<b>Financial</b>	5.0%	4.1%	3.4%	2.6%	8.1%
<b>Health Care</b>	3.8%	0.0%	2.7%	1.0%	-1.4%
<b>Industrials</b>	4.0%	2.5%	4.8%	1.9%	4.8%
<b>Information Technology</b>	8.6%	0.4%	3.0%	0.0%	4.5%
<b>Materials</b>	11.2%	0.0%	-16.8%	-12.2%	-3.3%
<b>Real Estate</b>	16.7%	NA	NA	NA	NA
<b>Telecommunications Services</b>	-16.5%	-3.0%	-6.0%	-13.0%	-1.6%
<b>Utilities</b>	6.7%	-2.9%	-5.1%	3.5%	4.4%

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### Median Operating Earnings Momentum: Largest 3000 Companies

	Mkt. Cap. Decile	Market Cap. Range	Market Cap. (Bill.)	Pct Of Total Mkt. Cap.	Q2 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015
<b>Large Caps</b>	<b>1</b>	>\$24.6B	\$22,620	68.7%	0.0%	0.0%	2.7%	2.5%	4.3%
<b>Mid Caps</b>	<b>2</b>	\$24.6B-9.6B	\$ 4,621	14.0%	5.2%	3.6%	0.4%	3.7%	5.9%
	<b>3</b>	\$9.6B-5.2B	\$ 2,166	6.6%	10.5%	7.0%	1.0%	3.0%	3.7%
	<b>4</b>	\$5.2B-3.3B	\$ 1,241	3.8%	6.8%	6.3%	3.0%	0.5%	2.9%
<b>Small Caps</b>	<b>5</b>	\$3.3B-2.2B	\$ 816	2.5%	5.5%	5.4%	0.0%	4.8%	7.1%
	<b>6</b>	\$2.2B-1.5B	\$ 557	1.7%	10.1%	0.0%	6.4%	0.0%	5.1%
	<b>7</b>	\$1.5B-1.1B	\$ 379	1.2%	7.5%	4.6%	6.4%	2.8%	0.0%
	<b>8</b>	\$1.1B-701M	\$ 258	0.8%	0.6%	1.6%	-2.6%	0.0%	-1.3%
<b>Micro Caps</b>	<b>9</b>	\$701M-459M	\$ 172	0.5%	-2.4%	-2.0%	0.4%	0.0%	0.0%
	<b>10</b>	\$459M-86M	\$ 98	0.3%	-0.9%	-9.2%	-9.1%	-17.4%	-1.6%
<b>Totals</b>			\$32,927	100%					

We use operating earnings which exclude:  
 1. Cumulative effect of accounting changes.  
 2. Special items.  
 3. Extraordinary items.  
 4. Discontinued operations.

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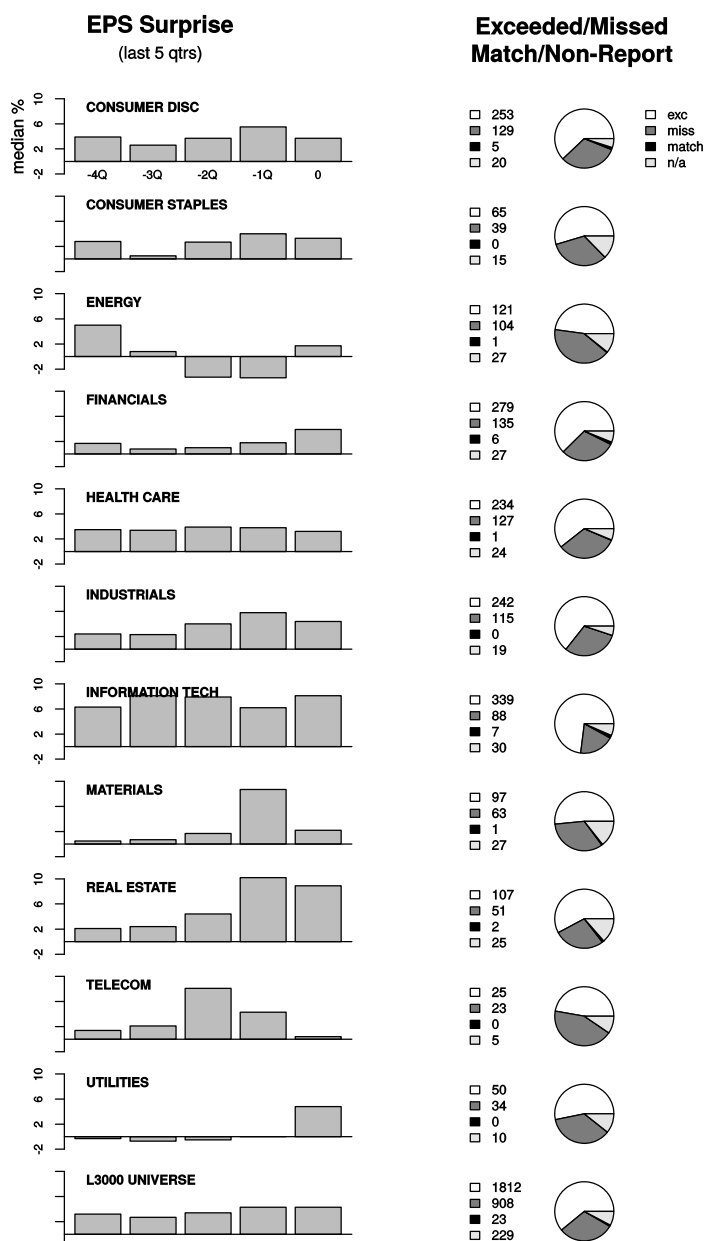
## Earnings Momentum (continued)

### Q2 Sector Earnings Wrap-Up

Attempting to identify sectors and groups that are straying from expected earnings results, we examine EPS Surprise (Chart). This is the percentage difference from a firm's reported EPS and the consensus earnings estimate. We show the median of reporting companies within a sector.

In Q2, the Information Technology sector posted the highest median surprise figure (+8.1%). This shouldn't be much of a "surprise" given the sector's history of consistently robust earnings beats. For the third quarter in a row, Energy posted the lowest median surprise figure (+1.7%). The market hasn't been phased by these low earnings figures out of Energy. YTD, it's the best performing sector in the S&P 500. We have a good variety of sectors in our best/worst performing groups table—no discernible pattern has emerged.

Analysts depend greatly on guidance from companies to form their forecasts. Firms have, in recent years, learned that it pays to guide analysts to a lower number rather than a higher number. The sacrifice of lower guidance numbers for an earnings "beat" headline has become the norm (see the consistency of our earnings surprise figures for our L3000 universe). Usually, as a result of this interplay, the price of missing a quarter has risen sharply.



#### Best Performing Groups

Sector	Group	Median	Reported Count	Count	% Reported
FINANCIALS	INVESTMENT BANKING & BROKERAGE	20.37%	24	27	89%
CONSUMER DISCRETIONARY	AUTOMOBILE MANUFACTURERS	18.29%	10	10	100%
INFORMATION TECHNOLOGY	INTERNET SOFTWARE & SERVICES	17.21%	77	88	88%
UTILITIES	GAS UTILITIES	15.56%	15	15	100%
INFORMATION TECHNOLOGY	SYSTEMS SOFTWARE	14.86%	31	32	97%

#### Worst Performing Groups

Sector	Group	Median	Reported Count	Count	% Reported
INDUSTRIALS	TRUCKING	-5.35%	17	18	94%
MATERIALS	FERTILIZERS & AGRICULTURAL CHEMICALS	-9.71%	11	13	85%
FINANCIALS	REINSURANCE	-13.72%	10	11	91%
ENERGY	INTEGRATED OIL & GAS	-33.00%	18	20	90%
UTILITIES	INDEPENDENT POWER PRODUCERS & ENERGY TRADERS	-45.28%	13	16	81%

Note: groups must have at least 10 constituents and more than 70% of the group reporting.

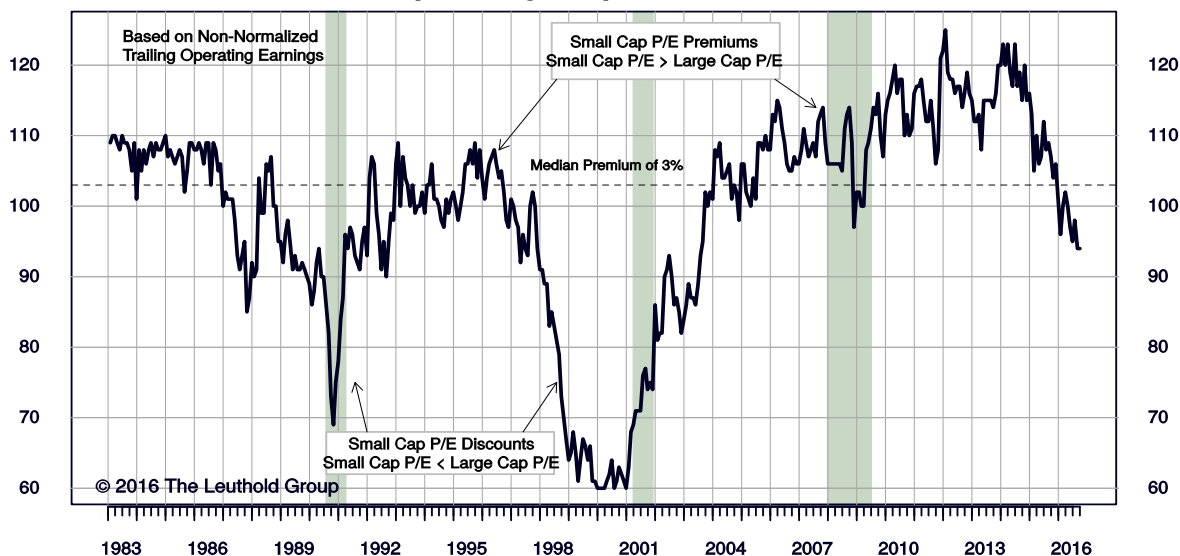
## Stock Market Internals... Small/Mid/Large

### Ratio Of Ratios Holds Steady

Using non-normalized trailing operating earnings, Small Caps are selling at a 6% discount to Large Caps (Chart). This matches our 13-year low made last month. At the end of March, our Ratio of Ratios was very close to the long-term median (3% premium for Small Caps). Since then, the Russell 2000 has outperformed the S&P 500 by 7% and Small Caps have gotten relatively *cheaper*.

Looking ahead to both 2016 and 2017 estimated operating earnings (Table), Small Caps are trading at valuation parity with Large Caps.

### Small Cap to Large Cap Historical P/E Ratio



### Median Valuations: Largest 3000 Companies

	Mkt. Cap. Decile	No. Of Companies	Current Mkt. Cap Range	Current Mkt. Cap (Bill.)	Percent of Total Mkt. Cap.	2016E	2017E	Dec 99	Jun 83
<b>Large Caps</b>	<b>1</b>	300	>\$24.6B	\$22,620	68.7%	18.8x	16.8x	30.0x	12.9x
<b>Mid Caps</b>	<b>2</b>	300	\$24.6B-9.6B	\$ 4,621	14.0%	19.4x	17.7x	24.0x	13.0x
	<b>3</b>	300	\$9.6B-5.2B	\$ 2,166	6.6%	19.8x	18.4x	20.2x	13.3x
	<b>4</b>	300	\$5.2B-3.3B	\$ 1,241	3.8%	19.1x	17.0x	19.4x	12.9x
<b>Small Caps</b>	<b>5</b>	300	\$3.3B-2.2B	\$ 816	2.5%	19.1x	17.5x	16.3x	13.4x
	<b>6</b>	300	\$2.2B-1.5B	\$ 557	1.7%	19.2x	17.4x	17.8x	13.9x
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	<b>8</b>	300	\$1.1B-701M	\$ 258	0.8%	19.4x	16.5x	15.3x	15.0x
<b>Micro Caps</b>	<b>9</b>	300	\$701M-459M	\$ 172	0.5%	17.4x	16.0x	15.4x	16.5x
	<b>10</b>	300	\$459M-86M	\$ 98	0.3%	17.1x	15.1x	13.3x	17.0x
<b>Totals</b>		3000	B=Bill, M=Mil	\$32,927	100%				

#### Notes:

P/E calculations use operating earnings, which exclude extraordinary items and discontinued operations.

\*December 1999 represents the extreme Small Cap relative P/E discount of 45% seen at the end of the 1994-1999 Small Cap underperformance period.

\*\*June 1983 represents the peak of the 1973-1983 Small Cap leadership run, when Small Caps achieved a relative P/E premium of 10%. Small Caps recorded an even higher P/E premium of 14% at the end of their 1999-2006 leadership run.

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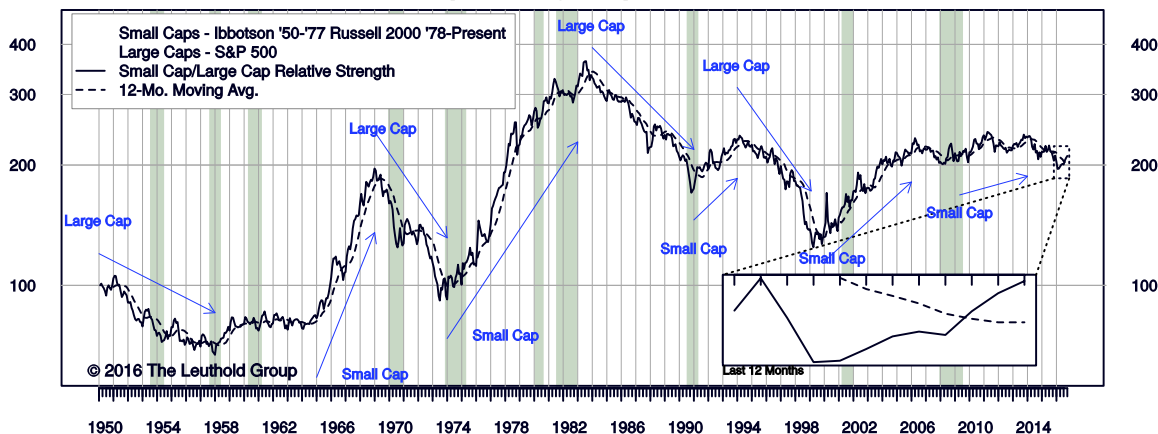
#### Summary

	2016E	2017E	*Dec 99	**Jun 83
<b>Mega Caps (Top 50)</b>	18.8x	16.4x	45.2x	13.2x
<b>Bottom (2000)</b>	18.5x	16.6x	15.9x	15.4x
<b>Large Cap (Top 300)</b>	18.8x	16.8x	30.0x	12.9x
<b>Mid Cap (Next 900)</b>	19.4x	17.7x	21.2x	13.1x
<b>Small Cap (Next 1200)</b>	18.8x	16.8x	16.4x	14.2x
<b>Micro Cap (Last 600)</b>	17.2x	15.6x	14.4x	16.8x
<b>Small Cap/Large Cap P/E Premium/Discount</b>	0%	0%	-45%	10%

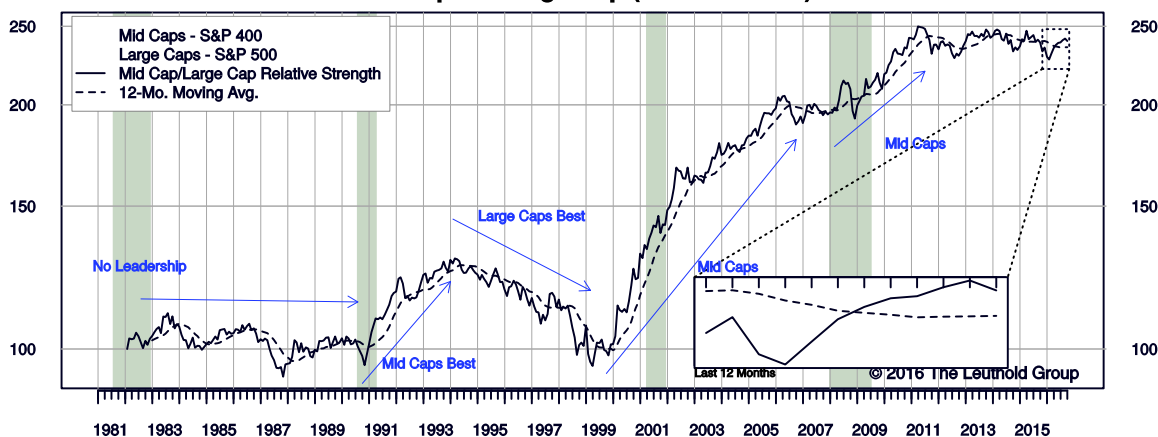
## Small/Mid/Large Cap (continued)

Small Cap stocks outperformed in another muted performance month. Looking at a little wider window, the Russell 2000 posted a 9% gain for the third quarter. This surge has put Small Caps almost on par with Mid Caps for YTD performance.

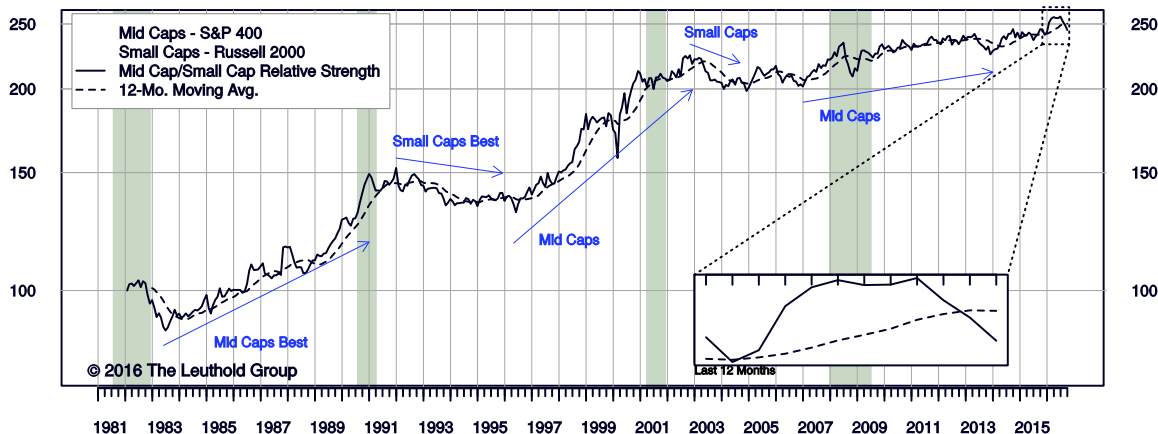
### Small Cap vs. Large Cap (Total Returns)



### Mid Cap vs. Large Cap (Price Returns)



### Mid Cap vs. Small Cap (Price Returns)

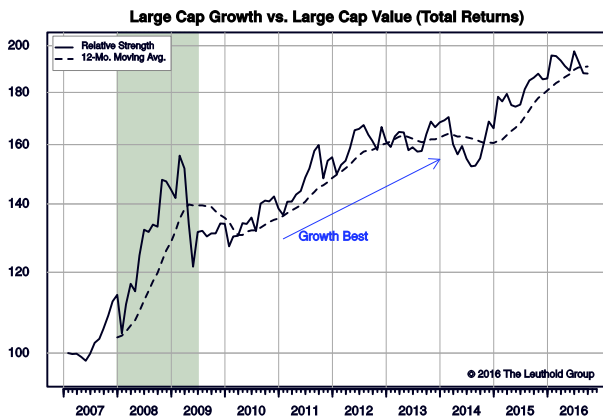


#### Total Returns

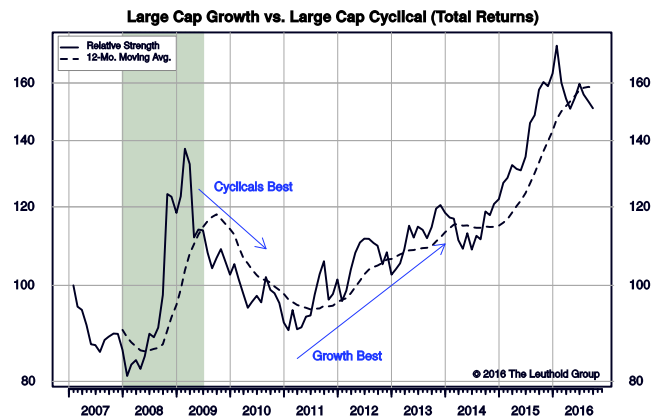
	Sep.	Q3	YTD	2015	2014	2013	2012	2011	2010	2009	2008	2007
S&P 500	+ 0.0 %	+ 3.9 %	+ 7.8 %	+ 1.4 %	+13.7 %	+32.4 %	+16.0 %	+ 2.1 %	+15.1 %	+26.5 %	-37.0 %	+ 5.5 %
S&P Mid Cap	- 0.6	+ 4.1	+12.4	- 2.2	+ 9.8	+33.5	+17.9	- 1.7	+26.6	+37.4	-36.2	+ 8.0
Russell 2000	+ 1.1	+ 9.1	+11.5	- 4.4	+ 4.9	+38.8	+16.4	- 4.2	+26.9	+27.2	-33.8	- 1.6

# Stock Market Internals... Growth/Value/Cyclical

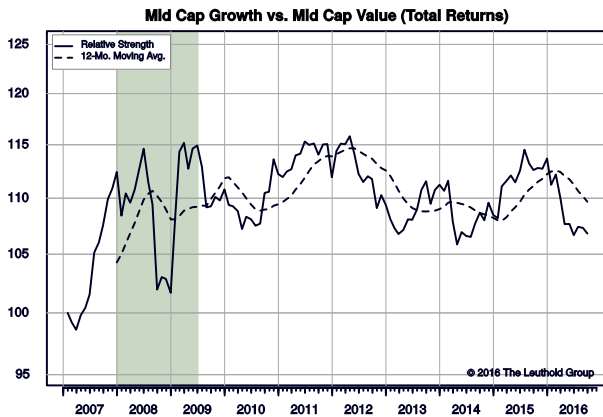
## Mid And Small Value Stocks Lead YTD



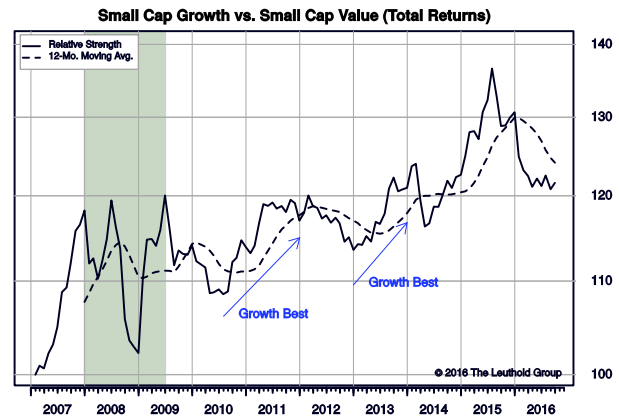
- Large Cap Growth was our weakest segment for both September and all of Q3.



- Our Deep Cyclical group was up over 7.5% for Q3. Relative to Growth, Cyclical has certainly turned the momentum around in 2016.



- Both Mid Cap flavors were flat for the month. Value is beating growth by 7% YTD.



- Small Cap Growth scored a rare win in September. Both segments were up 9% for the quarter. Value leads the entire field for 2016 at +15.5%.

## Value Stocks...Not So Much

### Historical Valuations, Growth Versus Value...Large, Mid and Small Caps

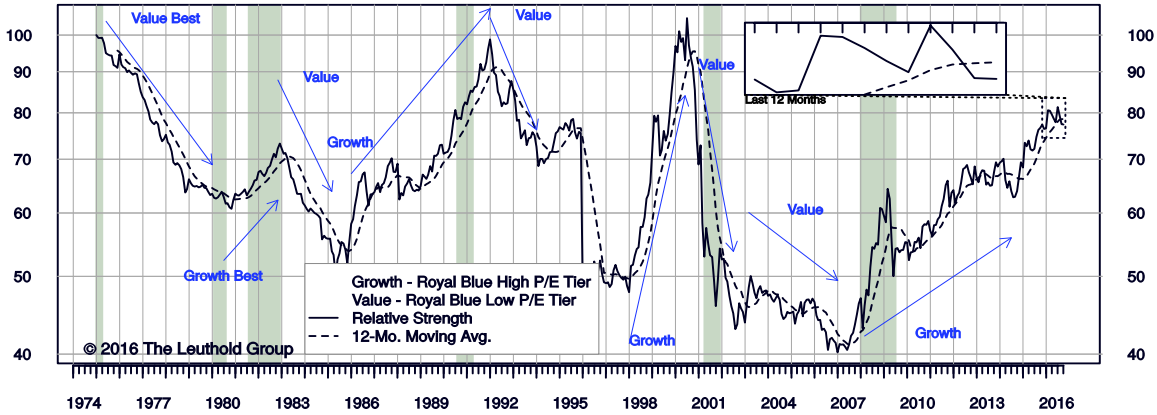
	Median P/E		Historical Averages 1982 to Date		Pct Above/Below Hist. Avg. Valuation		Today's G/V Ratio	Historical Average G/V Ratio	2000 Extreme G/V Ratio
	Growth	Value	Growth	Value	Growth	Value			
	Stocks	Stocks	Stocks	Stocks	Stocks	Stocks			
Royal Blues	26.0x	14.2x	24.7x	11.4x	5%	25%	1.83	2.17	4.35
Large Cap	22.4x	12.3x	19.9x	10.8x	13%	14%	1.82	1.96	5.80
Mid Cap	24.9x	13.4x	23.3x	11.9x	7%	12%	1.86	2.07	9.30
Small Cap	28.2x	14.1x	27.4x	12.0x	3%	18%	2.00	2.43	12.50

Growth remains especially cheap relative to Value in Small Caps and our Royal Blue segment.

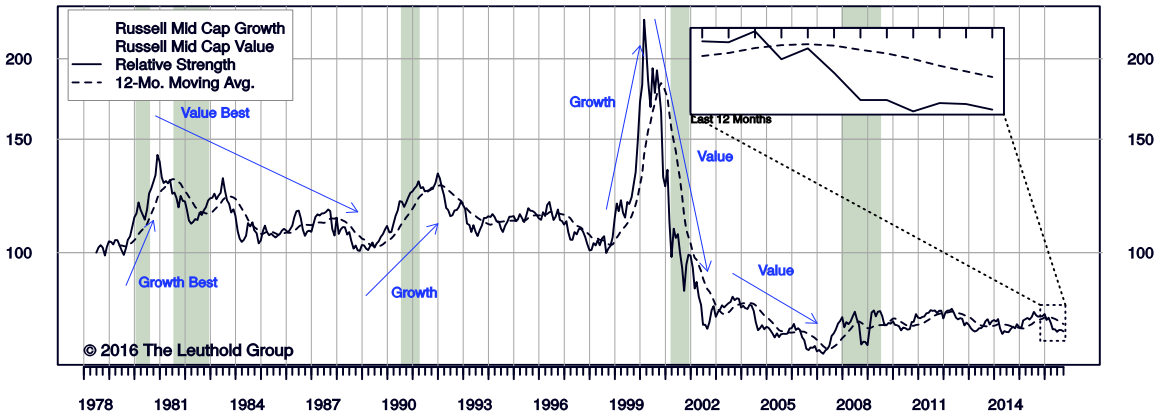
# Growth/Value/Cyclical (continued)

Since 2007, Large Cap Growth has built an impressive advantage over Large Cap Value. Among Small and Mid Caps, Value stocks have outperformed since mid-2015.

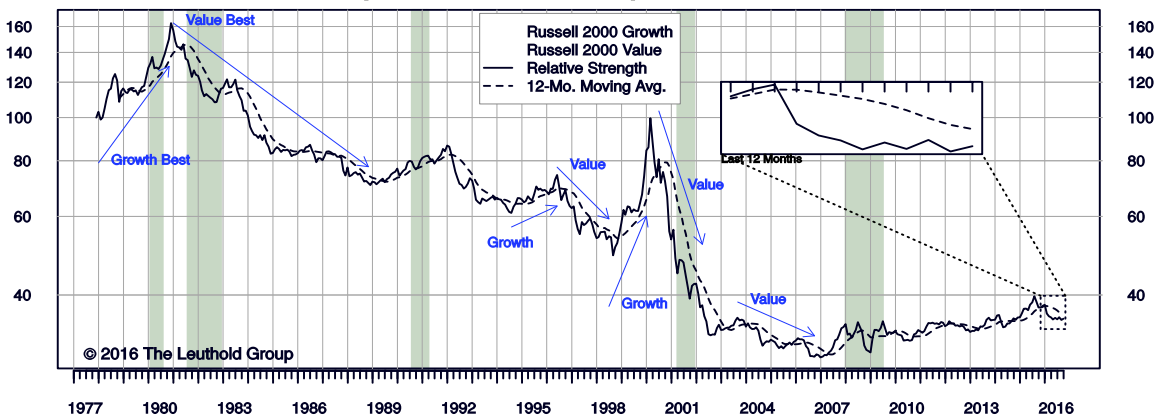
### Large Cap Growth vs. Large Cap Value (Total Returns)



### Mid Cap Growth vs. Mid Cap Value (Total Returns)



### Small Cap Growth vs. Small Cap Value (Total Returns)



Total Returns	Sep.	Q3	YTD	2015	2014	2013	2012	2011	2010	2009	2008	2007
Large Cap Growth	-0.6 %	+1.7 %	+5.3 %	+9.0 %	+11.6 %	+39.9 %	+16.2 %	+0.3 %	+16.0 %	+26.9 %	-37.9 %	+11.3 %
Large Cap Value	-0.5	+6.9	+4.1	-2.6	+13.1	+33.9	+12.2	-10.7	+12.1	+37.0	-51.0	-4.7
Mid Cap Growth	+0.0 %	+4.6 %	+6.8 %	-0.2 %	+11.9 %	+35.7 %	+15.8 %	-1.6 %	+26.4 %	+46.2 %	-44.3 %	+11.4 %
Mid Cap Value	+0.4	+4.5	+13.7	-4.8	+14.8	+33.5	+18.5	-1.4	+24.8	+34.2	-38.4	-1.4
Small Cap Growth	+1.4 %	+9.2 %	+7.5 %	-1.4 %	+5.6 %	+43.3 %	+14.6 %	-2.9 %	+26.7 %	+34.5 %	-38.5 %	+7.1 %
Small Cap Value	+0.8	+8.9	+15.5	-7.5	+4.2	+34.5	+18.1	-5.5	+26.9	+20.6	-28.9	-9.8



## Stock Market Internals... Additional Factors

### S&P 500: Q3 Recap

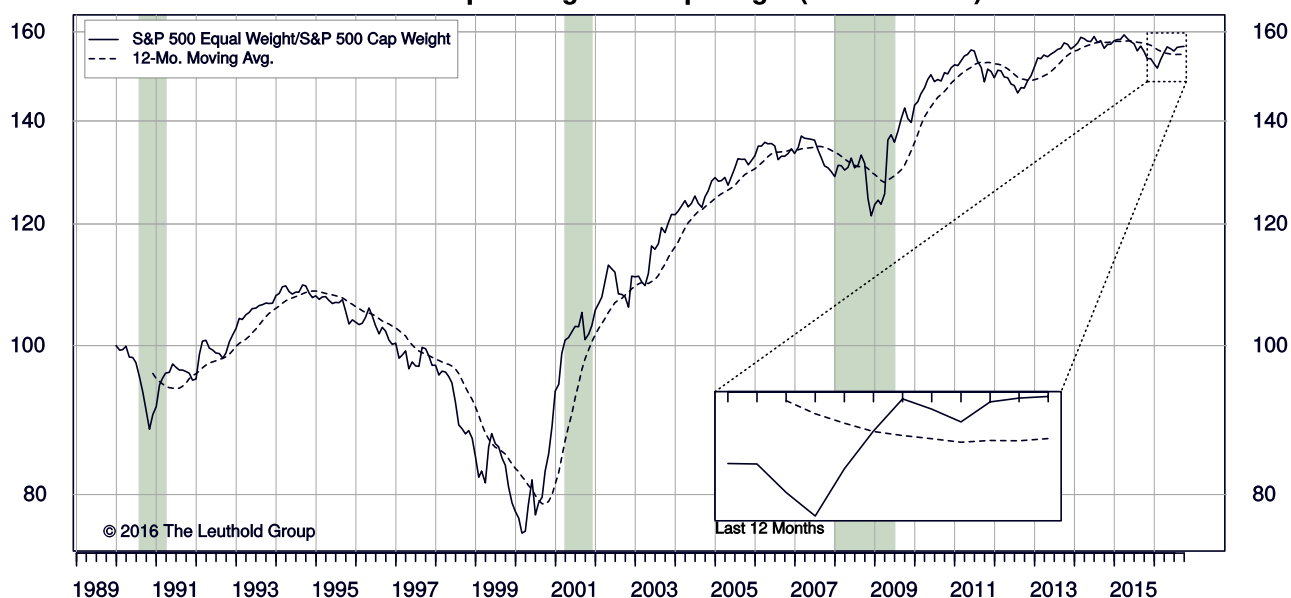
We now move into the home stretch of 2016. Including Q3, the S&P 500 has quietly put together a string of four consecutive modestly-positive quarters—up nearly 13% for that stretch. Volatility in the most recent quarter was almost non-existent. In the middle of our streak of 43 trading sessions without a 1% daily move, the S&P 500 made an all-time closing high on August 15th. The road got a little bumpy in the middle of September but the index stayed in a 5% band the entire quarter.

Our Equal Weighted Average bested our Cap Weighted measure for Q3. Coming into the year, there was definitely a relative tailwind for the Cap Weighted measure. Since the end of January, the Equal Weighted Average has turned the tide—outperforming by 3.7% (price change only).

	Sep	Q3	YTD	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Cap Weighted	-0.1 %	+3.3 %	+6.1 %	-0.7 %	+11.4 %	+29.6 %	+13.4 %	0.0 %	+12.9 %	+23.5 %	-38.5 %	+3.5 %	+13.6 %
Equal Weighted Average	-0.1	+4.0	+8.9	-4.1	+11.9	+33.6	+15.3	-1.9	+19.8	+43.3	-41.0	0.0	+14.0
Largest 25 Companies-Average	-0.4	+3.6	+9.3	+7.5	+11.7	+26.0	+17.7	+6.9	+2.7	+20.0	-38.4	+5.4	+13.6

(Note: Performance is Price Change Only)

### S&P 500 - Equal Weight vs. Cap Weight (Price Returns)



Cap Market Cap	S&P Performance By Market Cap Quintiles													
Quintiles*	Sep	Q3	YTD	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
1	-0.3 %	+3.0 %	+7.1 %	+3.9 %	+14.5 %	+35.7 %	+18.0 %	+3.8 %	+8.3 %	+20.0 %	-38.2 %	+2.2 %	+11.9 %	+3.1 %
2	+0.4	+4.5	+10.9	+2.8	+17.9	+36.5	+16.8	+3.2	+10.1	+30.1	-37.7	+3.9	+12.4	+6.9
3	+0.3	+3.9	+14.0	-4.4	+17.0	+34.8	+17.7	+4.2	+20.7	+32.3	-42	+5.3	+13.7	+14.2
4	-0.4	+4.4	+9.9	-2.0	+9.6	+32.9	+13.4	-4.5	+25.6	+36.8	-40	+2.1	+12.4	+14.7
5	-0.5	+4.8	+5.2	-19.3	+1.3	+27.5	+7.7	-16.1	+25.4	+86.1	-39	-2.8	+20.2	+4.2

\* Tiers Rebalanced Monthly / Performance Equally Weighted

## Additional Factors (continued)

	Percent Market Value		
	S&P 500	S&P Midcap	S&P Smallcap
Consumer Discretionary	12.6	11.6	14.0
Consumer Staples	9.8	4.3	3.0
Energy	<b>7.2</b>	<b>3.9</b>	<b>3.2</b>
Financials	<b>12.9</b>	<b>15.3</b>	<b>16.6</b>
Health Care	14.8	8.1	12.5
Industrials	9.7	14.2	18.2
Information Technology	21.3	18.2	16.3
Materials	2.9	7.1	5.8
Real Estate	3.0	11.6	6.8
Telecom Services	2.6	0.2	1.0
Utilities	3.2	5.4	2.6
Index-->	100.0%	100.0%	100.0%

The eleventh sector, **Real Estate**, has been added to our Percent of Market Value table. It takes up a surprisingly large piece of the Mid Cap Index, just behind Consumer Discretionary for valuation. **Energy** stocks, the new YTD performance leader, outperformed in September while **Financials** lagged.

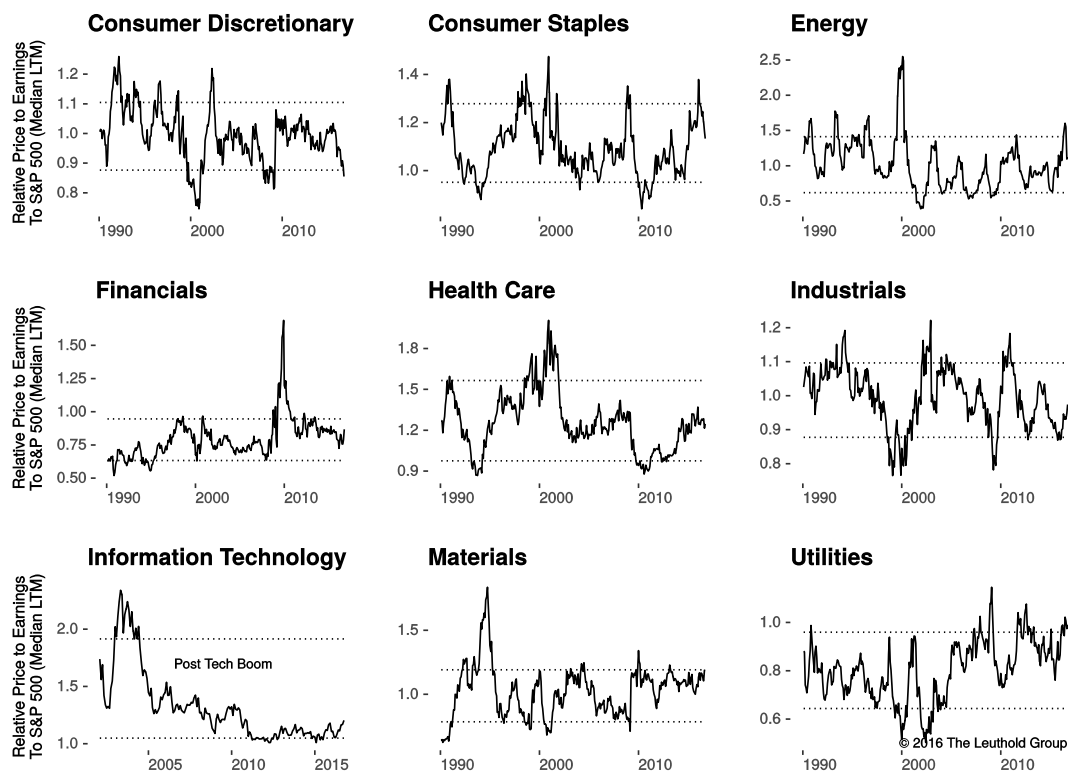
### S&P 500 Sectors - Median LTM PE Ratios

	Sep 30, 2016	5-Year Median
<b>Consumer Discretionary</b>	18.5x	19.2x
<b>Consumer Staples</b>	24.5x	20.6x
<b>Energy</b>	24.3x	17.4x
<b>Financials</b>	18.8x	17.0x
<b>Health Care</b>	27.0x	23.6x
<b>Industrials</b>	21.1x	18.8x
<b>Information Technology</b>	26.1x	21.7x
<b>Materials</b>	25.7x	21.9x
<b>Telecommunication Services</b>	15.0x	29.0x
<b>Utilities</b>	21.4x	17.6x
<b>S&amp;P 500</b>	21.7x	20.0x

Note: Financials = weighted average of Financials and Real Estate

Looking at median LTM P/E ratios by sectors, the Consumer Discretionary reading is the only one below its five-year median (Telecom's five firms should be rolled into Utilities). Looking at the historical chart set, median readings for Materials and Utilities are venturing into the ninth decile of valuations.

Upper band represents 9th decile; lower band represents 1st decile.



All figures are sector medians divided by S&P 500 median.

# PORTFOLIOS

Applying Our Research In The Markets

Prepared by: *Greg Swenson*



<http://leuth.us/portfolios>

## Tactical Asset Allocation Portfolios

### Major Trend Index Positive: Equity Exposure At 63-64%

The MTI is virtually unchanged from the end of September and remains comfortably above its Neutral zone. Target equity exposure is currently positioned at 63%-64%—a bullish stance. After spending 5 1/2 years in bear mode, our Emerging Markets Allocation Model triggered a BUY signal at the end of August. We responded by increasing Core Portfolio EM exposure to 5.6% in early September, up from 3.0% at the end of August.

Both of our tactical portfolios slightly trailed their all-equity benchmarks in September. On an absolute basis, the Global Portfolio had better results than the Core Portfolio as international stocks performed well.

- Leuthold Core Investment Portfolio: September -0.3%; YTD +3.2%
- Leuthold Global Portfolio\*: September +0.4%; YTD +1.7%

### Fixed Income: Initiated Small High Yield Bond Position

We remain underweight Fixed Income overall, and hold only short duration securities. The majority of this position is in Developed Market Sovereign Debt and Quality Corporate Bonds, which have been our best performing Fixed Income positions YTD. We initiated a small position in High Yield Bonds in early September.

## Fully-Invested Portfolios

### Select Industries

New group positions in Auto Parts & Equipment, Biotech, and Emerging Diversified Banks were initiated. Chemicals, Food Retail & Distributors, General Merchandise Stores, Health Care Distributors, and Homebuilding were deactivated.

September -0.8%; YTD +0.9%

### Global Industries\*\*

New group position: Diversified Financial Services. Food & Staples Retailing, Health Care Services & Technology, and Oil & Gas Exploration & Production all fell to Neutral and were deactivated. Emerging Market exposure was increased again this month, landing at roughly 21% compared to 10% for the MSCI ACWI.

September +0.4%; YTD -0.2%

### AdvantHedge

100% short all of the time. The portfolio lagged the inverse of the S&P 500 as high-beta names continued to rally during September.

September -1.8%; YTD -14.8%

*\*performance based on NAV of GLBIX*

*\*\*performance based on Global Industries, L.P. gross return*

## Leuthold Core Investment Portfolio

### Major Trend Index Positive: Equity Exposure At 63%

The MTI is virtually unchanged from the end of September and remains comfortably above its Neutral zone; Core Portfolio equity exposure is at a bullish 63%. After spending 5 1/2 years in bear mode, our Emerging Markets Allocation Model triggered a BUY signal at the end of August. We responded by increasing Core Portfolio EM exposure to 5.6% in early September, up from 3.0% at the end of August.

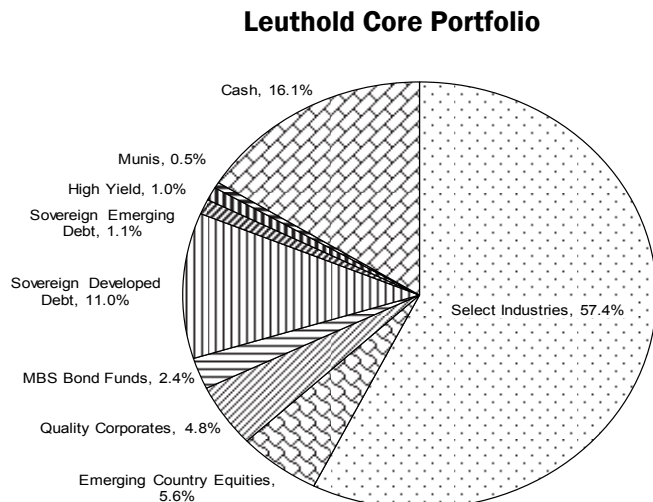
The Core Portfolio fell -0.3% in September, slightly trailing the S&P 500 gain of 0.02%. YTD, the Portfolio is up 3.2%, underperforming the S&P 500 gain of 7.8%.

### Fixed Income Exposure At 21%

We remain underweight Fixed Income overall, and hold only short duration securities. The majority of this position is in Developed Market Sovereign Debt and Quality Corporate Bonds, which have been our best performing Fixed Income positions so far this year. We initiated a small 1% position in High Yield Bonds in early September.

### 63% EQUITY EXPOSURE\*: Increased

- **57% Long Equities:** The Select Industries portfolio allocation lost 0.8% in September, trailing the S&P 500 (+0.02%). YTD, this allocation is up 0.6% versus +7.8% for the S&P 500.
- **6% Emerging Market Equities:** Our EM portfolio allocation gained 1.4% in September, nearly in-line with the MSCI EM benchmark (+1.3%). YTD, our portfolio is up 11.7% versus a 16.4% gain for MSCI EM.



### 21% FIXED INCOME: Added High Yield Bonds Position

- **11% Developed Market Sovereign Debt:** Up 0.7% in September; up 8.3% YTD.
- **5% Corporate Bonds:** Up 0.2% in September; up 8.5% YTD.
- **2% MBS Bonds:** Up 0.3% in September; gained 3.7% YTD.
- **1% Emerging Market Sovereign Debt:** Down 0.9% in September; up 6.6% since April purchase.
- **1% High Yield Bonds:** Up 0.3% in September.
- **0.5% Muni Bonds (Build America Bonds):** Up 0.1% in September; up 7.5% YTD.

### 16% CASH EQUIVALENTS: Decreased

- Since inception (5/31/87), the Core Portfolio is up 1553.3% (+10.0% ACR), versus the S&P 500 gain of 1341.7% (+9.5% ACR).

\* all data current through 9/30/16

## Leuthold Global Portfolio

### Major Trend Index Positive: Equity Exposure At 64%

The MTI is virtually unchanged from the end of September and remains comfortably above its Neutral zone. We slightly increased equity exposure during September and it now sits at 64%—a bullish stance.

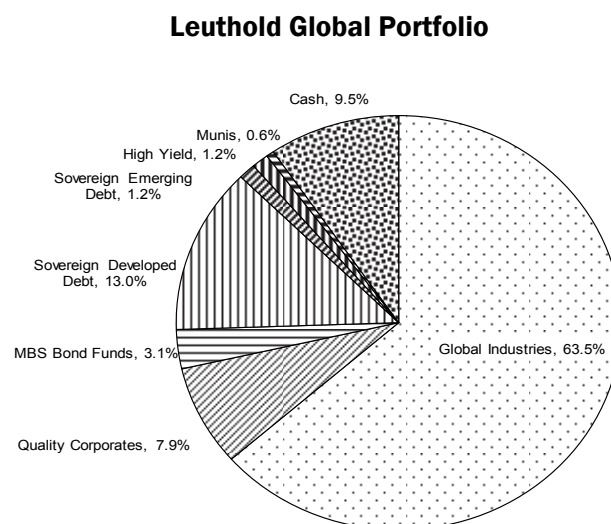
The Global Portfolio gained 0.4% in September (based on NAV of GLBIX), slightly lagging the MSCI ACWI gain of 0.7%. YTD, the Portfolio is up 1.7%, underperforming the MSCI ACWI gain of 7.1%.

### Fixed Income Exposure At 27%

We remain underweight Fixed Income overall, and hold only short duration securities. The majority of this position is in Developed Market Sovereign Debt and Quality Corporate Bonds, which have been our best performing Fixed Income positions so far this year. We initiated a small holding in High Yield Bonds in early September.

### 64% EQUITY EXPOSURE\*: Slight Increase

- **64% Global Long Equities:** The equity portfolio allocation gained 0.5% in September, similar to the MSCI ACWI's gain of 0.7%. YTD, this holding is down 0.3% versus +7.1% for the MSCI ACWI.



### 27% FIXED INCOME: Added High Yield Bonds Position

- **13% Developed Market Sovereign Debt:** Gained 0.8% in September; up 8.6% YTD.
- **8% Corporate Bonds:** Gained 0.3% in September; up 9.2% YTD.
- **3% MBS Bonds:** Gained 0.3% in September; up 3.9% YTD.
- **1% Emerging Market Sovereign Debt:** Down 0.9% in September; up 6.6% since April purchase.
- **1% High Yield Bonds:** Gained 0.3% in September.
- **0.6% Muni Bonds (Build America Bonds):** Gained 0.4% in September; up 5.9% YTD.

### 9% CASH EQUIVALENTS: Decreased

- Since Inception (4/30/08), the Global Portfolio (based on NAV of GLBIX) has posted a 42.2% gain (+4.3% annualized), while the MSCI ACWI is up 37.3% (+3.8% annualized).

\* all data current through 9/30/16

## Leuthold Select Industries Portfolio

Select Industries gross composite lost 0.8% in September, underperforming the S&P 500 gain of 0.02%. YTD, performance is +0.9% versus +7.8% for the S&P 500. The average Attractive-rated domestic group (per our Group Selection Scores) was down 0.7% in September, and is up 3.9% YTD.

**Portfolio Changes:** Purchased **Auto Parts & Equipment, Biotech, and Emerging Diversified Banks**; deactivated Chemicals, Food Retail & Distributors, General Merchandise Stores, Health Care Distributors, and Homebuilding.

**September's best performing portfolio group holdings:** Home Entertainment Software, Airlines, and Technology Distributors.

<u>Weight Now</u>	<u>S&amp;P 500</u>		<u>Weight Year Ago</u>
32 %	21 %	Information Technology	12 %
21	12	Consumer Discretionary	26
21	10	Industrials	14
12	15	Health Care	24
7	13	Financials	13
3	3	Utilities	0
1	3	Materials	0
1	10	Consumer Staples	4
0	3	Real Estate	0
0	7	Energy	5
0	3	Telecommunications	0
2	0	Cash	2

	Months	
	<u>Held</u>	<u>Eligible</u>
6.5 % Data Processing & Outsourced Services	59	60
6.5 Semiconductor Equipment	2	2
6.0 Airlines	46	55
5.8 Automotive Retail	41	42
5.7 Managed Health Care	83	95
5.5 Building Products	4	5
5.2 Trading Companies & Distributors	3	5
4.8 Auto Parts & Equipment (New)	-	1
4.8 IT Consulting & Other Services	49	50
4.7 Aerospace & Defense	3	3
4.6 Advertising	11	15
4.3 Electronic Manufacturing Services	2	6
4.3 Technology Distributors	10	12
4.3 Specialized Finance	-	1
3.9 Biotechnology (New)	-	-
3.4 Home Entertainment Software	7	13
3.1 Emerging Diversified Banks (New)	-	-
2.5 Water Utilities	6	9
12.4 Attractive Stock Group (Increased)	NM	NM
1.7 Cash	NM	NM

## Leuthold Global Industries Portfolio

Global Industries (based on Global Industries, L.P. gross return) trailed the MSCI ACWI in September, gaining 0.4% and is down 0.2% YTD. The MSCI ACWI was up 0.7% for the month and +7.1% YTD. Our average Attractive-rated global group (per our Global GS Scores) was up 0.7% in September and +6.2% YTD.

**Portfolio Changes:** New group position in **Diversified Financial Services**. Food & Staples Retailing, Health Care Services & Technology, and Oil & Gas Exploration & Production were deactivated.

**September's best performing portfolio group holdings:** Internet Software & Services, Auto Components, and Road & Rail.

<u>Weight Now</u>	<u>MSCI ACWI</u>		<u>Weight Year Ago</u>
20 %	11 %	Industrials	18 %
20	12	Consumer Discretionary	23
15	5	Materials	4
13	17	Financials	18
12	16	Information Technology	8
9	4	Telecommunications	4
5	3	Real Estate	0
4	3	Utilities	0
0	10	Consumer Staples	0
0	12	Health Care	18
0	7	Energy	5
2	0	Cash	2

	Months	
	<u>Held</u>	<u>Eligible</u>
8.5 % Diversified Financial Services	-	-
7.8 Auto Components	47	49
6.3 Road & Rail	22	23
5.6 Developed Wireless Telecom Services	12	12
5.5 Electronic Equipment Instruments & Components	1	2
5.5 Commodity Chemicals	15	15
5.2 Trading Companies & Distributors	4	6
5.1 Building Products	4	10
5.0 Advertising	11	14
4.7 Construction Materials	1	2
4.6 Real Estate Management & Development	1	3
4.5 Automobiles	42	42
4.3 Internet Software & Services	2	2
4.1 Emerging Diversified Banks	2	3
3.6 Emerging Div Telecom Services	4	7
3.6 Steel	2	4
2.7 Emerging Electric Utilities	6	10
11.3 Attractive Stock Group	NM	NM
2.0 Cash	NM	NM

## How Our Industry Work Guides Our Equity Portfolios

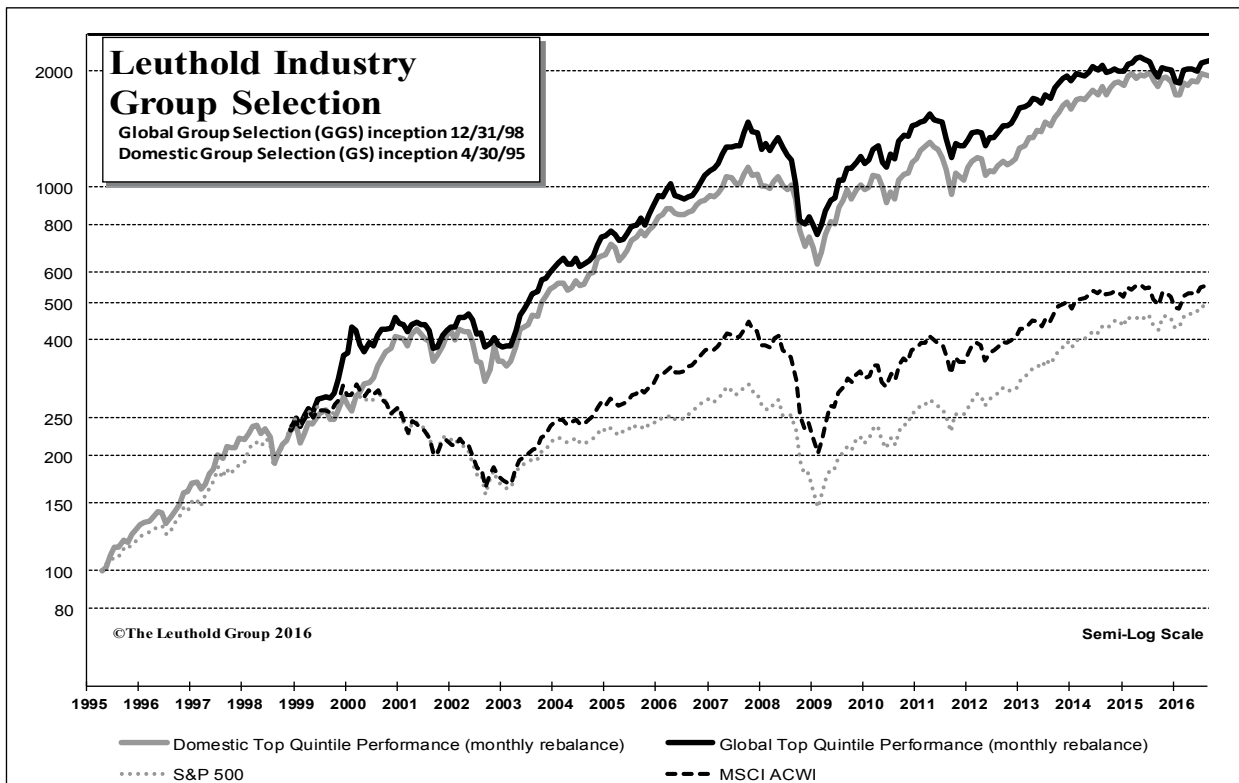
We've done industry group analysis for decades, originally working with all custom created "thematic" groups. In 1999, the Global Industry Classification System (GICS) was launched as a joint effort between S&P and MSCI; we levered this structure to overhaul our grouping methodology.

Each month our domestic GS system ranks 110 industry groups comprised of the largest 3000 securities traded on U.S. exchanges (including roughly 400 ADRs).

In 2006, we expanded this conceptual framework to a global model. Our GGS system ranks 93 industries drawn from the largest 5000 names around the world. Our system is unique because the majority of groups include stocks from all over the world.

Both our domestic and global processes build a composite score for each group based on technical and fundamental quantitative factors. Our portfolios are constructed in a disciplined fashion, focusing on the groups ranking in the top quintile of their respective group universe.

The chart shows how a monthly rebalance of the top quintile of each model compares to its respective benchmark. While no approach is perfect, the advantage of this method can clearly be seen.



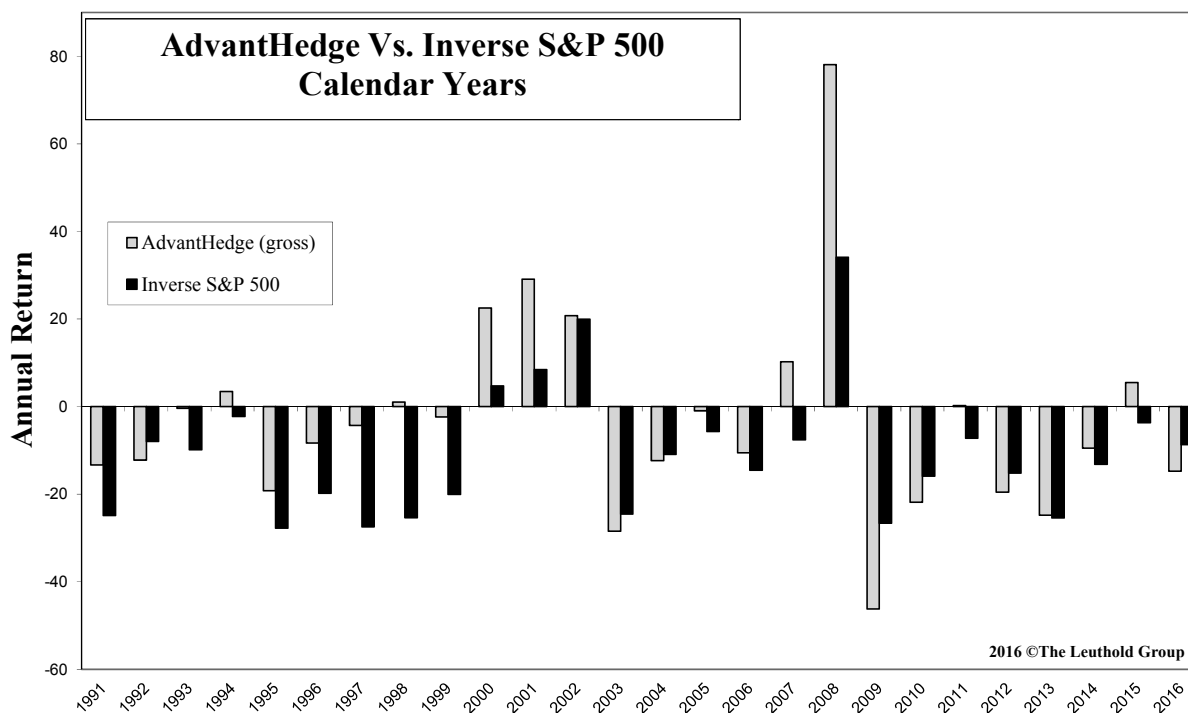
## AdvantHedge... 100% Short Domestic Portfolio

Our AdvantHedge gross composite fell 1.8% in September, underperforming the *inverse* S&P 500 (+0.02%) and the *inverse* Russell 2000 (+1.1%). The high-beta rally has proven to be a significant headwind since the February lows. So far in 2016, AdvantHedge is down 14.8% compared to the S&P 500 gain of 7.8%.

The three largest sector positions are **Consumer Discretionary**, **Information Technology**, and **Energy**.

<u>Weight Now</u>	<u>S&amp;P 500</u>		<u>Weight Year Ago</u>	<u>Largest Group Exposure</u>	<u>Weight</u>
17 %	12 %	Consumer Discretionary	10 %	Oil & Gas Equipment & Services	7.7 %
14	21	Information Technology	23	Systems Software	6.6
11	7	Energy	16	Internet & Direct Marketing Retail	5.9
11	13	Financials	4	Packaged Foods & Meats	5.3
11	15	Health Care	5	Investment Banking & Brokerage	4.8
9	10	Consumer Staples	5	Application Software	4.5
9	10	Industrials	9	Regional Banks	3.4
7	3	Materials	6	Multi-Utilities	3.0
7	3	Utilities	4	Independent Power Producers & Energy Tra	3.0
0	3	Real Estate	0	Biotechnology	2.8
0	3	Telecommunications	4		
3	0	Cash	2		
1	-	Indexes	12		

AdvantHedge as a strategy dates back to late 1990. Below is an annual comparison to a 100% short S&P 500 index. We use the inverse of the S&P 500 daily total returns to calculate the 100% short S&P 500 annual performance, which at times can differ from the actual inverse annual return.



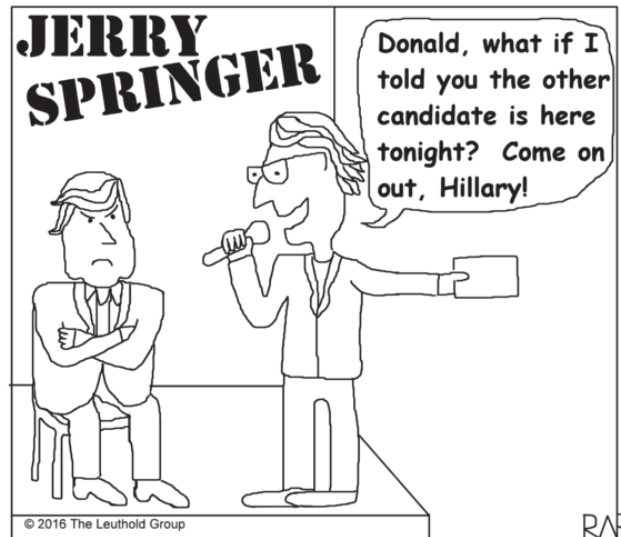


# AT RANDOM

Prepared by: *Phil Segner*



<http://leuth.us/at-random>



## Debate #2

### New Debate Rules

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**Stage Entrance:** Candidates walk on stage, make phony waving and thumbs-up gestures to random people in the crowd (while acting surprised and happy to see them there), shake hands with opposing candidate while maintaining an insincere smile, and then head to their respective podiums.

**Opening Statement:** Candidates, using language at no higher than a 6th grade level, must grossly exaggerate their abilities to either “get us on the right path” or “continue the progress already made.”

**Question and Answer:** Candidate One will have 90 seconds to respond to a question. *He or she may not, in any way, directly answer the question.* Instead, one must choose between shoehorning a canned response to fit the question or move directly to attacking one’s opponent. During this “response,” Candidate Two is obligated to interrupt, sigh, guffaw and shake his head while smiling in a smug fashion. Candidate One shall disregard the time limit and continue to his rehearsed “answer” while fending off continued interruptions from Candidate Two.

Candidate Two is allowed 45 seconds for a rebuttal. Candidate Two is obligated to take the conversation even further from the original question. Candidate One should interrupt this segment with a forgotten point that may have been relevant three questions ago. When the screaming, guttural sounds, and finger pointing come to a crescendo, a new question will be presented.

**Closing Statement:** Candidates must tell a hard-luck story about a person they briefly met that fits their weakest polling demographic from a swing state. The Candidate will again exaggerate his abilities to solve this person’s ills.

Hello friends and neighbors of Watershed District 6!  
My name is Larry Stenberg. Up until two years ago, I was the steady hand that guided and protected our beautiful district. The failed, boneheaded policies of Dirk Johnson have made our district the laughingstock of the region. It's time to get a responsible Commissioner back in office.

Let me also say I'm extraordinarily proud of my campaign. I've always stuck to the facts and kept it clean. Although we don't see eye to eye on almost all the issues, I've shown my opponent tremendous respect. By now you know our positions but before you enter the voting booth, ask yourself a few questions about my opponent, Dirk Johnson.



## **Stenberg for Commissioner Watershed District 6**

Does it bother you that people have said

**Dirk Johnson is racially biased against all ethnicities?**

Do you feel safe knowing that

**Dirk Johnson hasn't stated that he isn't a member of ISIS?**

Would you question his integrity if a

**Dog fighting operation was discovered in Dirk Johnson's basement?**

Could he still serve the district if

**Dirk Johnson spent eight hours a day browsing hardcore pornography?**

Do you feel upset that during his tenure with the American Legion,

**Dirk Johnson personally burned several hundred American Flags?**

Could you trust him with your vote if

**Dirk Johnson was caught selling drugs to children?**

## Psychiatrist And Proctologist From Bob Kargenian

---

Two best friends completed their medical residencies at the same time. Although they each had a different specialty, they opened a practice together to share office space and personnel. Dr. Smith, a psychiatrist, and Dr. Jones, a proctologist, decided to name their practice Hysterias and Posteriors. The town council was very upset with this choice and insisted they change the name.

The next day the docs hung a new sign saying: Schizoids and Hemorrhoids. This too was not acceptable to the town council so they changed the sign to read Catatonics and High Colonics—just as bad according to the council.

Next they tried Manic Depressives and Anal Retentives—thumbs down again.

Then came Minds and Behinds—still no good.

Another attempt resulted in Lost Souls and Butt Holes—unacceptable again.

So they tried Nuts and Butts—no way.

Freaks and Cheeks—not happening.

Loons and Moons—forget it.

At their wit's end, the docs came up with: Dr. Smith and Dr. Jones—Specializing in Odds and Ends.

Everybody loved it.



## Meanwhile, In Russia...

---

Things are different in Russia. Please note, in this context, “different,” translated from Minnesotan to standard American English, would mean: bat-sh\*t crazy.

Burger King branches in St. Petersburg are selling a series of limited edition burgers to honor local artist Petr Pavelensky. You're probably asking, “What's so odd about that?” Well, our boy Petr's medium of choice isn't watercolors or ceramics, it's pain. In May of 2013, a naked Pavelensky spent several hours outside a government building wrapped in a cocoon of barbed wire. In November of the same year, Pavelensky decided to nail his scrotum to a cobblestone in Red Square. Burger King's offering to commemorate the events: a burger wrapped in edible barbed wire and another with a fried egg nailed to the bun with a plastic spear. In my opinion, the use of chicken nuggets would have been more appropriate to represent the latter event.

Maybe I shouldn't be so surprised. Looking back, other fast food outlets have tried similar promotions.

In 1980, Taco Bell was soaking burritos in 151 proof rum, setting them ablaze and flinging them to hungry customers after Richard Pryor accidentally set himself on fire.

In 1995, Kentucky Fried Chicken offered buckets of “extra tenderized” drumsticks to commemorate the one-year anniversary of the attack on Nancy Kerrigan.

Just last year, McDonald's customers could get a handful of ketchup dipped French fries thrown in their face if they were ordered “Jason Pierre-Paul style.”



## 50-Year Wedding Anniversary From Joan Segner (My Mother)

---

To celebrate their parents' 50th wedding anniversary, the three children decide to meet at Mom and Dad's for Sunday dinner. "Happy Anniversary," gushed son number one walking into the house. "Sorry, but I've been working overnights at the hospital all week and didn't have time to get you a gift."

"Not to worry," said the father, "I'm just happy you're here with us today."

Son number two walked in the door. "Mom and Dad, you look great. I just flew in from Chicago between depositions and didn't have time to shop for you."

"It's nothing," said the father. "We're so glad you were able to come."

A few minutes later, the daughter arrived. "Hello and happy anniversary! We had a major breakthrough at the lab this week. I'm sorry I wasn't able to buy you a gift."

As the family settled in for dinner, the father spoke up, "There's something your mother and I have wanted to tell you for a long time. When you kids started to come along, we were young, broke, but very much in love. We didn't want raise a fuss so we lied about getting married."

The three children gasped, "What? You mean...we're bastards?"

"Yep," said the mother, "cheap ones too."

## Simple Test—Are You A Finance Nerd?

---

Read the tweet below. If you laugh, you are most certainly a finance nerd. HT to Matt Dudley.



**Nick Leeson**  
@TheNickLeeson



Sitting on a plane to Heathrow in the middle of 50 Japanese tourists. They have no idea how hard I tried to keep the Nikkei 225 above 35,000

## Back To The Confessional

---

An old man enters the confessional. The priest slides open the partition, waits a few seconds and finally says, "Tell me your sins my son."

"Father, I've been married 47 years. I have four children and 12 grandchildren. Yesterday was my eightieth birthday. I got loaded and had a one-night stand with two 20-year-old women."

The priest asks, "Well, that's a serious sin, when was your last confession?"

"Never, Father, I'm Jewish."

"So then, why exactly are you telling me?"

"Well, hell, I'm telling everybody!"



**Send in your jokes to the purveyor of good taste: Phil Segner—psegner@lwcm.com**

# APPENDIX

For Those Who Want To Dig Deeper



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Because the views expressed in the research of The Leuthold Group, LLC, relate to industry groups rather than individual securities, industry group ratings cannot be assumed to apply to each individual security within a group. Thus, if industry group "A" is ranked "Attractive," The Leuthold Group, LLC, may still decide to sell one or more of the component securities in group "A."



# MARKETS AT A GLANCE



## STOCK MARKET

INDEXES (Total Return)	Sep 30 \$	Sep	Q3	YTD	2015	1-YR	3-YR	5-YR	ACR From			
									Mar-09 LOW	Oct-02 LOW	Oct-87 LOW	Aug-82 LOW
DJIA	18,308.15	-0.4%	2.8%	7.2%	0.2%	15.5%	9.2%	13.8%	16.4%	9.2%	9.7%	NA%
S&P 500	2,168.27	0.0	3.9	7.8	1.4	15.4	11.2	16.4	17.8	9.4	9.2	12.0
NASDAQ	5,312.00	2.0	10.0	7.1	7.0	16.4	13.5	18.5	20.8	12.3	NA	NA
Russell 2000	1,251.65	1.1	9.0	11.5	-4.4	15.5	6.7	15.8	18.3	10.7	8.7	10.9
MSCI EAFE	1,701.69	1.3	6.5	2.2	-0.4	7.1	0.9	7.9	11.0	8.0	NA	NA
MSCI AC World	418.43	0.7	5.4	7.1	-1.8	12.6	5.7	11.2	14.2	9.0	NA	NA
MSCI EM	903.46	1.3	9.2	16.4	-14.6	17.2	-0.2	3.4	11.2	12.2	NA	NA
<b>COMPARATOR (Total Return)</b>												
Gold (London PM Fixed)	1,322.50	1.0%	0.1%	24.8%	-12.1%	18.7%	-0.1%	-4.0%	4.4%	10.6%	3.7%	4.0%
WTI Crude Oil	48.11	7.7	-0.3	29.6	-30.6	6.8	-22.2	-9.5	1.0	3.3	3.1	1.2
MSCI US REIT	1,962.03	-1.8	-1.4	11.9	2.5	19.8	14.1	15.8	23.6	11.5	NA	NA
Natural Gas	2.91	0.7	-0.6	24.3	-19.3	15.1	-6.5	-4.5	-4.7	-2.5	NA	NA
Bloomberg Commodity	85.34	3.1	-3.9	8.9	-24.7	-2.6	-12.3	-9.4	-2.7	-0.3	NA	NA
<b>MSCI INDEXES (Total Return, \$USD)</b>												
UK	1,087.65	1.0%	4.0%	0.9%	-7.5%	1.6%	-1.8%	6.0%	10.7%	6.8%	6.5%	9.9%
Japan	2,829.04	1.7	8.8	2.9	9.9	12.5	3.7	7.6	9.1	5.6	0.9	7.1
France	1,499.52	1.3	6.4	2.9	0.8	4.7	0.1	8.7	10.0	8.2	7.6	11.8
Australia	743.01	2.5	7.9	10.8	-9.8	21.9	-1.4	5.8	13.8	11.9	8.0	11.5
Switzerland	4,778.46	0.8	2.7	-0.2	1.2	1.8	2.0	10.4	13.9	10.0	9.8	13.0
BRIC	252.15	1.7	11.6	16.8	-13.3	18.3	0.1	2.8	9.2	14.7	NA	NA
Brazil	1,655.73	0.3	11.4	63.2	-41.2	58.0	-7.9	-5.3	3.7	18.0	NA	NA
Russia	512.01	3.9	8.9	31.3	5.0	26.1	-9.2	-1.7	9.1	8.1	NA	NA
India	486.31	-0.9	5.9	7.1	-6.1	6.1	11.2	5.3	13.7	15.2	NA	NA
China	63.04	2.5	14.0	8.8	-7.6	13.2	4.1	8.5	10.8	14.5	NA	NA
<b>LEUTHOLD TRACK RECORD</b>												
		Sep	Q3	YTD	2015	1-YR	3-YR	5-YR	Since Inception			
Leuthold Core Composite		-0.3%	2.7%	3.2%	-0.9%	3.0%	6.3%	8.8%	10.0%	06/01/87		
Leuthold Select Industries Composite		-0.8	4.0	0.9	0.4	3.7	10.6	16.9	14.3	01/01/96		
AdvantHedge Composite		-1.8	-8.8	-14.8	5.5	-21.2	-8.7	-15.9	-5.7	11/01/90		
Leuthold Global Fund*		0.4	3.9	1.7	-1.6	2.2	2.9	6.7	4.3	04/30/08		
Leuthold Global Industries**		0.3	6.2	-1.3	-2.0	2.8	4.0	11.8	7.1	12/27/06		

\*Leuthold Global Fund reflects NAV performance for GLBIX

\*\* Leuthold Global Industries reflects LP performance, net of fees

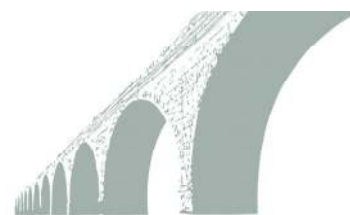
SECTORS (Total Return \$USD)	S&P 500		MSCI ACWI		LEUTHOLD 3000		LEUTHOLD 5000	
	Sep	YTD	Sep	YTD	Sep	YTD	Sep	YTD
Consumer Discretionary	-0.3%	3.6%	0.4%	2.4%	-0.9%	3.8%	0.7%	3.1%
Consumer Staples	-1.5	7.6	0.2	8.5	-1.9	9.8	0.9	10.7
Energy	3.1	18.7	3.0	19.5	4.5	22.3	3.7	23.4
Financials	-2.7	1.4	-0.9	0.7	-2.0	6.0	0.0	2.5
Health Care	-0.5	1.4	-0.1	-1.0	1.3	-2.4	1.5	1.0
Industrials	-0.1	10.9	0.5	10.6	0.3	14.1	0.8	9.9
Information Technology	2.4	12.5	2.8	13.6	2.9	15.1	2.6	13.8
Materials	-1.3	11.4	1.8	20.4	1.4	30.6	1.6	19.3
Telecommunications Services	-0.9	17.9	-0.4	8.2	0.1	14.0	-0.4	8.5
Utilities	0.4	16.1	0.6	10.2	0.6	18.1	0.8	11.8

## BOND MARKET

BARCLAYS INDEXES (Total Return)	Sep	Q3	YTD	2015	1-YR	3-YR	5-YR	Effective Duration	Effective Maturity	Yield to Worst
US Aggregate	-0.1%	0.5%	5.8%	0.5%	5.2%	4.0%	3.1%	5.51yr	7.82yr	1.96%
US Treasury	-0.1	-0.3	5.1	0.8	4.1	3.4	2.2	6.39	7.76	1.26
US Corporate Inv. Grade	-0.2	1.4	9.2	-0.7	8.6	5.6	5.1	7.52	10.90	2.84
US Securitized MBS	0.3	0.6	3.7	1.5	3.6	3.6	2.6	2.50	5.06	2.06
Municipal Bonds	-0.5	-0.3	4.0	3.3	5.6	5.5	4.5	5.52	13.08	1.82
US Corporate High Yield	0.7	5.6	15.1	-4.5	12.7	5.3	8.3	4.05	6.33	6.17
EM Sovereign	0.3	3.5	14.3	1.3	15.6	7.7	7.6	7.37	11.99	4.70
US TIPS	0.5	1.0	7.3	-1.4	6.6	2.4	1.9	6.59	8.61	1.62

# STOCK/BOND MARKET FUND FLOW TRENDS

Prepared by: *Kristen Hendrickson*



<http://leuth.us/fundflowtrends>

## Fund Inflows Subdued In 2016

Net cash inflows to certain fund categories have picked up in the last couple of months. Despite this, trends in net fund inflows for the YTD remain muted relative to net inflows captured over the same period in 2015. Excluding money market funds, bond and equity funds have brought in a net \$91 billion YTD compared to \$145 billion at this time last year. Bond mutual funds and ETFs, as well as domestic-focused equity ETFs, are the only categories registering material positive cash flows YTD (Chart 1).

Chart 1

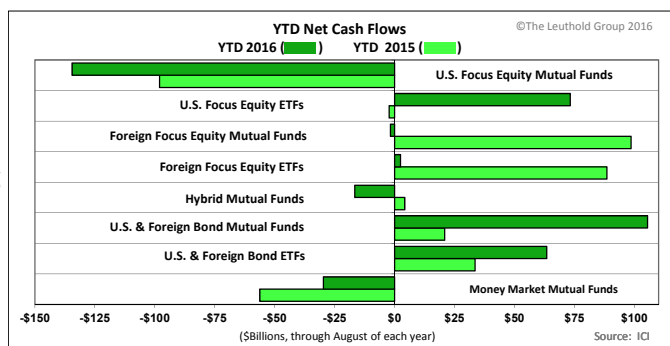


Chart 2

After a number of years capturing strong net inflows, foreign-focus equity mutual fund flows have turned flat YTD as early-year inflows were wiped out by recent net outflows. At this time last year the category had already collected nearly \$100 billion in net cash. Foreign-focused ETF flows are also flat YTD, but, alternatively, net outflows earlier this year have seen inflows of late. U.S.-focused equity ETFs have also captured significant flows recently, issuing about \$73 billion net shares through August. On the other hand, domestic equity mutual funds, the largest category by assets, continue to see massive amounts of cash head toward the exits. YTD net outflows already register at \$134 billion, an amount larger than any other year's net cash outflow over the same period (Chart 2).

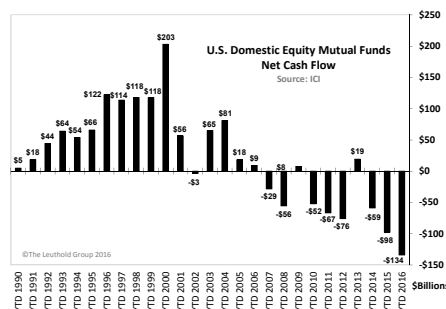


Chart 3

## Bond Subsets Capture Lion's Share Of Fund Inflow

Bond funds have largely been the recipients of 2016 net cash inflows, having already received more than \$105 billion through August. This is the largest YTD amount captured since 2012 (Chart 3).

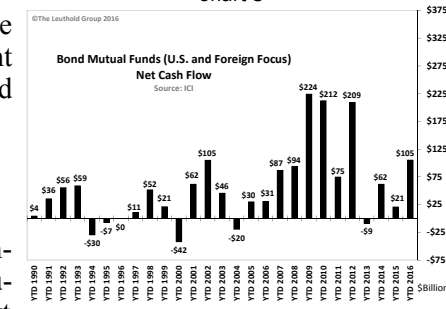
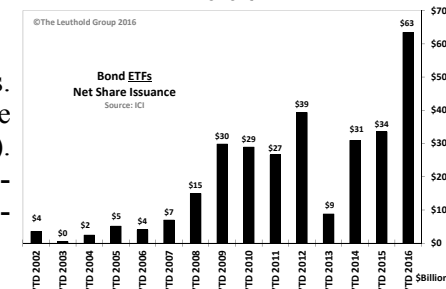


Chart 4

Bond ETFs continue to become evermore popular among investors. On the heels of the 2015 record net inflow year, bond ETFs have already captured a record YTD amount of \$63 billion (Chart 4). **This dollar amount not only nearly doubles the amount recorded at this time last year, but also eclipses 2015's full year record inflow of nearly \$55 billion.**

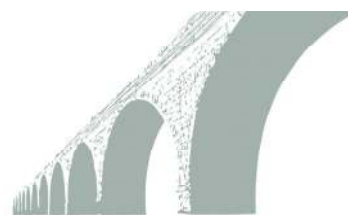


*Note: All YTD net fund flow data presented through August 2016—the latest release date of official fund flow data provided by the Investment Company Institute. November 2015-to-present data incorporates ICI's new mutual fund category structure; ICI no longer publishes data using legacy category structure. Flow data is subject to revision. ETF flows are measured by net share issuance.*

# ROYAL BLUE INDEX

...the cream of the institutional equity crop  
broken down by P/E multiples

Prepared by: *Phil Segner*



<http://leuth.us/royal-blue>

## High P/E Tier

P/E Now: 26.0x  
Historical Average: 23.8x  
**Status: 9% Overvalued**  
Q3 Total Return: +1.7%  
YTD Total Return: +5.3%

## Middle P/E Tier

P/E Now: 20.1x  
Historical Average: 15.6x  
**Status: 29% Overvalued**  
Q3 Total Return: +0.1%  
YTD Total Return: +6.8%

## Low P/E Tier

P/E Now: 14.2x  
Historical Average: 10.3x  
**Status: 37% Overvalued**  
Q3 Total Return: +6.9%  
YTD Total Return: +4.1%

As the S&P 500 clocked its fourth consecutive quarterly gain, all three of our Royal Blue segments moved further into overvalued territory. The Low P/E Tier, which had been struggling through the first half of the year, posted stellar results in Q3. The YTD totals for all three tiers are now, more or less, in the same performance neighborhood.

The median P/E for our Low Tier moved even higher in Q3 and stands out as extremely overvalued. This quarter also saw the median P/E for our Middle Tier register its highest reading since 2002.

Table 1

	<u>Q3</u>	<u>YTD</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>2005</u>
High P/E (Med. P/E 26.0x)	+1.7 %	+5.3 %	+9 %	+12 %	+40 %	+16 %	+2 %	+17 %	+27 %	-33 %	+13 %	+4 %	+7 %
Mid. P/E (Med. P/E 20.1x)	+0.1	+6.8	0	+17	+33	+20	+7	+11	+34	-34	+11	+16	0
Low P/E (Med. P/E 14.2x)	+6.9	+4.1	-3	+13	+34	+12	-8	+15	+37	-43	-2	+21	+6

## RATIONALE

The Royal Blue Index is composed of the cream of the institutional crop, the 99 stocks where U.S. institutions have the most dollars invested. **The performance and relative P/E statistics derived can be useful in projecting changes in market emphasis, identifying periods of relative overvaluation and undervaluation.**

On a quarterly basis, the 99 issues are broken down into three P/E multiple tiers, with an annual revision performed mid-year.

### Earnings Calculations:

- 1) For companies with a relatively stable earnings growth pattern, we use the FactSet Consensus next twelve month earnings estimate when calculating the P/E ratios.
- 2) For companies with unstable earnings (cyclicals and technology companies), we compute normalized earnings by looking at the 5 year average of reported earnings (18 quarters of historical results combined with two quarters of future estimates).



## Royal Blue Index Components

Charter Communications filled the Royal Blue void left by the EMC buyout. The 2016 revision of the Royal Blue Index contained eleven new components spread out among seven different sectors. This turnover is roughly in line with recent years' revisions. The 2015 revision saw only six changes, the 2014 revision contained eleven changes, and the 2013 revision contained nine changes. The record number was 21 changes in 2001. The Energy sector was the hardest hit in this year's turnover, losing four names and gaining none. The current list is based on market values and institutional ownership percentages as of June 30, 2016.

### June 2016 Revision

**Eleven stocks achieved or returned to Royal Blue status** (Table 2). Seven of the newcomers are located in the High P/E Tier. Consumer Staples and Utilities were the biggest beneficiaries as each netted two names.

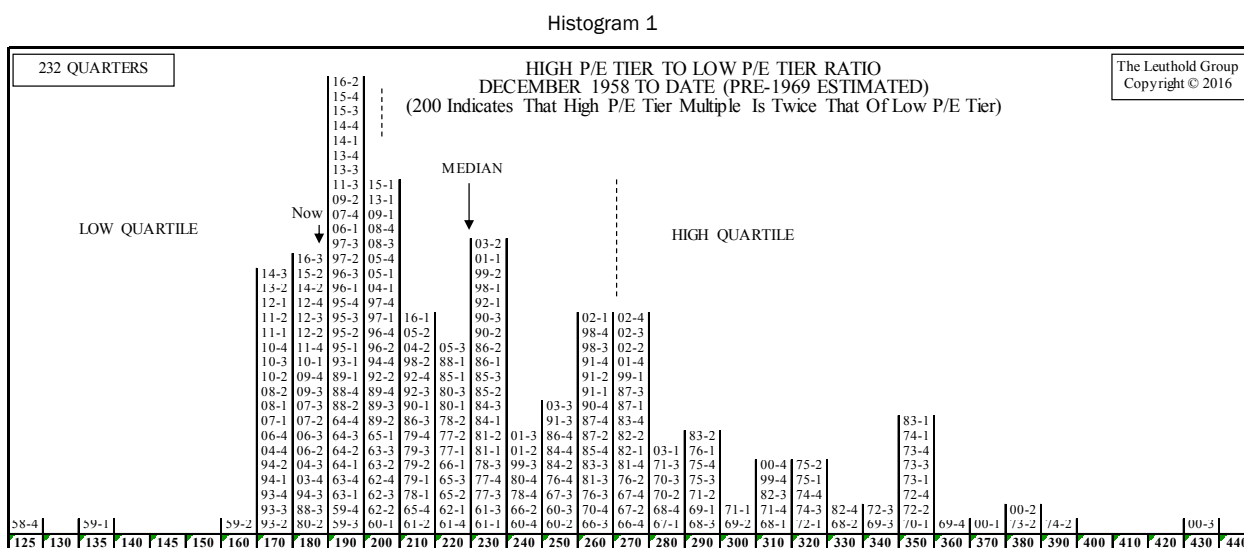
**The eleven disqualified stocks were located in the High and Low Tiers.** Companies falling out of the top 99 were: Anthem, Capital One Financial, ConocoPhillips, eBay, EOG Resources, HP, Kinder Morgan, Liberty Global, Morgan Stanley, Occidental Petroleum and Time Warner Cable (buyout).

Table 2

	High P/E Tier			Middle P/E			Low P/E				
	Amazon.com, Inc.	AMZN	240.7	↓	Altria Group, Inc.	MO	22.0	↓	QUALCOMM Incorporated	QCOM	16.0
	Netflix, Inc.	NFLX	195.5	↓	TJX Companies, Inc.	TJX	21.9	↓	United Technologies Corporation	UTX	16.0
	salesforce.com, inc.	CRM	61.0	↓	Microsoft Corporation	MSFT	21.9	↓	AT&T Inc.	T	15.9
	Facebook, Inc. Class A	FB	54.0	↓	Mondelez International, Inc. Class A	MDLZ	21.8	↓	AbbVie, Inc.	ABBV	15.9
NEW	Charter Communications, Inc. Class A	CHTR	50.8	↓	Lowe's Companies, Inc.	LOW	21.2	↓	Time Warner Inc.	TWX	15.8
	Adobe Systems Incorporated	ADBE	49.6	↓	Monsanto Company	MON	21.0	↓	Aetna Inc.	AET	15.8
	Schlumberger NV	SLB	35.1	↓	Lockheed Martin Corporation	LMT	20.9	↓	Wal-Mart Stores, Inc.	WMT	15.7
	Starbucks Corporation	SBUX	34.1	↓	General Electric Company	GE	20.9	↓	Oracle Corporation	ORCL	15.6
	PayPal Holdings Inc	PYPL	33.9	↓	NextEra Energy, Inc.	NEE	20.9	↓	McKesson Corporation	MCK	15.6
	Visa Inc. Class A	V	31.7	↓	Danaher Corporation	DHR	20.8	↓	Express Scripts Holding Company	ESRX	15.5
	Kraft Heinz Company	KHC	31.6	↓	Northrop Grumman Corporation	NOC	20.5	↓	Verizon Communications Inc.	VZ	15.1
	Mastercard Inc Class A	MA	29.2	↓	Walgreens Boots Alliance Inc	WBA	20.4	↓	Intel Corporation	INTC	14.8
	Costco Wholesale Corporation	COST	28.1	↓	McDonald's Corporation	MCD	20.4	↓	Cisco Systems, Inc.	CSCO	14.7
	Colgate-Palmolive Company	CL	27.8	↓	E. I. du Pont de Nemours and Compan	DD	20.4	↓	Bank of New York Mellon Corporation	BK	14.5
	Bristol-Myers Squibb Company	BMY	26.6	↑	Biogen Inc.	BIIB	20.3	↓	Target Corporation	TGT	14.4
	Alphabet Inc. Class C	GOOG	26.5	↓	Merck & Co., Inc.	MRK	20.2	↓	Bank of America Corporation	BAC	14.3
	Stryker Corporation	SYK	26.0	↓	Philip Morris International Inc.	PM	20.1	↓	Allergan plc	AGN	14.2
	Celgene Corporation	CELG	25.7	↓	Chevron Corporation	CVX	20.1	↓	Dow Chemical Company	DOW	14.0
	Texas Instruments Incorporated	TXN	25.1	↓	Comcast Corporation Class A	CMCSA	19.7	↓	Apple Inc.	AAPL	13.9
↑	Priceline Group Inc	PCLN	25.0	↓	General Dynamics Corporation	GD	19.4	↓	U.S. Bancorp	USB	13.3
	NIKE, Inc. Class B	NKE	24.4	↓	Johnson & Johnson	JNJ	19.3	↓	Chubb Limited	CB	13.0
	Broadcom Limited	AVGO	24.3	↓	Duke Energy Corporation	DUK	19.1	↓	PNC Financial Services Group, Inc.	PNC	12.5
	Thermo Fisher Scientific Inc.	TMO	24.3	↓	UnitedHealth Group Incorporated	UNH	19.0	↓	American International Group, Inc.	AIG	12.2
	Kimberly-Clark Corporation	KMB	23.5	↓	Abbott Laboratories	ABT	18.9	↓	American Express Company	AXP	12.1
	PepsiCo, Inc.	PEP	23.4	↓	Honeywell International Inc.	HON	18.9	↓	JPMorgan Chase & Co.	JPM	11.7
↑	Procter & Gamble Company	PG	23.2	↓	Exxon Mobil Corporation	XOM	18.3	↓	Twenty-First Century Fox, Inc. Class A	FOXA	11.2
	Home Depot, Inc.	HD	22.8	↑	Union Pacific Corporation	UNP	18.3	↓	International Business Machines Corpora	IBM	11.1
↑	Accenture Plc	ACN	22.7	↓	BlackRock, Inc.	BLK	18.2	↓	Wells Fargo & Company	WFC	11.0
↑	United Parcel Service, Inc. Class B	UPS	22.5	↓	Walt Disney Company	DIS	18.2	↓	Citigroup Inc	C	10.8
↑	Eli Lilly and Company	LLY	22.3	↓	CVS Health Corporation	CVS	17.2	↓	Goldman Sachs Group, Inc.	GS	10.1
	Coca-Cola Company	KO	22.2	↑	Amgen Inc.	AMGN	17.1	↓	MetLife, Inc.	MET	9.8
	Medtronic Plc	MDT	22.1	↑	Pfizer Inc.	PFE	16.9	↓	Gilead Sciences, Inc.	GILD	8.9
↑	3M Company	MMM	22.0	↑	Boeing Company	BA	16.8	↓	General Motors Company	GM	6.8
	<b>Median</b>		<b>26.0</b>		<b>Median</b>		<b>20.1</b>		<b>Median</b>		<b>14.2</b>

Arrows denote changes from last quarter.

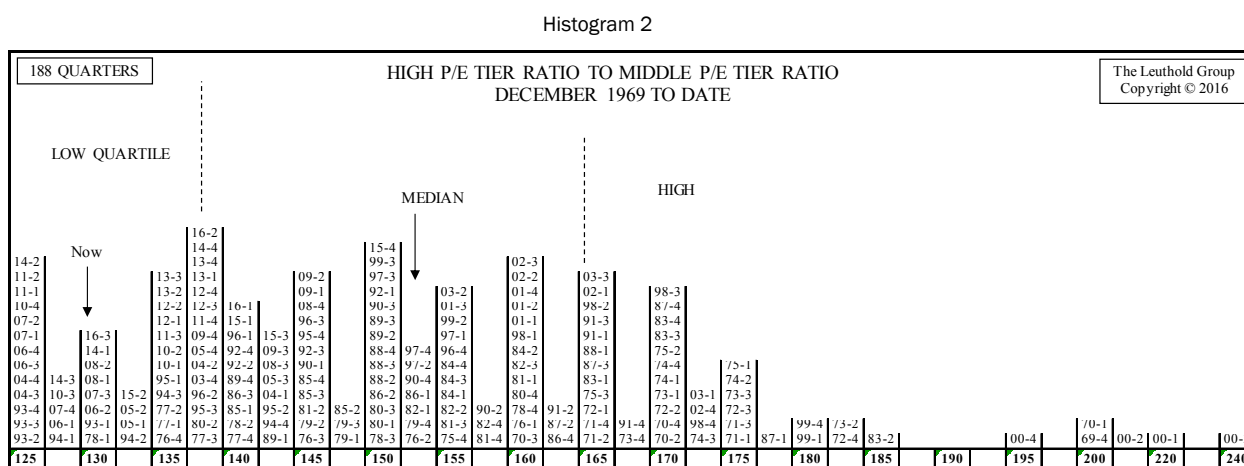
## High P/E Tier Undervalued Relative To Low P/E Tier



The High P/E Tier (26.0x) is now 1.83 times the Low P/E Tier (14.2x). After spending a few quarters closer to the median, this relationship has slipped back further into the lower quartile of observations (Histogram 1). At the September 2000 extreme, the ratio was 4.35 (Growth stocks were radically overvalued at that point).

At 26.0x, High P/E stocks are 9% above their historical average of 23.8x, and are therefore considered overvalued compared to their own history. However, Histogram 1 indicates **they are undervalued relative to the Low P/E Tier**.

## High P/E Tier Undervalued Relative To Middle P/E Tier



The High P/E Tier (26.0x) is now 1.29 times the Middle P/E Tier (20.1x). Just like the High/Low relationship, the High/Mid relationship has moved further from the median over the last two quarters (Histogram 2). **High P/E stocks are undervalued relative to the Middle P/E Tier**. At 20.1x, the Middle P/E Tier is now 29% above its long-term historical average P/E of 15.6x.



## The Royal Blue Index... Quarter By Quarter Multiple Tiers

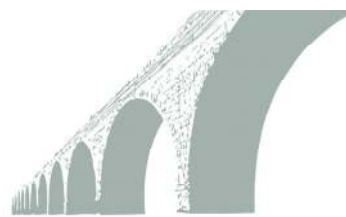
QTR ENDING	RATIO HIGH/LOW				QTR ENDING	RATIO HIGH/LOW			
	HIGH	MIDDLE	LOW	TIERS		HIGH	MIDDLE	LOW	TIERS
12/31/85	18.3	12.5	7.4	2.47	6/30/01	38.0	23.7	16.0	2.38
3/31/86	21.1	13.9	9.2	2.29	9/28/01	31.2	20.1	12.8	2.44
6/30/86	22.4	14.8	9.7	2.31	12/31/01	42.5	26.7	16.0	2.66
9/30/86	19.2	13.8	9.3	2.06	3/28/02	43.1	26.1	16.9	2.55
12/31/86	22.8	14.1	9.3	2.45	6/28/02	37.6	23.7	14.0	2.69
3/31/87	29.2	16.5	11.0	2.65	9/30/02	38.4	24.0	14.0	2.74
6/30/87	28.0	17.3	10.8	2.59	12/31/02	38.4	22.2	14.0	2.74
9/30/87	30.5	18.5	11.2	2.72	3/31/03	29.5	17.1	10.6	2.78
12/31/87	24.8	14.6	9.6	2.58	6/30/03	30.7	19.5	13.4	2.29
3/31/88	23.1	14.0	10.6	2.18	9/30/03	32.5	19.6	12.8	2.53
6/30/88	21.5	14.5	11.4	1.89	12/31/03	25.8	18.9	13.9	1.86
9/30/88	20.8	14.0	11.3	1.84	3/31/04	27.1	18.9	13.7	1.98
12/30/88	21.4	14.2	11.4	1.88	6/30/04	25.8	18.9	12.5	2.06
3/31/89	21.2	14.9	11.1	1.91	9/30/04	20.1	16.5	11.3	1.78
6/30/89	22.6	15.3	11.5	1.97	12/31/04	21.5	17.4	12.4	1.73
9/30/89	25.1	16.8	12.8	1.96	3/31/05	23.0	17.3	11.8	1.95
12/31/89	23.2	16.4	11.6	2.00	6/30/05	23.4	17.7	11.2	2.09
3/31/90	23.8	16.5	11.3	2.11	9/30/05	24.5	17.1	11.2	2.19
6/29/90	24.5	15.6	10.5	2.33	12/31/05	21.2	15.6	10.8	1.96
9/28/90	21.0	14.0	9.0	2.33	3/31/06	20.6	16.1	11.1	1.86
12/31/90	23.5	15.5	9.1	2.58	6/30/06	18.7	14.5	10.2	1.83
3/28/91	25.9	15.6	10.0	2.59	9/29/06	18.7	15.1	10.6	1.76
6/28/91	23.6	14.5	9.2	2.56	12/31/06	19.2	15.2	11.0	1.75
9/30/91	23.7	14.3	9.3	2.55	3/31/07	19.2	15.5	11.0	1.75
12/31/91	25.5	15.3	10.0	2.55	6/30/07	19.9	15.9	11.3	1.76
3/31/92	22.5	15.0	9.9	2.37	9/30/07	20.2	15.7	11.5	1.76
6/30/92	20.0	14.4	9.9	2.02	12/31/07	19.0	15.1	10.0	1.90
9/30/92	22.2	15.3	10.7	2.07	3/31/08	17.9	13.8	10.7	1.67
12/31/92	22.5	16.1	10.7	2.10	6/30/08	16.9	13.0	10.2	1.66
3/31/93	20.9	16.4	10.8	1.94	9/30/08	16.6	11.8	8.5	1.95
6/30/93	20.6	16.3	12.0	1.72	12/31/08	15.3	10.6	7.7	1.99
9/30/93	20.5	16.6	12.4	L 1.65	3/31/09	15.9	10.9	8.1	1.96
12/31/93	21.2	17.4	12.7	1.67	6/30/09	19.8	13.6	10.4	1.90
3/31/94	19.8	15.4	11.4	1.74	9/30/09	21.0	14.7	11.5	1.83
6/30/94	19.2	14.5	11.3	1.70	12/31/09	21.3	15.7	11.5	1.85
9/30/94	19.0	14.2	10.8	1.76	3/31/10	20.9	15.5	11.5	1.82
12/30/94	20.4	14.3	10.0	2.04	6/30/10	17.9	13.3	10.4	1.72
3/31/95	20.8	15.0	11.0	1.90	9/30/10	16.0	12.7	9.2	1.74
6/30/95	23.4	16.5	12.0	1.95	12/31/10	16.9	13.5	10.1	1.67
9/29/95	23.5	17.1	12.3	1.91	3/31/11	16.7	13.5	10.1	1.65
12/29/95	25.9	18.0	13.5	1.92	6/30/11	16.2	13.0	9.3	1.74
3/29/96	25.0	18.0	13.0	1.92	9/30/11	14.6	10.7	7.6	1.93
6/30/96	24.6	18.0	12.7	1.95	12/31/11	19.1	13.8	10.8	1.77
9/30/96	24.6	17.0	13.1	1.88	3/31/12	17.2	12.7	10.1	1.70
12/31/96	27.8	17.9	13.7	1.99	6/30/12	20.3	15.2	11.2	1.81
3/31/97	26.6	17.2	13.4	1.99	9/30/12	21.2	15.5	11.7	1.82
6/30/97	30.0	19.8	15.9	1.89	12/31/12	20.8	15.3	11.6	1.79
9/30/97	29.8	19.0	15.6	1.92	3/31/13	22.5	16.5	11.5	1.95
12/31/97	31.8	20.8	15.9	2.00	6/30/13	21.9	16.4	12.6	1.74
3/31/98	35.2	21.8	15.2	2.32	9/30/13	23.2	17.2	12.0	1.94
6/30/98	37.0	22.6	17.4	2.13	12/31/13	24.9	17.9	13.4	1.86
9/30/98	39.0	23.0	14.9	2.62	3/31/14	23.3	17.8	12.3	1.89
12/31/98	43.0	25.0	16.3	2.64	6/30/14	23.4	18.7	13.2	1.77
3/31/99	47.0	26.0	17.6	2.67	9/30/14	23.2	18.0	13.4	1.73
6/30/99	44.0	28.5	H 18.9	2.33	12/31/14	26.1	18.9	13.6	1.92
9/30/99	38.8	26.0	16.5	2.35	3/31/15	27.3	19.6	14.0	1.95
12/31/99	49.0	27.0	16.0	3.06	6/30/15	25.6	19.4	14.2	1.80
3/31/00	51.0	23.0	13.7	3.72	9/30/15	24.9	17.4	13.2	1.89
6/30/00	51.2	24.0	13.5	3.79	12/31/15	25.9	17.4	13.4	1.93
9/30/00	H 70.0	H 29.0	16.1	H 4.35	3/31/16	26.1	18.6	12.5	2.09
12/29/00	45.0	23.0	14.5	3.10	6/30/16	25.7	18.6	13.4	1.92
3/31/01	32.0	20.0	14.2	2.25	9/30/16	26.0	20.1	14.2	1.83

### QUARTERLY AVERAGE MULTIPLES OF P/E TIERS

	2016	2016	2016		1969-Present			1982-Present		
	High	Middle	Low		High	Low	Avg.	High	Low	Avg.
High	26.0x	25.7	26.1	High Multiple Tier	70.0	10.3	23.8	70.0	12.2	24.7
Middle	20.1x	18.6	18.6	Middle Multiple Tier	29.0	7.5	15.6	29.0	7.9	16.5
Low	14.2x	13.4	12.5	Low Multiple Tier	18.9	4.5	10.3	18.9	4.5	11.4

# MAJOR TREND INDEX DETAIL

Prepared by: *Doug Ramsey*



<http://leuth.us/major-trend>

## MTI Stable At Bullish Levels Throughout September

The Major Trend Index traded within a narrow but decisively bullish band throughout September, closing the final week of the month at a ratio of 1.27. Intra-month moves across the five categories were muted, and the positive MTI balance remains driven by the Momentum/Breadth/Divergence grouping.

- Overall, this work supports a constructive intermediate-term stance towards the stock market, and our tactical portfolios are positioned with net equity exposure of 63%—a posture we consider aggressive given the relative maturity of both the economic expansion and the cyclical bull market.
- In light of recent MTI strength, why haven't we positioned tactical portfolios at their maximum equity exposure of 70%? It's a judgment call, but we are simply not comfortable with maximum exposure to stocks given their current inflated valuation levels. September's month-end Intrinsic Value reading of -472 is a new cycle extreme, and now just 80 points away from the level reached at the 2007 peak.
- Remember, our money management mantra is "making it and keeping it." We are willing to forego some of the gains generated in the next (and most likely *final*) phase of the bull market, and will move portfolios to a maximum defensive posture when the MTI eventually rolls over into bear territory. The strength of the MTI (predicated mostly on the Momentum work) suggests such a move isn't imminent, and we've stressed that a market top tends to be a process, not an event.

### HOW IT ADDS UP: POSITIVE

	September 30, 2016			September 2, 2016		
	+	-	Net	+	-	Net
Intrinsic Value	60	532	-472	60	525	-465
Economic/Interest Rates/Inflation	350	111	239	354	120	234
Attitudinal	151	462	-311	141	477	-336
Supply/Demand	81	152	-71	79	184	-105
Momentum/Breadth/Divergence	989	32	957	1081	53	1028
	1631	1289	342	1715	1359	356
<b>Ratio:</b>			1.27			1.26
<b>Status:</b>			Positive			Positive

The Major Trend Index is designed to recognize major market trends rather than intermediate moves, combining over 130 individual components to assess the overall health of the stock market. Revisions and weighting adjustments are made from time to time.

Major defensive market strategy moves are made when this composite reading, combining all five major indicator groupings, turns negative on balance by a 5% margin. A positive long term view is usually appropriate when the positives exceed the negatives by at least 5%. Ratios of positives to negatives of 0.95-1.05 are viewed as neutral territory.

## Major Trend Index Detail: Intrinsic Value

### INTRINSIC VALUE GROUPING

<u>POTENTIAL WEIGHT</u>			<u>CURRENT READING</u>	
<u>+</u>	<u>-</u>		<u>+</u>	<u>-</u>
<u>U.S. VALUATION MEASURES</u>				
100	100	S&P 500 P/E on 5-Yr. Normalized "Adjusted" EPS		35
60	60	S&P 500 Industrials Normalized P/E (Return On Sales)		18
60	60	S&P 500 P/E on Trailing 10-Yr. Peak EPS		30
50	50	S&P 500 P/E on 12-Mo. Trailing Reported EPS		45
40	40	S&P 500 Dividend Yield		24
30	30	10-Yr. Bond/S&P 500 Normalized Earnings Yield	15	
30	30	10-Yr. Bond Yield/S&P 500 Dividend Yield	15	
50	50	S&P Industrials Normalized P/E (ROS)		15
100	100	S&P Industrials Price/Cash Flow		70
100	100	S&P Industrials Price/Sales		90
50	50	S&P Industrials Price-to-Book		35
60	60	MSCI USA Index Price/Cash Flow		48
40	40	MSCI USA Index Price-to-Book		8
20	20	10-Yr. Bond Yield/MSCI USA Cash Flow Yield	10	
<u>UNWEIGHTED VALUATION MEASURES</u>				
50	50	Leuthold 3000 Median Normalized P/E		15
30	30	Leuthold 3000 Median P/E on 12-Mo. Trailing EPS		30
<u>WORLD VALUATION MEASURES</u>				
100	100	MSCI World P/E on 5-Yr. Normalized EPS	--	--
50	50	MSCI World P/E on 12-Mo. Trailing EPS		15
80	80	MSCI World Price/Cash Flow		54
30	30	MSCI World Price-to-Book	--	--
30	30	MSCI World Dividend Yield	--	--
20	20	G7 10-Yr. Bond/MSCI World Normalized Earnings Yield	10	
20	20	G7 10-Yr. Bond Yield/MSCI World Dividend Yield	10	
1200	1200		60	532

## Major Trend Index Detail: Economic/Interest Rates/Inflation

### ECONOMIC/INTEREST RATES/INFLATION GROUPING

<u>POTENTIAL WEIGHT</u>			<u>CURRENT READING</u>	
+	-		+	-
25	50	Producer Price Inflation, Level	13	
50	25	Producer Price Inflation, 6-12 Mo. Momentum	--	--
25	50	Consumer Price Inflation, Level	13	
50	25	Consumer Price Inflation, 6-12 Month Momentum	--	--
50	50	Continuity Commodity Index (CCI)	20	
50	50	CRB Raw Industrials	20	
50	50	Crude Oil	20	
50	50	Cash Commodity 12-Month Diffusion Index	20	
40	40	Lumber/Gold Ratio	40	
30	30	U.S. 5-Yr. 5-Yr. Forward		15
40	40	U.S. Dollar Index (Smoothed Chg.)	40	
40	40	U.S. Dollar Index (Chart)	12	
40	40	Chg. In Short Term Rates (U.S. & World)		24
40	40	Yield Curve (U.S. & World)		10
20	20	Yield Curve/Dollar Ratio		10
30	30	10-Year Govt. Bonds (U.S. & World)		6
30	30	Long-Term U.S. Treasury Bond Yields		6
80	80	Dow Jones Corporate Bond Index	80	
40	40	BAA-AAA Indicator		15
40	40	Money Supply Growth (M1, M2 & MZM)	28	
30	30	Liquidity Growth	15	
20	20	Loan Growth		10
20	20	Consumer Credit Growth	--	--
30	30	Leading Economic Indicators	3	
20	20	Market Logic Coincident Diffusion Index	--	--
20	20	Citi Economic Surprise Index	10	
50	50	ISM Liquidity Index (New Orders Less Price Index)	10	
20	20	ISM Momentum	--	--
20	20	Boom/Bust Indicator (Yardeni)	--	--
30	30	S&P 500 Earnings Growth		15
20	20	IBD Earnings Advance/Decline Line	6	
1100	1100		350	111

## Major Trend Index Detail: Attitudinal

### ATTITUDINAL GROUPING

<u>POTENTIAL WEIGHT</u>			<u>CURRENT READING</u>	
+	-		+	-
20	20	University Of Michigan Consumer Sentiment		2
20	20	Conference Board Consumer Confidence (Present Situation)		5
20	20	Conference Board Consumer Confidence (Expectations)	6	
20	20	Conference Board Stock Market Confidence		6
20	20	Market Vane Bullish Sentiment		14
100	100	Investors Intelligence Sentiment Index		60
40	40	AAM Sentiment Survey	8	
30	30	Consensus Bulls On Stock Index Futures		24
50	50	NAAIM Sentiment Survey		40
30	30	ISE Sentiment Index	3	
80	80	CBOE Equity Put/Call Ratio		16
50	50	Silver/Gold Ratio (Trend & Momentum)	10	
40	40	SPX & OEX Open Interest Put/Call Ratios (Smart Money)		8
20	20	Average Premium In Put Options	20	
20	20	Average Premium In Call Options	20	
30	30	Put/Call Premium Ratio	30	
30	30	VIX 30-35	--	--
30	30	VIX 21-/63-Day Ratio	--	--
30	30	VIX/VXV Ratio (Level & Deviation From Trend)		24
50	50	Rydex Ratio (Nova Pct Nova Plus Ursa)		50
40	40	SPY Liquidity Premium	--	--
100	100	Insider Blocks (Number)		55
60	60	Gold Spot Price Trend		48
40	40	Gold Stock Relative Strength		16
40	40	Blue Chip/Speculative Levels	4	
40	40	High Yield/30-Yr. Treasury Spread		14
20	20	Barron's Confidence Index		10
30	30	Barron's Stock/Bond Yield Gap (Trend)		30
50	50	Bond Yield/Dividend Yield MACD	50	
50	50	Cycle Composite		40
1200	1200		151	462



## Major Trend Index Detail: Supply/Demand

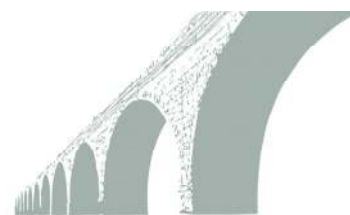
POTENTIAL WEIGHT			CURRENT READING	
			+	-
80	80	Institutional Pressure	16	
40	40	Smart Money Flow Index		12
50	50	Insider Blocks (Dollars)	--	--
100	100	Breadth/Volume vs. S&P 500		50
30	30	Mutual Fund Cash		30
40	40	NYSE Short Interest Ratio		20
20	20	NASDAQ Short Interest Ratio	--	--
80	80	S&P 500 COT - Commercial Hedgers' Net Position		32
40	40	S&P 500 COT - 6-Wk. Chg. In Commercial Hedgers' Net Position		8
20	20	Foreign Net Purchases of U.S. Equities	--	--
50	50	Margin Debt Trend	35	
20	20	Margin Debt/Stock Market Divergence	--	--
30	30	Free Credit Balances in Margin Accounts	30	
600	600		81	152

## Major Trend Index Detail: Momentum/Breadth/Divergence

<u>POTENTIAL WEIGHT</u>		<u>MO MENTUM/BREADTH/DIVERGENCE GROUPING</u>	<u>CURRENT READING</u>	
+	-		+	-
40	40	Dow Theory	40	
30	30	Modified Dow Theory (DJIA or DJTA must confirm SPX)	30	
40	40	Transportation Divergence		32
30	30	NYSE Arms Index (TRIN)	6	
30	30	DJIA Intraday Volatility	--	--
30	30	S&P 500 Volatility Deviation	--	--
20	20	NYSE Weekly Highs/Lows (Level & Trend)	6	
40	40	NYSE 6-Wk. Net New Highs	8	
40	40	NYSE & NASDAQ High/Low Logic Indexes (Daily & Weekly)	8	
200	200	NYSE Stocks Above 30-Wk. MA (Level, Trend & 80/60 Rule)	40	
50	50	NYSE Daily Advance/Decline Line	20	
30	30	NYSE Daily Advance/Decline Line (Operating Cos. Only)	12	
30	30	S&P 500 A/D Line	12	
30	30	S&P MidCap 400 A/D Line	12	
30	30	S&P SmallCap 600 A/D Line	12	
50	50	NYSE Weekly Advance/Decline Line	20	
30	30	NYSE 15-Week Timing Technique	--	--
200	200	VL T Momentum (DJIA, S&P 500, Russell 2000 & MSCI World)	80	
50	50	52-Wk. ROC/52-Wk. MA (DJIA, S&P 500, Russell 2000 & ACWI)	50	
50	50	18-26 Week Momentum (DJIA, S&P 500, Russell 2000 & ACWI)	25	
50	50	S&P 500 Trend Model	50	
50	50	S&P 500 Reversal Model	50	
50	50	MSCI ACWI Moving Averages	45	
50	50	S&P 500 Moving Averages	40	
30	30	DJIA Moving Averages	24	
30	30	Dow Jones Transports Moving Averages	18	
30	30	Dow Jones Utilities Moving Averages	21	
50	50	MSCI World Chart	40	
30	30	MSCI World Small Cap Chart	27	
30	30	MSCI Emerging Markets Chart	24	
50	50	S&P 500 Chart	47	
50	50	Dow Jones Industrials Chart	44	
50	50	Dow Jones Transports Chart	20	
50	50	Dow Jones Utilities Chart	40	
25	25	NASDAQ Composite Chart	24	
25	25	Russell 2000 Chart	23	
25	25	Value Line Arithmetic Average Chart	23	
25	25	NYSE Financials Chart	15	
25	25	KBW Bank Chart	15	
25	25	AMEX Broker/Dealer Chart	18	
1800	1800		989	32

# ESTIMATING THE DOWNSIDE

Prepared by: *Michelle Garofalo*



<http://leuth.us/estimating-downside>

## BACK TO THE MEDIANS (1957 To Date): S&P 500 20% Downside

The S&P 500 gained 0.02% in September. Based on the 1957-to-date valuation metrics presented, downside to its historical average narrowed by about 1% from last month's -21% reading. The S&P Industrials' (excludes Utilities and Financials) downside to mean valuation is -33%, unchanged from last month's reading.

	Current Base Estimate	Current Valuation	1957 To Date Historical Median	Implied Median Market Level	Gain/Loss From Here
<b>S&amp;P 500 September Close: 2168.27</b>					
Normalized "Adjusted EPS" P/E	\$99.79	21.7	18.9	1,885	-13%
Non Normalized Operating EPS P/E	\$106.78	20.3	16.7	1,784	-18%
ROE Based P/E	\$98.82	21.9	17.9	1,773	-18%
Price To Cash Flow	\$161.82	13.4	9.9	1,605	-26%
Dividend Yield*	\$46.40	2.1	3.0	1,563	-28%
Price To Book*	\$783.07	2.8	2.0	<u>1,596</u>	<u>-26%</u>
Weighted Average				1725	-20%

	Current Base Estimate	Current Valuation	1957 To Date Historical Median	Implied Median Market Level	Gain/Loss From Here
<b>S&amp;P Industrials September Close: 2928.98</b>					
Normalized "Adjusted EPS" P/E	\$126.59	23.1	19.8	2,512	-14%
Non Normalized Operating EPS P/E	\$122.99	23.8	17.2	2,117	-28%
Return On Sales Norm EPS P/E	\$82.32	35.6	16.8	1,383	-53%
ROE Derived P/E	\$107.37	27.3	19.2	2,062	-30%
Price To Cash Flow	\$218.58	13.4	9.9	2,156	-26%
Price To Sales	\$1,477.31	2.0	1.0	1,465	-50%
Dividend Yield*	\$60.34	2.1	2.8	2,173	-26%
Price To Book*	\$789.93	3.7	2.2	<u>1,760</u>	<u>-40%</u>
Weighted Average				1952	-33%

\* While the Dividend Yield and Price/Book statistics are less meaningful (therefore given a weight of only 50% in calculating the averages), they do add depth to the data.

This multi-factor estimate of stock market risk is based on a regression to median stock market levels. **The valuation comparisons on the table consider all inflation periods over the 1957 to date period.** There have been times when we've focused only on periods of low inflation (below 3%) or high inflation (more than 5%). While we do the calculations for all environments back to 1926, many clients think that's too much history. Therefore, the detail tables encompass only 1957 to date historical data.

## Potential Risk/Reward In Different Inflation Environments 1926-To-Date

1926 To Date Data	S&P 500 Back To Median	S&P Industrials Back To Median
*****	*****	*****
All Years	-26%	-37%
Low Inflation Periods (CPI < +3.0%)	-21%	-32%
High Inflation Periods (CPI > +5.0%)	-52%	-62%

## Back To Bottom Quartile (1957 To Date): S&P 500 Would Fall To 1486

Secular bear markets (like 1973-1974 and 2007-2009) fall well below median valuation levels. These tables are based on a decline to the 25<sup>th</sup> percentile of the 1957-to-date historical distributions (all years). Today, the S&P 500 would have to fall 31% to move to the 25th percentile, while the S&P Industrials would have to fall 45%.

- At the March 9, 2009, closing price low, the S&P 500 needed to rise 22% to get back up to the 25th percentile of historical valuations, while the S&P Industrials would have had to rise 8%.

	Current Base Estimate	Current Valuation	25th Percentile 1957 To Date	Implied Bottom Quartile Level	Gain/Loss From Here
<b>S&amp;P 500 September Close: 2168.27</b>					
Normalized "Adjusted EPS" P/E	\$99.79	21.7	15.3	1,524	-30%
Non Normalized Operating EPS P/E	\$106.78	20.3	13.5	1,440	-34%
ROE Based P/E	\$98.82	21.9	14.7	1,457	-33%
Price To Cash Flow	\$161.82	13.4	7.5	1,222	-44%
Dividend Yield*	\$46.40	2.1	2.1	2,258	4%
Price To Book*	\$783.07	2.8	1.7	<u>1,315</u>	<u>-39%</u>
Weighted Average				1486	-31%

	Current Base Estimate	Current Valuation	25th Percentile 1957 To Date	Implied Bottom Quartile Level	Gain/Loss From Here
<b>S&amp;P Industrials September Close: 2928.98</b>					
Normalized "Adjusted EPS" P/E	\$126.59	23.1	16.3	2,062	-30%
Non Normalized Operating EPS P/E	\$122.99	23.8	13.4	1,654	-44%
Return On Sales Norm EPS P/E	\$82.32	35.6	12.5	1,031	-65%
ROE Derived P/E	\$107.37	27.3	15.0	1,613	-45%
Price To Cash Flow	\$218.58	13.4	7.6	1,669	-43%
Price To Sales	\$1,477.31	2.0	0.7	1,030	-65%
Dividend Yield*	\$60.34	2.1	2.0	3,033	4%
Price To Book*	\$789.93	3.7	1.8	<u>1,408</u>	<u>-52%</u>
Weighted Average				1611	-45%

\* While the Dividend Yield and Price/Book statistics are less meaningful (therefore given a weight of only 50% in calculating the averages), they do add depth to the data.

1926 To Date Data	S&P 500 To Low Quartile	S&P Industrials To Low Quartile
*****	*****	*****
All Years	-41%	-51%
Low Inflation Periods (CPI < +3.0%)	-31%	-41%
High Inflation Periods (CPI > +5.0%)	-56%	-65%

### BRIEF DESCRIPTIONS OF BENCHMARKS FOR PRECEDING TABLES

- Normalized "Adjusted EPS" P/E:** Five year arithmetically averaged annual earnings, looking 6 months ahead and 54 months back. "Adjusted" earnings are the midpoint between reported and operating earnings.
- Non-Normalized Operating EPS P/E:** Based on 12 month estimated operating (not reported) earnings, looking 6 months back and 6 months forward (March 2016 - March 2017).
- Return On Sales Norm EPS P/E:** Based on the long-term arithmetically averaged return on sales (1956 to date), multiplied by estimated sales for the 12 months ending 3/17.
- ROE Based P/E:** Based on the 1976 to date long-term average of Return On Equity (ROE) multiplied by the current estimated book value.
- Price To Cash Flow:** Based on estimated 12-months' cash flows for the period ending 3/17. Net income plus depreciation (1955 to date data).
- Price To Sales:** 12-months' estimated sales for the period ending 3/17 (1955 to date data).
- Dividend Yield:** Indicated 12-months' dividends as calculated by *Barron's* (1926 to date data).
- Price To Book:** Based on Dow Jones and Standard & Poor's book value calculations.