Empirical Research Partners
Michael Goldstein 212 803-8010
Longying Zhao 212 803-7940

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Portfolio Strategy June 2016

Brexit: The Aftermath, Fear Episodes: Gravitational Pulls, Indexing and the Thundering Herd

Living to Regret Political Suicide

- The Brexit vote is truly significant if it represents the death knell for the globalization era. A key reason why profit margins are high is that manufacturers have benefited from outsourcing for 25 years. Consumers and bond managers have been winners too. It's very difficult to know how far to extrapolate the happenings in the U.K. Fears of immigration have been much higher there than in the U.S., and fiscal policy has been more punishing for the economically disenfranchised. The powers of the E.U. look to be uniting to fight the existential threat. For those contemplating political suicide, it's already becoming apparent that it's far from painless.
- The line in the sand between companies with volatile and stable fundamentals has glowed brightly as the very foundation of the Bretton Woods II era has come under attack. The equity market contains a substantial risk premium tied to the chance of a global economic meltdown. Bond surrogates, the tenth of the market most correlated with the moves of the Treasury Bond, sell at an 11% P/E premium, while the stocks least correlated with bonds sell at a (27)% discount. That 38 percentage point differential is hard to justify based on fundamentals as both groups grow at the same rate and have similar dividend yields. The Bond surrogates have a 70% payout ratio while companies at the other end of the spectrum pay out 33%. The behavior of the Dollar following Brexit hasn't posed much risk to the emerging markets.

Gravitational Pulls: A Systems Perspective

- When surveyed, institutions from around the world say they're willing to surrender upside potential in order to protect against tail risk. Quant funds represent just over a fifth of the assets of the hedge fund industry and around 60% of the trading it generates. It's not at all surprising then that fear-evoking events now regularly lead to spikes in correlations among stocks. They're most intense at both ends of the volatility spectrum when safety becomes the paramount concern.
- We count 11 separate correlation episodes that have taken place since the beginning of 2009. All proved to be false starts to one degree or another. The latest one is ominous because it goes to the heart of the era and central banks look exhausted and discredited. One thing we're sure about is that the reaction function has become front-end loaded as the machines react rather than contemplate.

Indexing and the Thundering Herd

- Active managers of U.S. equities, including hedge funds, have endured net redemptions of nearly $(2) trillion since 2008, and the selling pressures have proved relentless, continuing this year. An amount equal to 43% of those flows has gone into index funds, including ETFs. Even after that reallocation index funds of all varieties hold only about 15% of the equity market. Trading in ETFs that invest in domestic equities hasn't grown much, representing 20% to 25% of volume throughout the 2010s. For investors, the tail does not yet wag the dog, although in the course of any few days that can in fact be the case.
- This year a lot of money has flowed into ETFs that invest in low-vol strategies. They've had good numbers in the last two years and carry five-star Morningstar ratings. While demographics have played a role in that demand, most of it is explained by their records and Morningstar's endorsement. ETF trading represents only a percentage point of the activity in stable stocks, making it too small to call the tune.

Nicole Price (212) 803-7935 Sungsoo Yang (212) 803-7925 Yi Liu (212) 803-7942 Yu Bai (212) 803-7919 Janai Haynes (212) 803-8005

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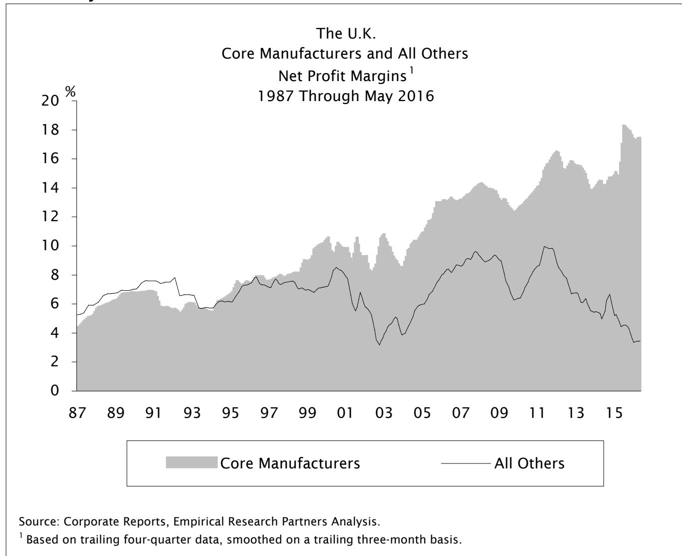
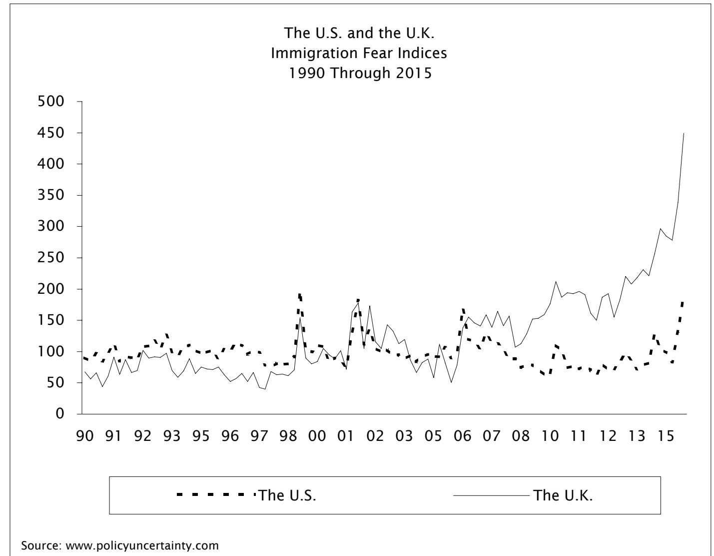
Conclusions in Brief

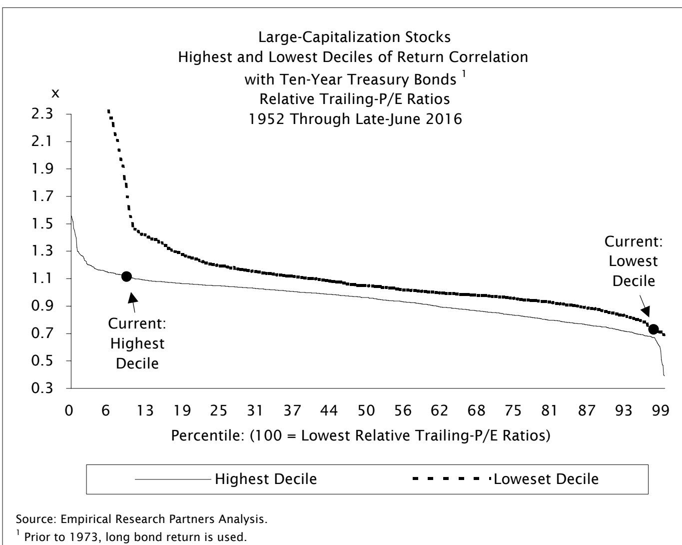
- Globalization lies at the heart of the margin story, everywhere:



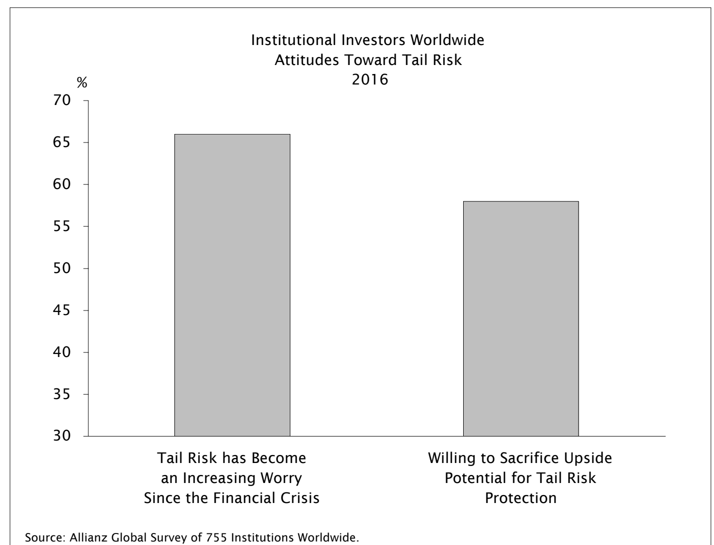
- Immigration fears are much greater in the U.K than in the U.S.:



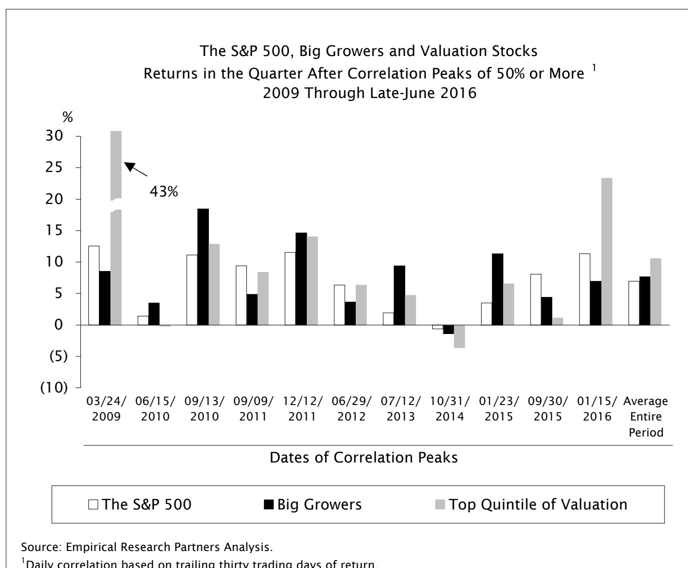
- The current valuation paradigm is highly provocative:



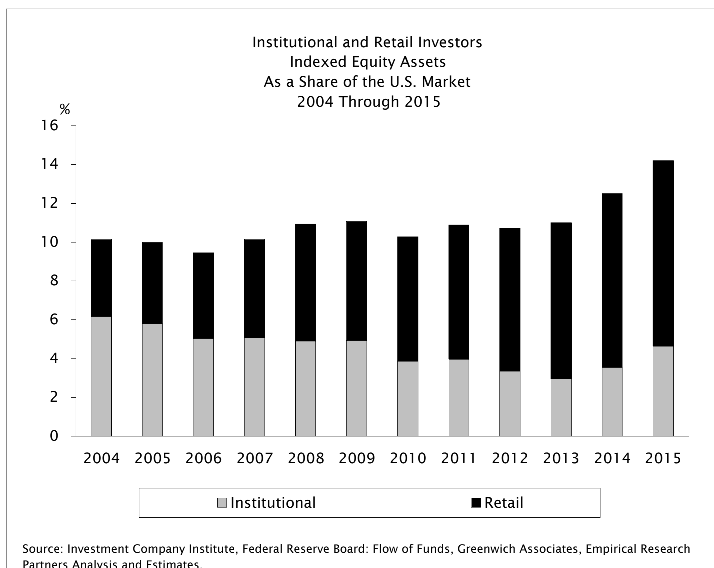
- The system is set up to avoid tail risks…



- …Real and imagined:



- Indexing is still the tail, not the dog:

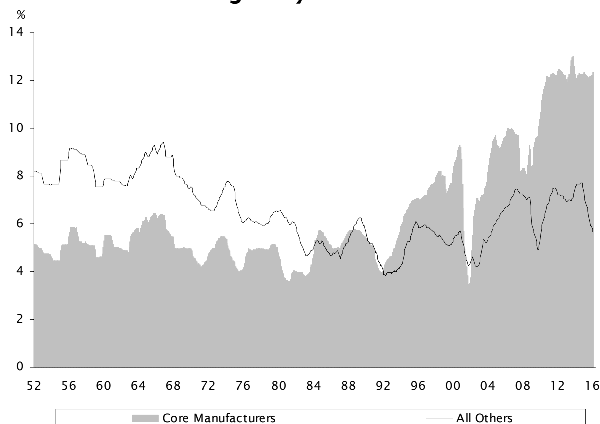


Brexit: The Aftermath

"The Trouble with Committing Political Suicide is That You Live to Regret it." **-** Winston Churchill.

The Brexit vote has called into question the viability of the world economic order and by extension, profit margins. As we've pointed out many times over the years, the globalization of manufacturing production is the major story behind the robust margins of the last 15 years. That's not only been true in the U.S. but in the U.K. and Continental Europe as well (see Exhibits 1 through 3). One storyline now in broad circulation is that political chaos looms, and European Union will ultimately fall victim to it. The U.S. could end up being a net winner, or not, depending on if it follows the political path forged by the U.K.

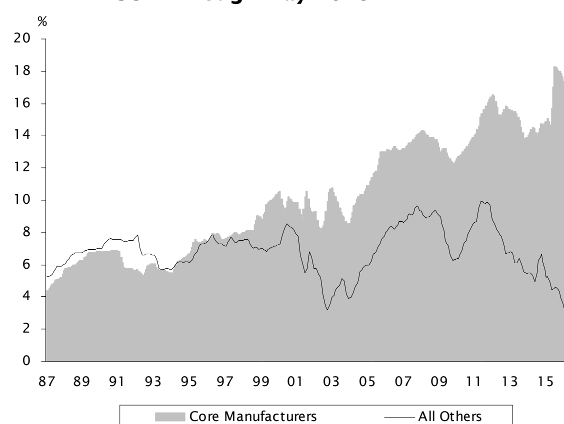
Exhibit 1: The S&P 500
Core Manufacturers and All Others
Net Profit Margins[1]
1952 Through May 2016



Source: Corporate Reports, Empirical Research Partners Analysis.

[1]Based on trailing four-quarter data, smoothed on a trailing three-month basis.

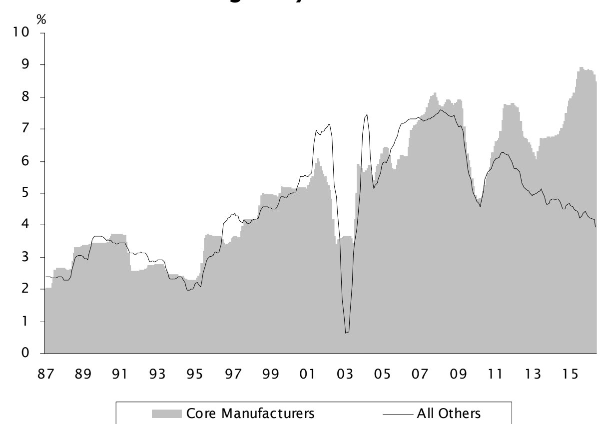
Exhibit 2: The U.K.
Core Manufacturers and All Others
Net Profit Margins[1]
1987 Through May 2016



Source: Corporate Reports, Empirical Research Partners Analysis.

[1]Based on trailing four-quarter data, smoothed on a trailing three-month basis.

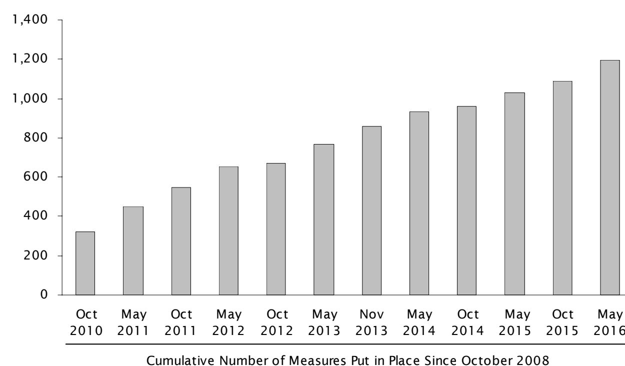
Exhibit 3: Continental Europe
Core Manufacturers and All Others
Net Profit Margins[1]
1987 Through May 2016



Source: Corporate Reports, Empirical Research Partners Analysis.

[1]Based on trailing four-quarter data, smoothed on a trailing three-month basis.

Exhibit 4: The World Economy
Trade Restrictions in Place
Since 2008

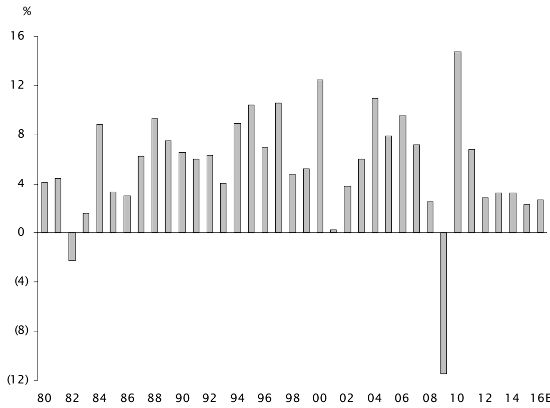


Source: World Trade Organization.

The concern is that electorates are angry enough to pursue economic agendas that aren't in their own interest. The protectionist threat has been building for years as apparent in Exhibit 4, that charts the inventory of trade restrictions that's built up around the world since the financial crisis. They've tripled in number and now impact around 5% of trade. We see signs of their effects in the volume statistics that have shown few signs of life in the last few years (see Exhibit 5). Euro-area import volumes have expanded at a +3% annual rate since 2014, about half the

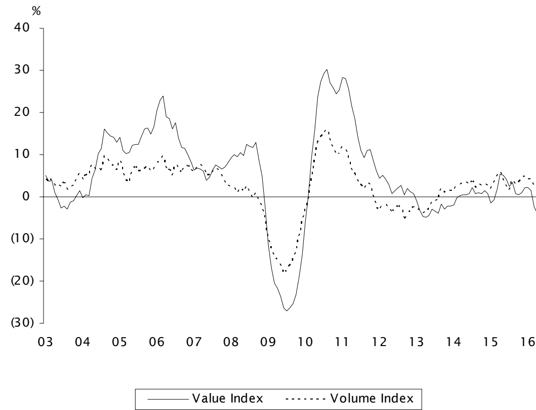
growth rate experienced from 2003 through 2007, boom years for trade (see Exhibit 6). Translation effects have however cut the growth rate for the value of imports to a meager +1%.

Exhibit 5: The World Economy
Year-over-Year Changes in the Volume of Goods Exports
1980 Through 2016E



Source: International Monetary Fund, Empirical Research Partners Analysis.

Exhibit 6: The Euro-Area
Year-Over-Year Changes in Imports from Outside the Euro-Area[1]
2003 Through April 2016

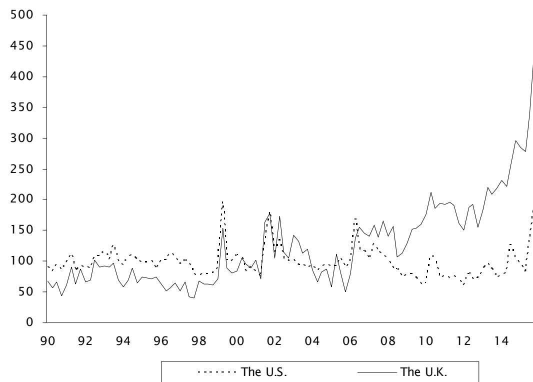


Source: Eurostat, Empirical Research Partners Analysis.

[1]Data smoothed on a trailing three-month basis. Volume data through March 2016.

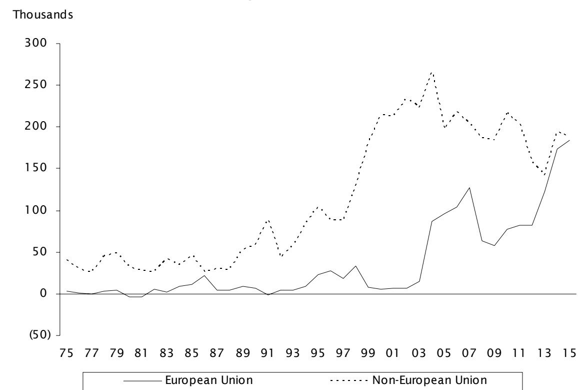
It's impossible to know how far to extrapolate the Brexit results. Immigration fears have been much higher in the U.K. and Continental Europe than in the U.S. (see Exhibit 7). E.U. countries were in fact the source of half of all legal immigrants into the U.K. last year (see Exhibit 8). An interesting survey taken by two academics right before the Brexit vote tallied attitudes by national identity. Those identifying themselves as English were overwhelmingly in favor of leaving the E.U., while those who saw themselves as British were not (see Exhibit 9).

Exhibit 7: The U.S. and the U.K.
Immigration Fear Indices
1990 Through 2015



Source: www.policyuncertainty.com.

Exhibit 8: The U.K.
Annual Net Immigration by Citizenship
1975 Through 2015

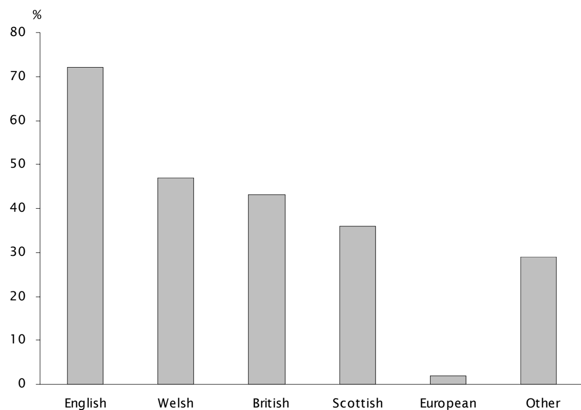


Source: Office for National Statistics.

Of those over 65 years of age 44% identified themselves as English, while only 21% of those under 26 did the same. In the survey 69% of those in the first group intended to vote to leave while only 21% of those in the younger demographic had that intent. There was clearly more at work here than the terms of the U.K.'s existing deal with the E.U. It may also be that the adverse consequences of exiting, already apparent, will dissuade others from going down that path.

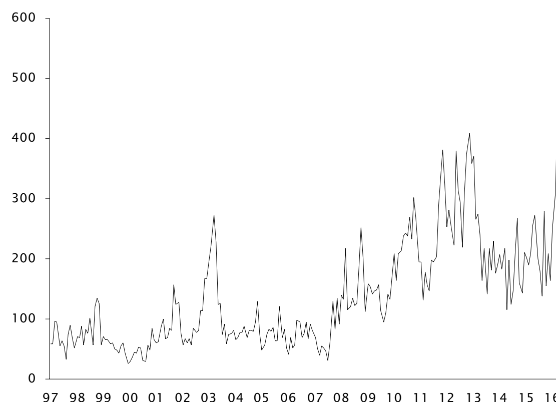
The risks are political and uncertainty was high even before the vote was taken; Exhibits 10 and 11 presents economic policy uncertainty indices, compiled based on the volume of news reports, for the U.K. and Continental Europe, through May. We get a daily version of that index for the U.S. and there was a huge spike as Brexit came to dominate the headlines that's since reversed (see Exhibit 12). That uncertainty has been echoed in the trading volume of ETFs that soared in the days following the vote (see Exhibit 13). The vague and open-ended nature of the threat makes it difficult to gauge. This may be the tip of the era-ending iceberg, or not.

Exhibit 9: The U.K.
Share Intending to Vote to Leave by National Identity
Internet Survey Taken June 19-20, 2016



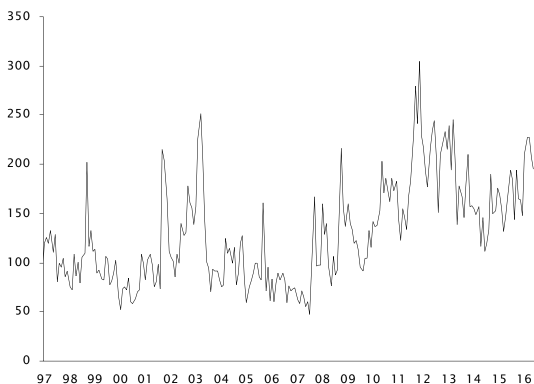
Source: Survey by Paul Whiteley and Harold D. Clarke.

Exhibit 10: The U.K.
Economic Policy Uncertainty Index
1997 Through May 2016



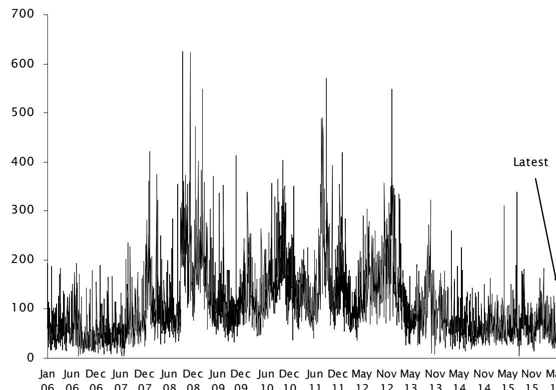
Source: www.policyuncertainty.com.

Exhibit 11: Continental Europe
Economic Policy Uncertainty Index
1997 Through May 2016



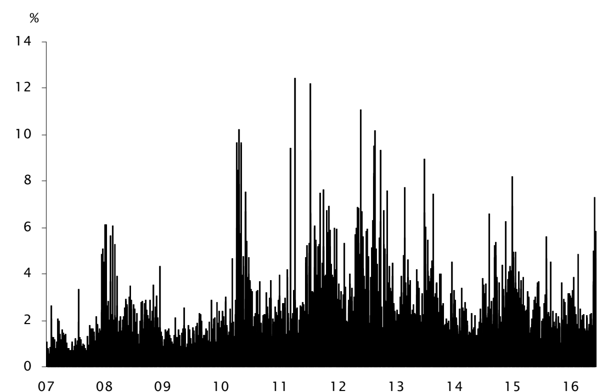
Source: www.policyuncertainty.com.

Exhibit 12: The U.S.
Economic Policy Uncertainty Index
2006 Through Late-June 2016



Source: www.policyuncertainty.com.

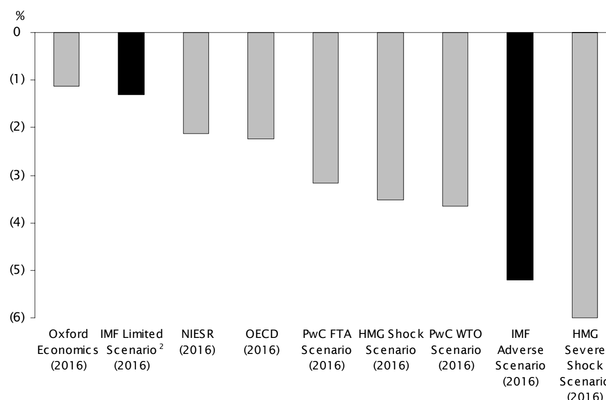
Exhibit 13: Major U.S.-Listed European Equity ETFs
Daily Turnover Rate[1]
2007 Through Late-June 2016



Source: Bloomberg L.P., Empirical Research Partners Analysis.

[1]Measured as share of total assets. ETFs included are: Vanguard FTSE Europe ETF, WisdomTree Europe Hedged Equity Fund, iShares MSCI EMU ETF. Combined total assets approximately $34 billion.

Exhibit 14: The U.K.
The Short-Run Economic Impact From Exiting the European Union[1]
Various Estimates
2018E



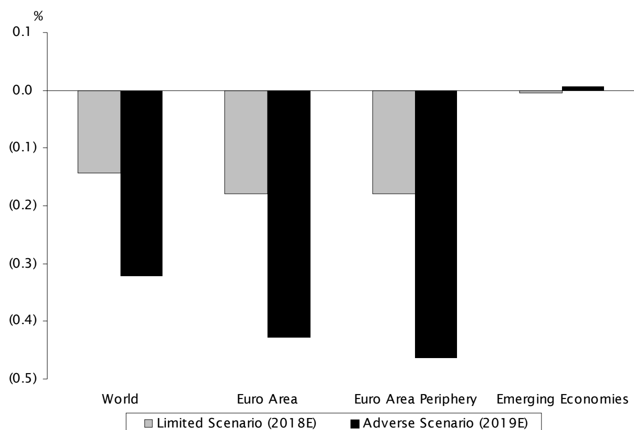
Source: International Monetary Fund, 2016. "United Kingdom: Selected Issues Paper," Country Report No. 16/169.

[1]Measured as percent deviation from baseline real GDP. HMG scenarios are for 2017/2018 fiscal year.
[2]The IMF limited scenario assumes U.K. membership to the EEA requiring payment contributions to EU members, free movement of people and single market rules. The adverse scenario assumes defaulting to WTO rules, losing passporting access and defaulting to MFN tariffs.

Economics: More Dismal Than Usual

There's been a great deal of work done trying to model the effects of Brexit, if it does in fact happen, on the U.K., European and World economies. The short-term hit to the U.K. economy is thought to be in the ballpark of (2.0) to (3.5) percentage points (see Exhibit 14 overleaf). The effect on the world economy is estimated to be around a tenth that size (see Exhibit 15). U.S. exports to the U.K. amount to half a point of GDP and 20 basis points of that is in services.

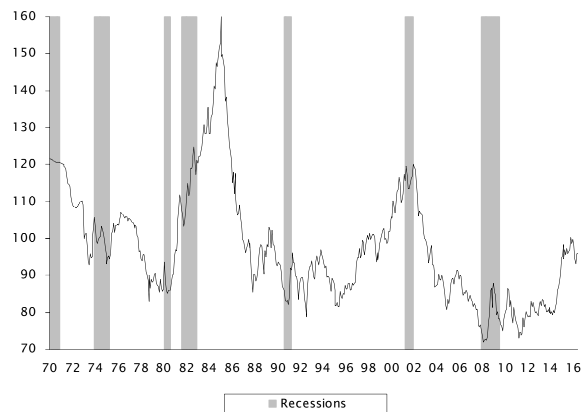
Exhibit 15: The World
Spillovers from the U.K. Exiting the European Union
Two Scenarios[1]
2018E and 2019E



Source: International Monetary Fund, 2016. "United Kingdom: Selected Issues Paper," Country Report No. 16/169.

[1]Measured as percent deviation from baseline real GDP for the respective trough years. The IMF limited scenario assumes U.K. membership to the EEA requiring payment contributions to EU members, free movement of people and single market rules. The adverse scenario assumes defaulting to WTO rules, losing passporting access and defaulting to MFN tariffs.

Exhibit 16: The U.S. Dollar Index[1]
1970 Through Late-June 2016



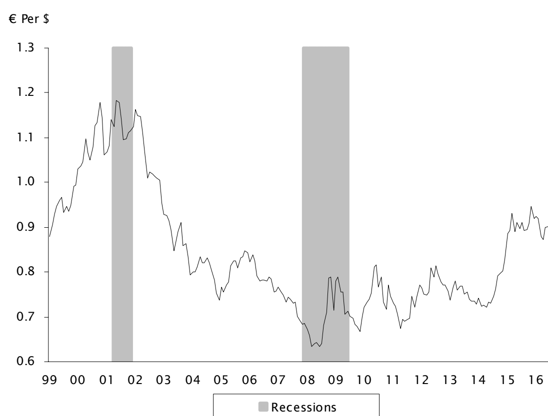
Source: Bloomberg L.P., National Bureau of Economic Research.

[1]Measured against a narrow basket of currencies that include the Euro, Yen, Pound Sterling, Canadian Dollar, Swedish Krona and Swiss Franc.

An obvious channel through which Brexit could impact the U.S. economy is through the Dollar. There's been strengthening as of late but not enough to be a game changer (see Exhibits 16 and 17). There's been a spike in the swap rate between the U.S. Dollar and the Euro but thus far it's minor compared to what emerged five years ago during the first European crisis (see Exhibit 18).

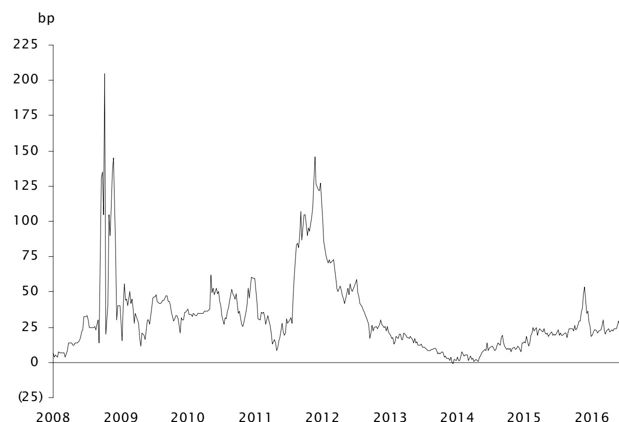
For the most part the modeling misses the point, for the real fear has to do with the contagion of protectionism though political processes. That disease could prove dysfunctional for the global economy.

Exhibit 17: The U.S. Dollar-Euro Exchange Rate
1999 Through Late-June 2016



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

Exhibit 18: Three-Month U.S. Dollar-Euro Cross-Currency Swap[1]
2008 Through Late-June 2016



Source: Bloomberg L.P.

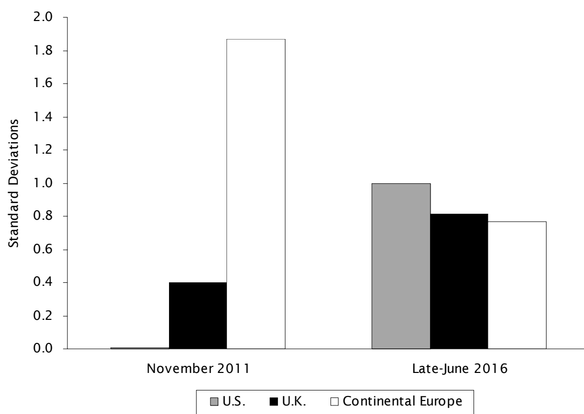
[1]Values have been reversed.

Spreads and Dread: An Oddity

There's been widening of valuation spreads in the equity markets of the U.K. and Europe, and in both regions they now sit about a standard deviation above normal (see Exhibit 19). By comparison, during the debt crisis of 2011/2012 those spreads climbed to almost two deviations above the mean. The U.S. spreads are at least as wide as those in Europe, an oddity that speaks to the universal nature of the concerns and the weight of E&P and oil service stocks in the U.S. market. Differentials are widest in the energy, financial and consumer durables sectors (see Exhibit 20).

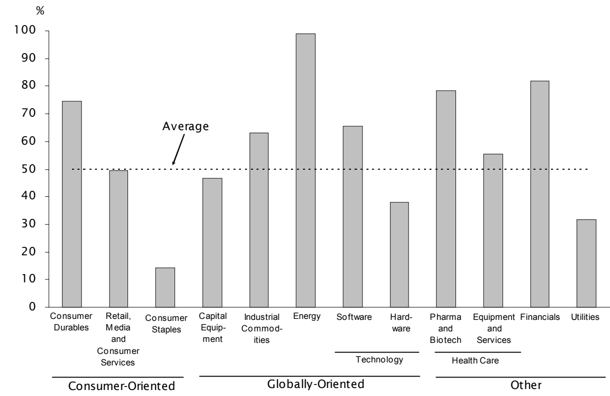
There's also a surprising homogeneity in earnings and free cash flow yields to which stocks are priced in the three regions (see Exhibits 21 and 22). Clearly at the moment the U.S. is not getting a lot of credit as a safe haven. It may be that the implications of the U.K. vote are being extrapolated to forecasts of the outcome of the U.S. election.

Exhibit 19: The U.S., U.K. and Continental Europe Valuation Spreads The Top Quintile Compared to the Region Average As of November 2011 and Late-June 2016



Source: Empirical Research Partners Analysis.

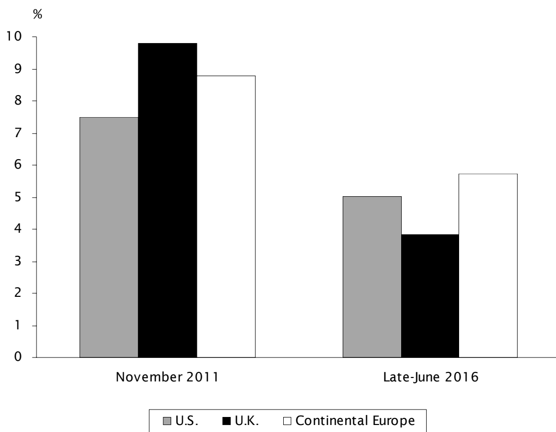
Exhibit 20: The U.S. Intra-Sectoral Valuation Spreads[1] Current Readings Compared to Long-Term History Percentiles (1=Narrowest, 100=Widest) 1952 Through Late-June 2016



Source: Empirical Research Partners Analysis.

[1]Based on an analysis of a 1,500 stock universe. Framework varies across sectors depending on what's efficacious.

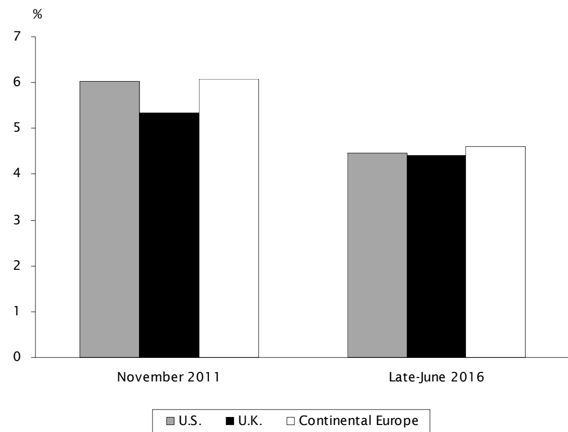
Exhibit 21: The U.S., U.K. and Continental Europe Trailing Earnings Yields[1] As of November 2011 and Late-June 2016



Source: Corporate Reports, Empirical Research Partners Analysis.

[1]Capitalization-weighted data.

Exhibit 22: The U.S., U.K. and Continental Europe Free Cash Flow Yields[1] As of November 2011 and Late-June 2016



Source: Corporate Reports, Empirical Research Partners Analysis.

[1]Capitalization-weighted data.

The Economic Data Hasn't Foretold a Collapse

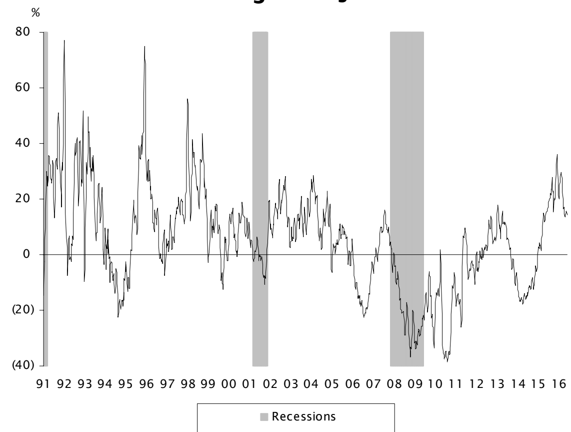
Up until Friday's shock the U.S. economic data had told the story of another year of muddling along, with +2% or so GDP growth. Even without a strong tailwind there's been a noticeable pick-up in wage growth that's finally boosting the demand for mortgages (see Exhibits 23 and 24). When measured relative to that growth the mortgage financing environment is the most advantageous it's been in 25 years. China, the source of most of the worries up until recently seems to have staved off the threat of a run on its foreign currency reserves, at least for now.

Exhibit 23: U.S. Employees
Growth in Hourly Earnings and Median Wages[1]
2002 Through May 2016

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

[1]Data smoothed on a trailing three-month basis.

Exhibit 24: Mortgage Purchase Applications
Year-over-Year Changes
Smoothed on a Trailing Four-Week Basis
1991 Through Late-June 2016

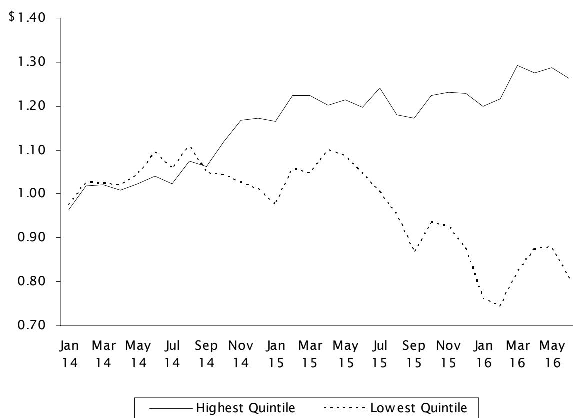


Source: Bloomberg L.P., National Bureau of Economic Research, Empirical Research Partners Analysis.

Conclusion: A Bright Line in the Sand

Even before the Brexit vote the market was divided by a line in the sand. On one side sits companies of many ilks dependent on economic growth or the yield curve. On the other are those that have stable businesses, many of which grow at modest rates. The divide in performance between them has been widening since the Dollar began to appreciate two years ago (see Exhibit 25). Big currency moves take several years to work their way through the system, and we think that those effects have become more far-reaching as the emerging markets became a larger part of it.

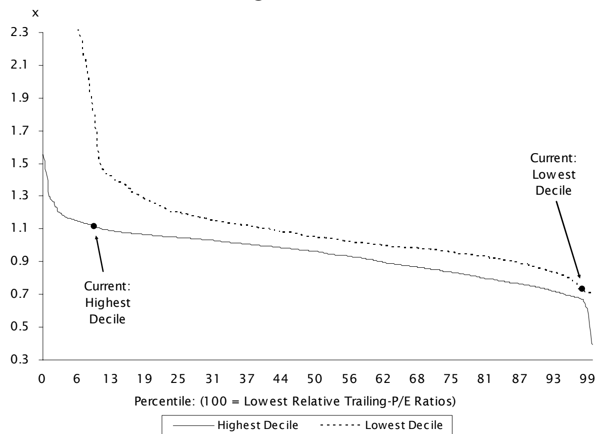
Exhibit 25: Large-Capitalization Stocks
Highest and Lowest Quintiles of Stability
Growth of a Dollar[1]
2014 Through Late-June 2016



Source: Empirical Research Partners Analysis.

[1]Based on equally-weighted returns.

Exhibit 26: Large-Capitalization Stocks
Highest and Lowest Deciles of Return Correlation with Ten-Year Treasury Bonds[1]
Relative Trailing-P/E Ratios
1952 Through Late-June 2016



Source: Empirical Research Partners Analysis.

[1]Prior to 1973, long bond return is used.

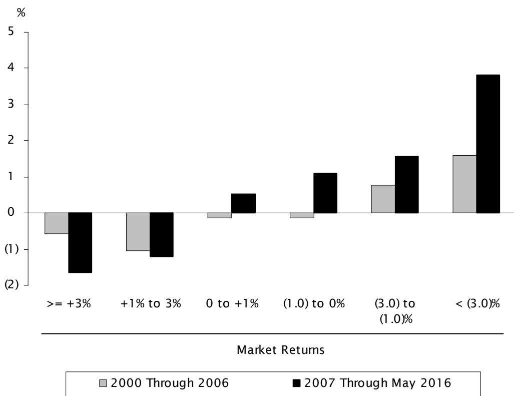
The intensity of the glow emitted by the dividing line is made clear in Exhibit 26, that presents the relative trailing-P/E ratios of the stocks with relative returns most correlated with those of the bond market (i.e., the highest decile), and those least correlated, the lowest decile. The former are valued at an 11% premium to the market, a reading that ranks in the top decile of those seen in the past 63½ years, while the latter sells at a (27)% discount, a 98th percentile reading. The growth rates and dividend yields of the two groups are essentially the same, although the bond proxies have a payout ratio that's over twice as high. Given all of that, a 38 percentage point differential in relative multiples is making a huge statement about risk aversion and lure of bonds that yield less than 2%. It's rare that the momentum trade is in stocks with low growth rates where the end game is global catastrophe. It's possible that Brexit will lead to greater cohesion, undermining the presumptions built into the market.

Fear Episodes: The System Exerts a Gravitational Pull

The Gravitational Pull of Down Markets Grows

We noticed there's been a change in the way that stocks behave in down markets. It's apparent in the rising return correlations seen throughout the post-Crisis era, the black bars (see Exhibit 27). Irrespective of the market's direction equities have behaved as a group, more than at any other time since the 1930s (see Exhibit 28). One explanation for that is that for eight years now we've had perpetual anticipation of the next economic catastrophe, with dismantling of the E.U. and global stagnation the latest candidates. The European Crisis of 2011 was a catalyzing event, and thereafter low-beta stocks have been priced at a substantial premium to the market (see Exhibit 29). That episode made clear that the problems in Europe were intractable, a point reinforced by the Brexit vote. That's important for U.S. investors because that region accounts for 16% of global GDP, and its second cousin, Japan, sources another 6% of the total. Together their shares exceed that of the U.S.

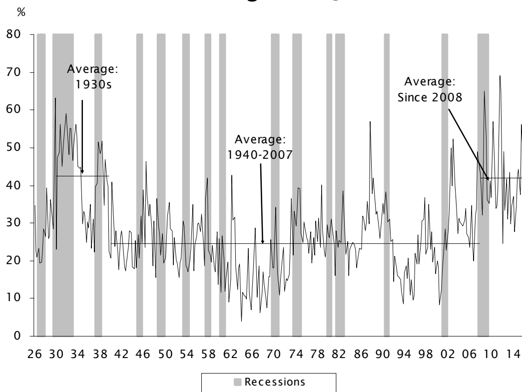
Exhibit 27: The S&P 500
Change in the Monthly Correlations
Contingent Upon the Market's Return[1]
2000 Through May 2016



Source: Empirical Research Partners Analysis.

[1]Correlations computed on a trailing-sixty-day basis.

Exhibit 28: The S&P 500
Correlation Among the Index Constituents
Measured Daily[1]
1926 Through Late-June 2016

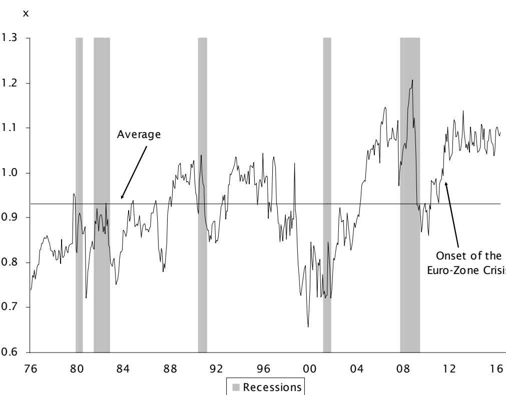


Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

[1]Quarterly averages of daily data.

The rise of the hedge fund industry and other absolute return players, particularly the quant hedge funds, has influenced how all of this has played out on a day-to-day basis. The share of hedge funds' equity holdings in the hands of quants has climbed back to the level seen in 2007 (see Exhibit 30). That constituency accounts for just over a fifth of hedge fund assets, a third of commissions and about 60% of trading volume. Tactical hedging has increasingly occurred via indices, and the shorting of entire markets has produced spikes in correlations during down markets. We've found that trading in ETFs picks up when volatility does.

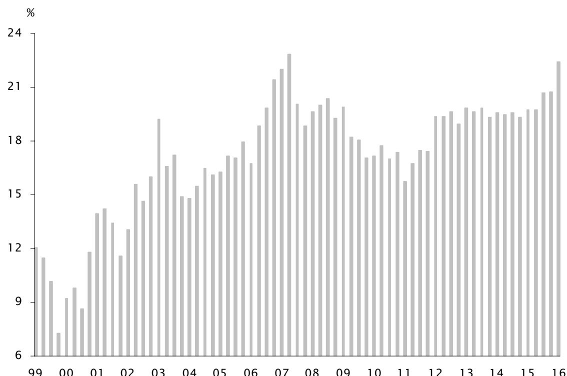
Exhibit 29: Large-Capitalization Stocks
Lowest Quintile of Beta
Relative Forward-P/E Ratios[1]
1976 Through Late-June 2016



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

[1]Capitalization-weighted data.

Exhibit 30: Hedge Funds
Share of U.S. Equity Holdings in Quant Funds
1999 Through Q1 2016

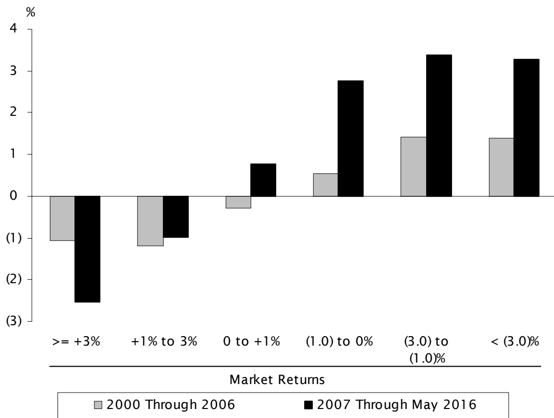


Source: 13F Filings, FactSet Research Systems, Empirical Research Partners Analysis.

A Pervasive Effect

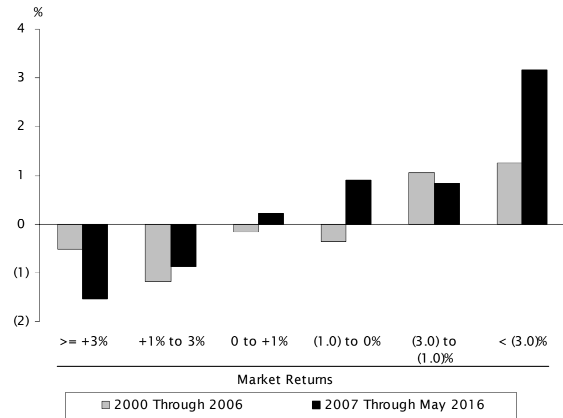
We were curious where the largest increases in correlations have occurred. The obvious candidates are value stocks, and Exhibit 31 presents the data for our lowest quintile of valuation. What's noteworthy is that the correlations have moved up in all down markets, not just the big ones. Apparently it takes little to invoke a run in this most economically-sensitive corners of the market. More fear is required to produce the same effect among the Big Growers, and we've seen spikes only during sharp downturns, moves of (3)% or more in a month (see Exhibit 32).

Exhibit 31: Large-Capitalization Stocks
The Best Quintile of Valuation
Change in Monthly Correlations
Contingent Upon the Market's Return[1]
2000 Through Late-June 2016



Source: Empirical Research Partners Analysis.
[1]Correlations computed on a trailing-sixty-day basis.

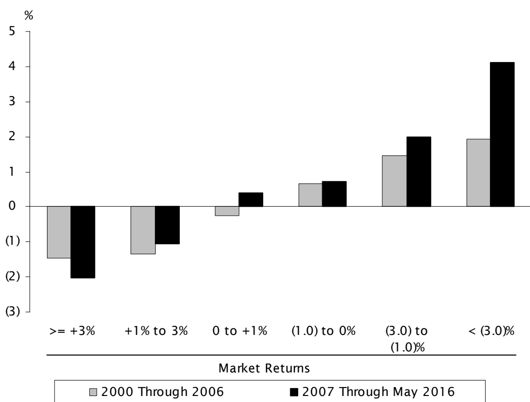
Exhibit 32: The Big Growers
Change in Monthly Correlations
Contingent Upon the Market's Return[1]
2000 Through Late-June 2016



Source: Empirical Research Partners Analysis.
[1]Correlations computed on a trailing-sixty-day basis.

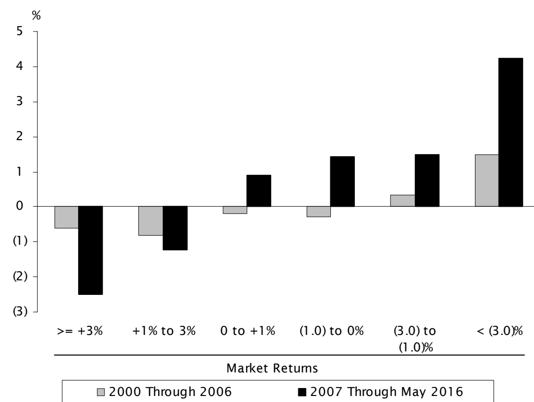
We repeated the exercise focusing on the tails of the distribution, the market's most volatile and stable quintiles, as defined by fundamentals. Surprisingly, we see the same pattern in both, and the two tails of the distribution swing in opposite directions with the same ferocity when something goes wrong (see Exhibits 33 and 34). That symmetry speaks to the involvement of quants and algorithms.

Exhibit 33: Large-Capitalization Volatile Stocks
Change in Monthly Correlations
Contingent Upon the Market's Return[1]
2000 Through Late-June 2016



Source: Empirical Research Partners Analysis.
[1]Correlations computed on a trailing-sixty-day basis.

Exhibit 34: Large-Capitalization Stable Stocks
Change in Monthly Correlations
Contingent Upon the Market's Return[1]
2000 Through Late-June 2016

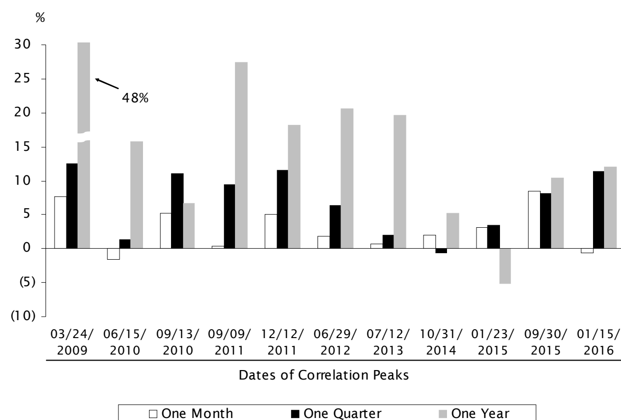


Source: Empirical Research Partners Analysis.
[1]Correlations computed on a trailing-sixty-day basis.

So Far, So Wrong

We examined the spikes in correlations that've occurred since 2009, focusing on those that produced more than 50% co-movement in a one-month period. We found 11 examples and measured performance in the next month, quarter and year. The subsequent returns were good because Armageddon has yet to occur (see Exhibit 35). We then repeated the exercise using our value and big grower composites, and not surprisingly the biggest bang has come from the value stocks (see Exhibit 36).

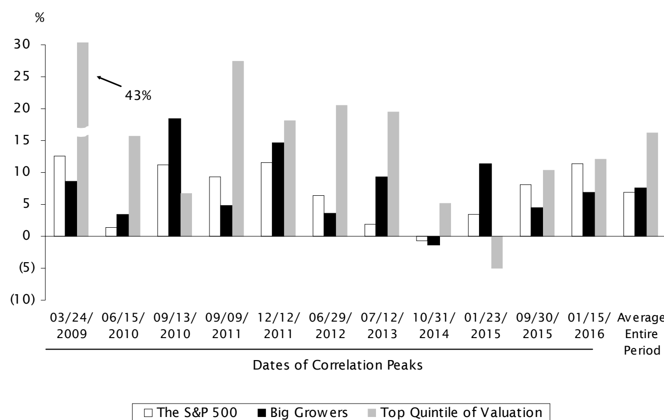
Exhibit 35: The S&P 500
Returns After Correlation Spikes to 50% or More[1]
2009 Through Late-June 2016



Source: Empirical Research Partners Analysis.

[1]Daily correlation based on trailing thirty trading days of return.

Exhibit 36: The S&P 500, Big Growers and Value Stocks
Quarterly Returns After Correlation Spikes to 50% or More[1]
2009 Through Late-June 2016



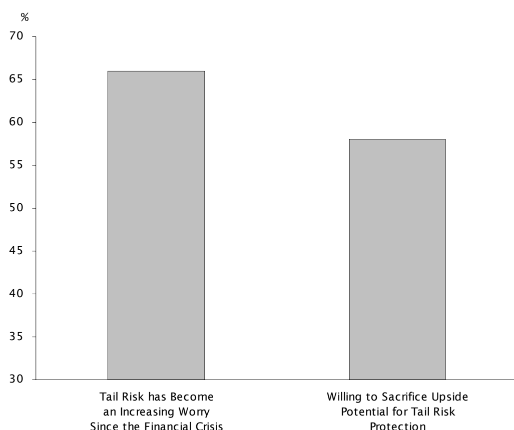
Source: Empirical Research Partners Analysis.

[1]Daily correlation based on trailing thirty trading days of return.

Conclusion: Schizophrenia

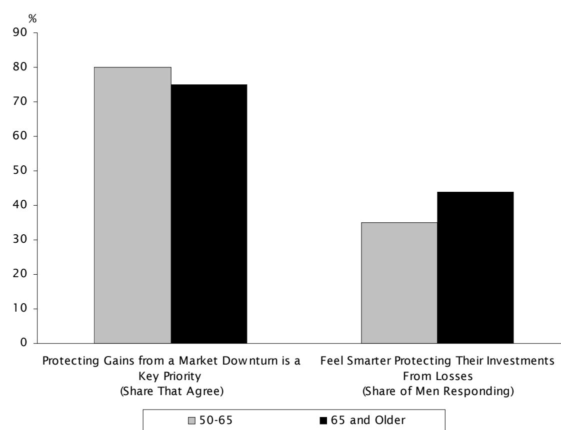
Protecting capital and limiting volatility have become imperatives in large segments of the money management industry. When 750 institutions from around the world were asked about tail risk, the majority said they would sacrifice upside potential in order to get protection from a black swan event (see Exhibit 37). In addition, baby boomers describe protecting the gains they've accumulated as a key priority (see Exhibit 38). With "normal" hard to pin down, economic growth weak and elevated debt levels around the world, the systems built to act tactically to safeguard capital have multiplied. Market volatility turns the machines on, furthering the daisy chain of events. The current circumstances are ripe for that outcome.

Exhibit 37: Institutional Investors Worldwide
Attitudes Toward Tail Risk
2016



Source: Allianz Global Survey of 755 institutions worldwide.

Exhibit 38: Baby Boomers and the Search for Downside Protection
2015



Source: Capital Group Survey.

The efforts of institutions and individuals alike to limit volatility have produced unintended consequences. Stocks have been drawn together to become a single entity in down markets, as fear of the asset class itself has overwhelmed corporate fundamentals. The effect is felt most strongly among value stocks, and more broadly among those with volatile characteristics. The Big Growers fit in the later category.

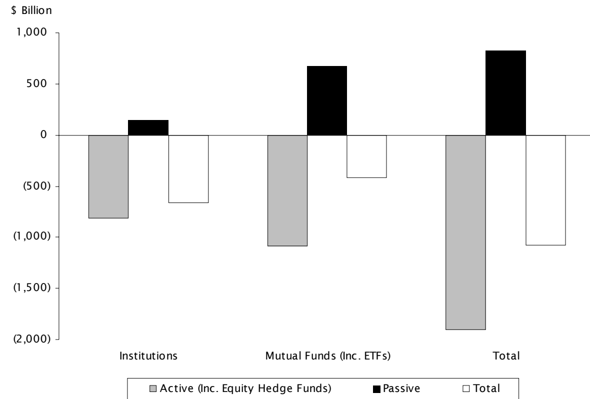
We're now in the midst of another European crisis that threatens the Bretton Woods II era. When the dust settles we'll be set up once again to bet against the asset allocation machine. With so much of the capital devoted to market timing of one sort or another we should expect to see tactical opportunities arise more frequently. The rise of the machines and popularization of Sharpe ratios have changed the *short-term* behavior of the equity market.

Indexing and the Thundering Herd

More Thunder Than Lightening

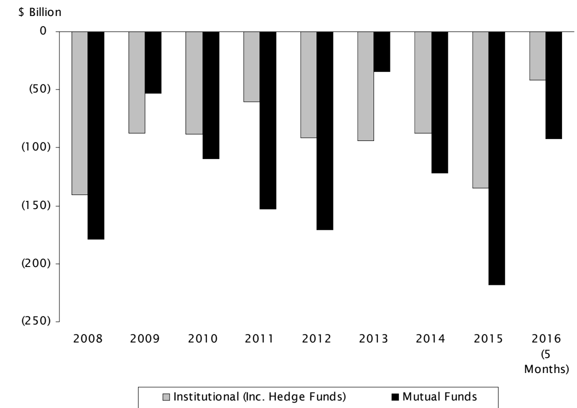
We've had frequent discussions with clients about how the rise of indexing, and ETFs in particular, are impacting what goes on in the equity market. One thing is certain, active managers have been liquidating their positions for the better part of a decade (see Exhibit 39). Just over 43% of those outflows ended up in indexed products, and the rest went to parts unknown. The rotation hasn't diminished as the financial crisis moved further into the rear view mirror, if anything it's intensified (see Exhibit 40).

Exhibit 39: U.S. Equities
Cumulative Net Flows into Active and Passive Investment Vehicles
2008 Through Q1 2016



Source: Callan Associates, eVestment Alliance, Investment Company Institute, Empirical Research Partners Analysis.

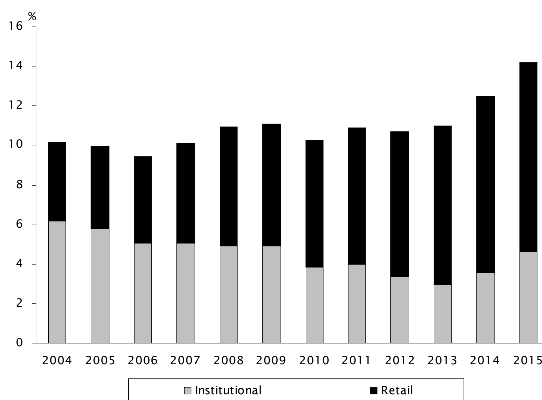
Exhibit 40: Actively-Managed U.S. Equity Products
Net Outflows
2008 Through May 2016



Source: Investment Company Institute, eVestment Alliance, Callan Associates, Empirical Research Partners Analysis.

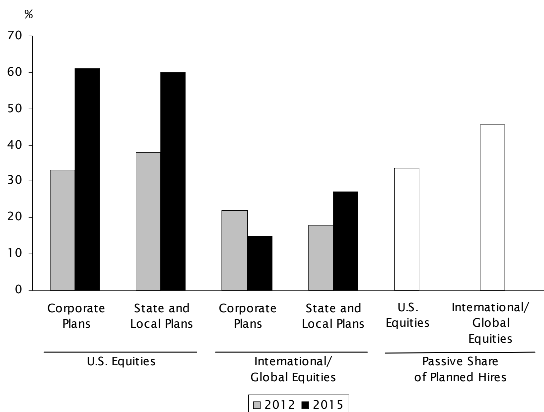
Despite all that movement into index funds their share of the market didn't budge for a decade (see Exhibit 41). That's because during that span institutions drastically reduced their overall exposures to U.S. equities, taking their allocations down by more than (15) percentage points. More recently though they've shifted a significant portion of their remaining exposure into indexed products, pushing up their share of the equity market (see Exhibits 41 and 42).

Exhibit 41: Institutional and Retail Investors
Indexed Equity Assets
As a Share of the U.S. Market
2004 Through 2015



Source: Investment Company Institute, Federal Reserve Board: Flow of Funds, Greenwich Associates, Empirical Research Partners Analysis and Estimates.

Exhibit 42: U.S. Institutions
Passive Share of Allocations By Category
2012 and 2015

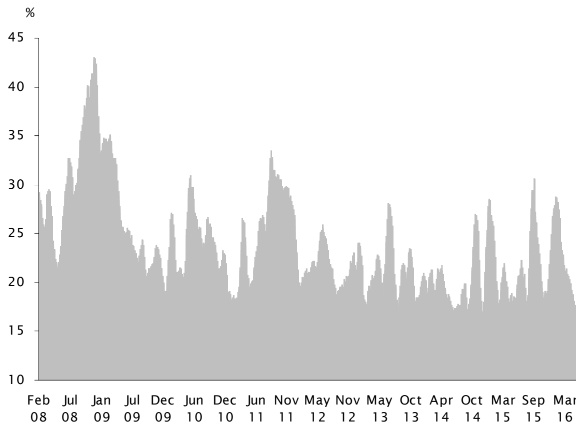


Source: Greenwich Associates.

Of course trading activity is more important than assets to the short-term results and many ETFs turn over rapidly. Exhibit 43 charts the value of trading for those that invest in U.S. equities relative to that in the underlying shares. That ratio has been stuck in the ± 20% range throughout the past eight years. Yet another way of gauging market power is to examine the net inflows as a share of market capitalization (see Exhibit 44). On a quarterly basis the

flows amount to less than 20 basis points of market capitalization. It doesn't appear that the influence of ETFs on the U.S. equity market has grown significantly over time.

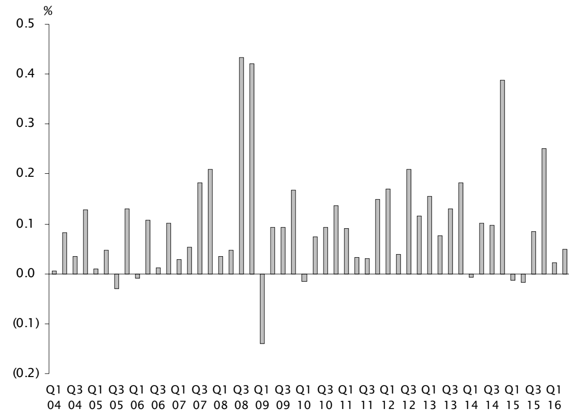
Exhibit 43: U.S. Equities
Value of Trading in ETFs Compared to the Underlying Shares[1]
February 2008 Through May 2016



Source: Empirical Research Partners Analysis.

[1]Data smoothed on a trailing four-week basis.

Exhibit 44: U.S. Equity ETFs
Net Flows as a Share of Equity Market Capitalization
2004 Through May 2016

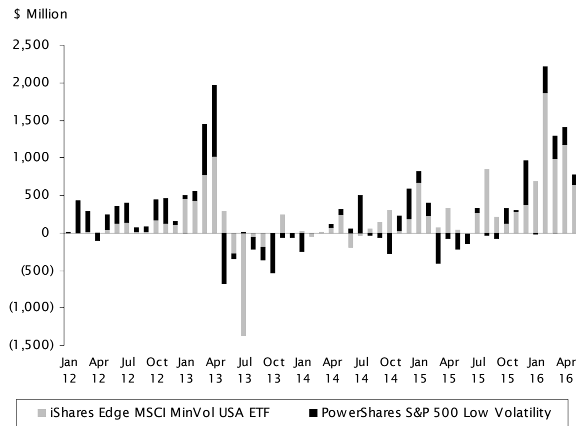


Source: Strategic Insight Simfund, Empirical Research Partners Analysis.

Tradable Stability, A Winner

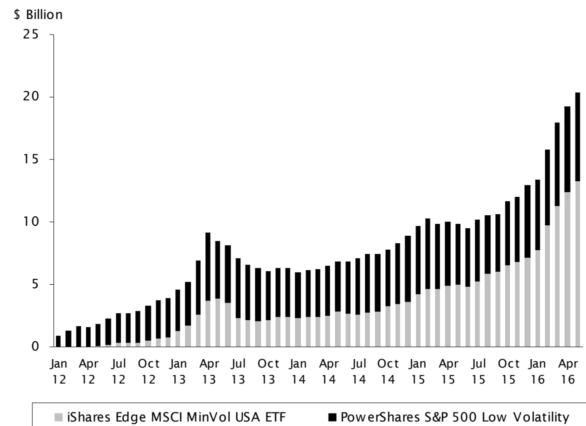
Of course not all ETFs are created equal and lately the hottest ones have been those that invest in low-volatility stocks, led by the iShares offering. The flows into them turned up about a year ago and assets in the two leading products have since about doubled (see Exhibits 45 and 46). Both earned five-star ratings from Morningstar in the fourth-quarter of last year and that's when the new money really began to pour in. Even after taking in large sums the assets of those ETFs still account for less than 0.5% of the capitalization of our Stable Stock universe and 1% of the trading in those shares.

Exhibit 45: iShares Minimum Volatility and Powershares Low Volatility ETFs Net Flows
2012 Through May 2016



Source: Strategic Insight Simfund, Empirical Research Partners Analysis.

Exhibit 46: iShares Minimum Volatility and Powershares Low Volatility ETFs Assets
2012 Through May 2016

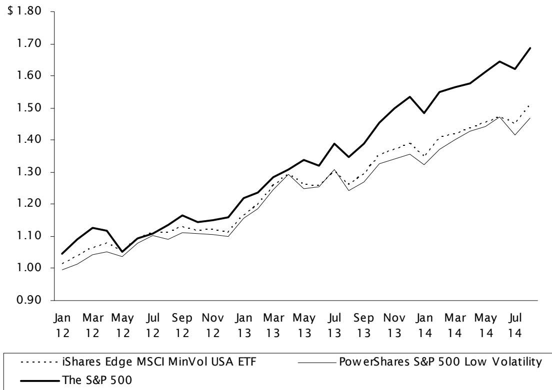


Source: Strategic Insight Simfund, Empirical Research Partners Analysis.

Clients have asked whether the marketing success of low-vol strategies has to do with aging of baby boomers and their search for retirement tranquility. In other words, it's a secular story? We think there's something to that idea but it's only true when tranquility and performance come together.

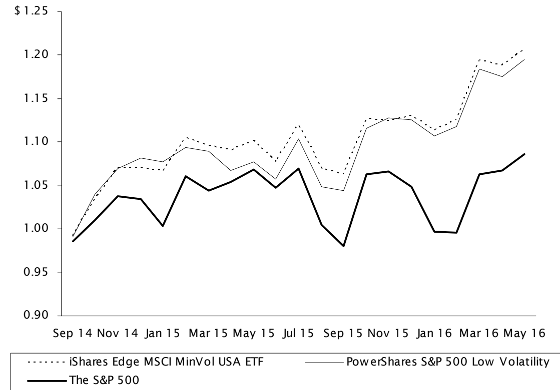
The track records tell the tale. From 2012 through August of 2014 these two ETFs lagged the S&P 500, producing about $1.50 for each dollar invested compared to $1.69 for the index (see Exhibit 47). In that nearly 2¾ year span they garnered net inflows of $4.7 billion. In the next 21 months they topped the market by about +10 percentage points and took in another $11 billion of new money (see Exhibit 48). We think as usual it's mostly been about the numbers and the endorsement from Morningstar.

Exhibit 47: iShares Minimum Volatility, Powershares Low Volatility ETFs and the S&P 500 Growth of a Dollar 2012 Through August 2014



Source: Strategic Insight Simfund, Empirical Research Partners Analysis.

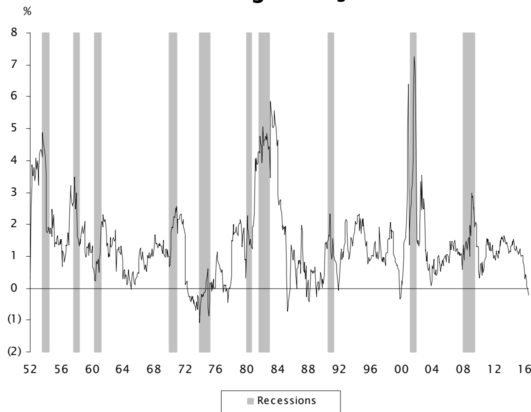
Exhibit 48: iShares Minimum Volatility, Powershares Low Volatility ETFs and the S&P 500 Growth of a Dollar September 2014 Through May 2016



Source: Strategic Insight Simfund, Empirical Research Partners Analysis.

At present, with fears related to Brexit global stagnation and central bank impotence running red hot, stability looks like a high-priced virtue. That's most true when the basis for comparison is free cash flow yields and those for the most-stable quintile are below those for the market as a whole (see Exhibit 49). Fundamentals have played a role too and the top-line growth of the stable companies has topped that for the core of the S&P 500 (see Exhibit 50).

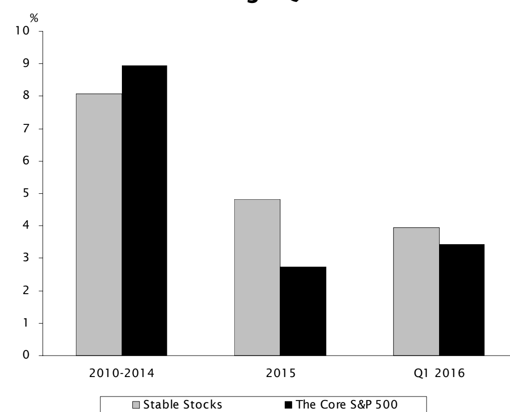
Exhibit 49: Large-Capitalization Stable Stocks Relative Free Cash Flow Yields[1] 1952 Through Late-June 2016



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

[1]Equally-weighted data.

Exhibit 50: Large-Cap Stable and the Core S&P 500 Stocks[1] Average Year-over-Year Revenue Growth Rates 2010 Through Q1 2016



Source: Empirical Research Partners Analysis.

[1]Based on current constituents; the core S&P 500 excludes financials and energy.

Conclusion: The Tail and the Dog

Many of our clients believe that popularity of indexing has distorted the investing landscape by mechanically shifting money into the wrong stocks. That's made the market harder to beat. We don't find compelling evidence of that, at least when the holding period is a year or more.

Over the short run the availability of tradable index products does affect how stocks behave.[1] We found that spikes in the trading volume of ETFs are associated with both higher levels of market volatility and temporary increases in the correlations of the returns of index constituents. That's true at both the broad market and sector levels. These effects occur mostly in falling markets when absolute-return investors, in need of a hedge, rush headlong into these and like vehicles. As ETFs have become ubiquitous the ripple effects throughout the system have grown, and they go on longer than before. For stock pickers there's an opportunity to capitalize on the dislocations, because when fear is the prevailing emotion, the baby goes out with the bathwater.

[1]*Stock Selection: Research and Results* April 2016. "ETFs, Mood Enhancers."