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Portfolio Strategy February 2017

Margins: Robotics, Industry Concentration and Taxes
Going with GARP: The Distrusted Fifty, Operating Leverage, Unbowed

It Ain't Broken So It's Tough to Fix

- The profit margins of manufacturers, that source half the earnings of the S&P 500, exceeded 13% in the latest quarter, an all-time record and 40% above the peak achieved at the dawn of the Bretton Woods II era in 2000. The long-running margin expansion is explained by declines in effective tax rates, interest rates and labor costs. The largest factor adding to margins has been a (15) point decline in effective tax rates, the result of globalization. The direct investment income coming from tax-haven countries like Ireland and Switzerland is up almost six-fold in 15 years. Robotics accounts for almost half the reduction the labor burden and the cost savings have mostly accrued to the biggest companies, who've gained significant share in most industries.

- With margins already at unprecedented levels, attempts to reset the terms of global trade may not turn out to be a good thing for the companies at the top of Corporate America. While most multinationals would technically benefit from the House Republican's destination tax proposal, because they export more than they import, they'd be hurt by a stronger Dollar and by weaker domestic consumer demand. The tax would be regressive and could choke off the spending recovery underway at the low end. The proposal allows U.S. companies to deduct wage costs and as such it could be interpreted as an import restriction or an export subsidy, leading to rounds of tariff increases around the world. The point is that for most of Corporate America, it ain't broken, effective tax rates are already low, and attempts to revamp the global economic order would be disruptive, not the stuff of higher multiples.

Going with GARP: The Distrusted Fifty

- With valuation spreads now below average and the regime neutral, we're once again turning to a growth-at-a-reasonable-price strategy. Our Distrusted Fifty portfolio, that has a 12¼-year track record, embodies that approach. It takes advantage of the fact that most growth stocks have limited top-line growth prospects yet are very profitable and generate lots of free cash flow. We're looking for situations where the market is overly skeptical about the reinvestment rate.

- We ran the history of the Distrusted Fifty's holdings through our Portfolio Analytics system and found the bets have been consistent over time, emphasizing free cash flow generators with constructive capital deployment profiles, that grow slower than their growth stock peers. Those are also the attributes that have driven performance. We're optimistic about the prospects for the approach because the average holding produces a 35% ROE and discounts only a mid-single-digit earnings growth trajectory. Appendix 1 on page 15 presents the current constituents of the Distrusted Fifty and Appendix 2 lists other stocks that qualify for inclusion.

Earnings: Operating Leverage, Unbowed

- Top-line growth accelerated to the fastest pace in two years in the fourth quarter, invoking substantial operating leverage, led once again by the technology sector. Each dollar of new revenue brought with it more than 20¢ of pre-tax profits. Almost 60% of large-cap companies saw their margins increase in the quarter. Managements have yet to demonstrate real animal spirits and capital spending growth has trailed that of earnings. Remarkably the earnings story is intact 7½ years after the bottom of the cycle.

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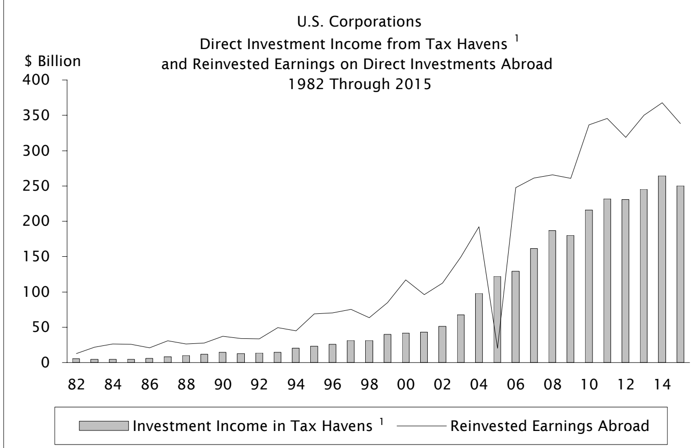
Conclusions in Brief

- The decline in labor costs has been concentrated in the biggest companies…

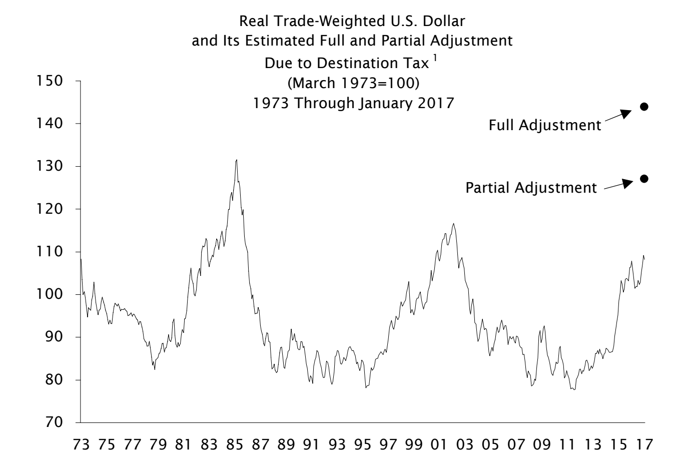
Source: Autor, D., Dorn, D., Katz, L. R., Patterson, C. and John Van Reenan, 2017. "Concentrating on the Fall of the Labor Share," IZA Institute of Labor Economics, DP No. 10539.

- …And tax rate arbitrage has been a major contributor to margins as well:



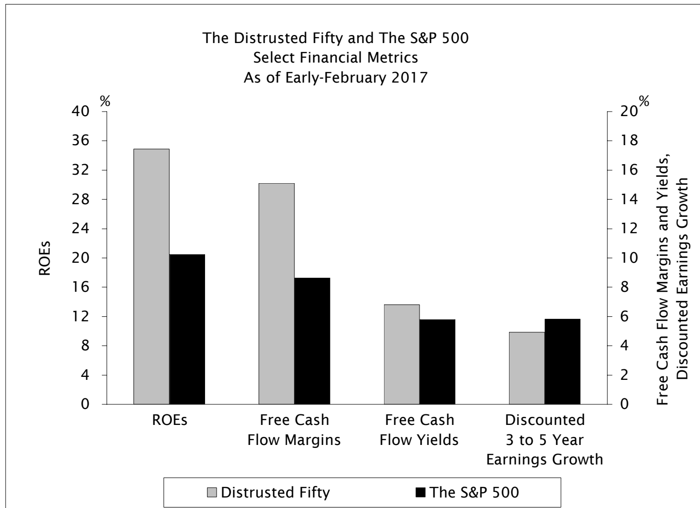
Source: Gabriel Zucman, 2014. "Taxing across Borders: Tracking Personal Wealth and Corporate Profits." *Journal of Economic Perspectives*, Vol. 28, (4), pp.121-148, Brad Setser, 2017. "Dark Matter. Soon to be Revealed?" Council on Foreign Relations, Bureau of Economic Analysis, Empirical Research Partners Analysis.
[1] The Netherlands, Ireland, Switzerland, Singapore, Luxembourg, Bermuda and other Caribbean havens.

- A destination tax carries with it a panoply of risks:



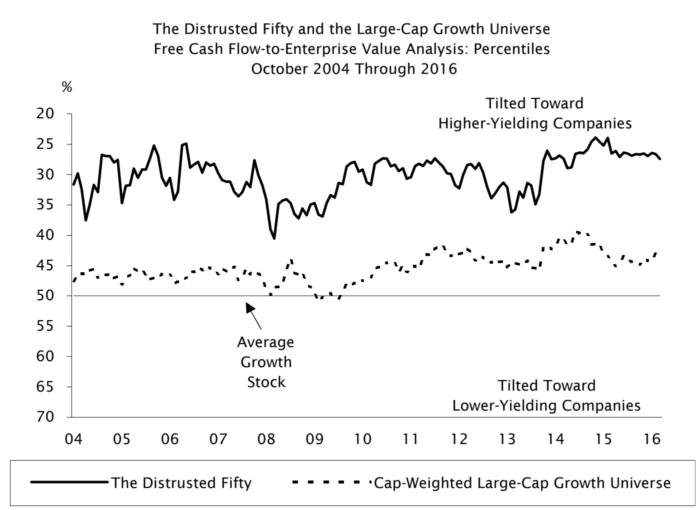
Source: Jason Furman, February 2017. "Border Adjustment as Tax Policy and as Macroeconomic Policy" Peterson Institute for International Economics Conference of Border Tax Adjustment and Corporate Tax Reforms, Federal Reserve Board.
[1] Trade-weighted U.S. Dollar against a basket of developed market currencies.

- With valuation spreads below average, the Distrusted Fifty has the right stuff…



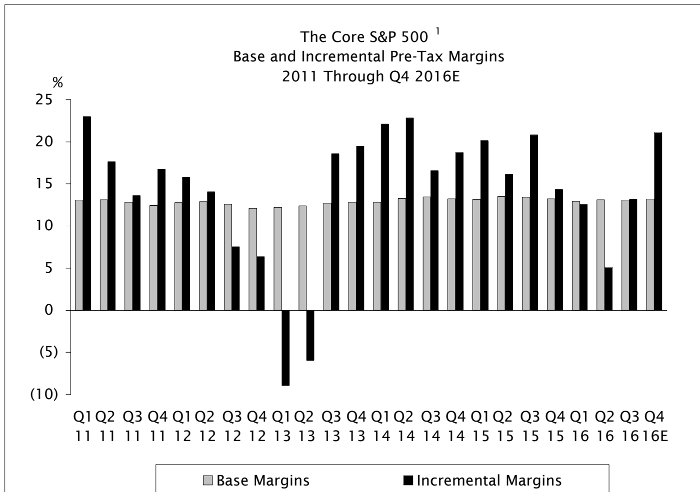
Source: Corporate Reports, Empirical Research Partners Analysis.

- …And it's always levered to free cash flow generators:



Source: Empirical Research Partners Analysis.

- The market's operating leverage story is intact:



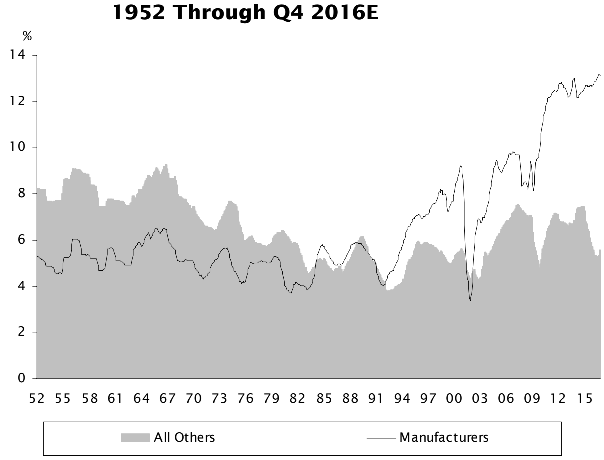
Source: Corporate Reports, Empirical Research Partners Analysis.
[1] The core excludes financials, utilities, energy and industrial commodities.

Margins: Robotics, Industry Concentration and Taxes

It's All Explained by Globalization and Automation

Clients continue to worry about what the operating environment might look like under an administration that puts "America First." The concerns don't seem entirely misbegotten because Corporate America has done quite well before that was the priority. That's been especially true for manufacturers, the source of half the profits of the S&P 500. Exhibit 1 presents the long-term history of their margins along with those for the rest of the market, while Exhibit 2 presents the recent quarterly data. Even with weak global demand margins have reached record levels, nearly 20% on a pre-tax basis. We've done work to understand the forces that have driven margins ever higher and we think there are four that explain pretty much everything: the labor cost savings from moving production offshore, labor savings from bringing automation to the plant floor, and declining interest and tax rates (see Exhibit 3). Defying forecasts of regression to the mean, thus far those benefits haven't been competed away. In this research we look further into how automation and tax rate arbitrage fit into the picture.

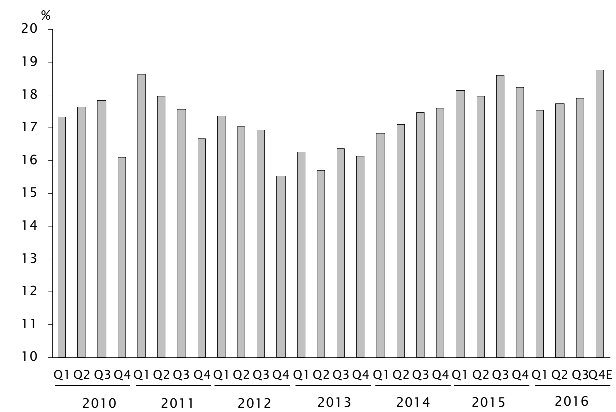
Exhibit 1: The S&P 500 Manufacturers and All Others Net Profit Margins[1] 1952 Through Q4 2016E



Source: Corporate Reports, Empirical Research Partners Analysis.

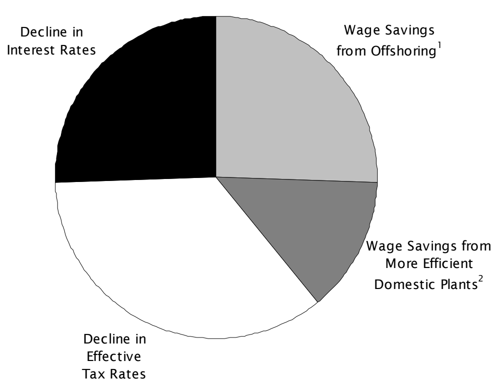
[1]Based on trailing four-quarter data excluding financials. Smoothed on a trailing three-month basis.

Exhibit 2: The S&P 500 Manufacturers Quarterly Pre-Tax Margins 2010 Through Q4 2016E



Source: Empirical Research Partners Analysis.

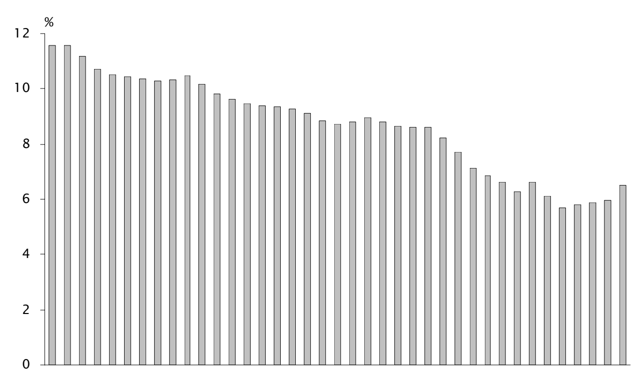
Exhibit 3: The S&P 500 Manufacturers Decomposition of the Margin Expansion 2000 Through 2015



Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Corporate Reports, Empirical Research Partners Analysis.

[1]Assumes that the lost U.S. jobs were replaced by one-for-one by jobs in China at lower rates of compensation.
[2]Assumes the decline in the labor intensity of these plants matches that for the entire U.S. manufacturing system.

Exhibit 4: U.S. Manufacturing Plants Production Workers Wages as a Share of Shipments 1977 Through 2015



Source: U.S. Census Bureau: Annual Survey of Manufactures, Empirical Research Partners Analysis.

Robotics Have Changed the Labor Equation…

The remaining U.S. manufacturing plants are producing more output than they did 15 years ago with far fewer workers. We believe that's in part the result of them ramping up the use of robotics on the plant floor while at the same time moving labor-intensive operations to lower-cost locales. For example Exhibit 4 uses data from the Census Department's Survey of Manufactures to compare the payroll of production workers to the output of the plants. The ratio fell from 8.5% in 2000 to a low of 6% in 2014 and the value of shipments per hour worked by production workers went from $176 in 2000 to $372 in 2014. That +5.5% annual rate-of-improvement compares to a +2.9% per annum change in the manufactured goods PPI. The productivity gains have been easy to see.

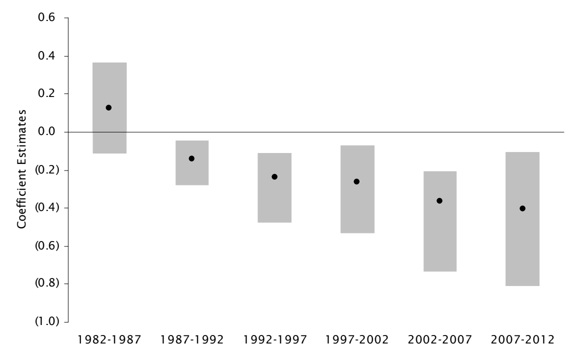
…As Has Growing Industry Concentration

We read an interesting paper that made the point that much of the decline in labor's share of the pie is related to an increased concentration of market shares in most industries.[1] We see that trend in manufacturing industries where in 1987 the top four firms typically account for 40.5% of sales and 35.5% of employment (see Exhibit 5). By 2012 those statistics were 43.5% and 34.3% respectively. The largest companies benefited from economies of scale while the industry medians were little changed. Putting it all together, the decline in the labor's share has been tied to changes in concentration, with the greatest effects in the Bretton Woods II era (see Exhibit 6).

Exhibit 5: U.S. Manufacturing Industries
Top Four Firms: Share of Sales and Employment
1982 Through 2012

Source: Autor, D., Dorn, D., Katz, L. R., Patterson, C. and John Van Reenan, 2017. "Concentrating on the Fall of the Labor Share," IZA Institute of Labor Economics, DP No. 10539.

Exhibit 6: U.S. Manufacturers
Correlation Between the Change in the Labor Share and That in Industry Concentration
1982 Through 2012



Source: Autor, D., Dorn, D., Katz, L. R., Patterson, C. and John Van Reenan, 2017. "Concentrating on the Fall of the Labor Share," IZA Institute of Labor Economics, DP No. 10539.

What all of this makes clear that the upside to employment from re-shoring is probably limited, as automation and the growing concentration in market shares constitute important parts of the story.

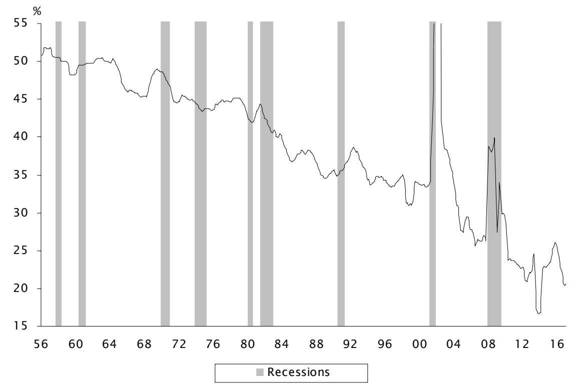
Tax Rates: Front Running Legislation

An even bigger source of margin expansion for manufacturers has come from the decline in their effective tax rates. They've been falling for 60 years, having come down by (15) percentage points in the last 15 years (see Exhibit 7). Those rates already resemble those put forward in the Republican's plan. Much of their decline has been attributable to the increasingly global character of the business mix that's shifted more of the profits to lower-taxed locales, helped along by the creative use of transfer pricing (see Exhibit 8). The vast bulk of the sales of foreign affiliates aren't to U.S. customers (see Exhibit 9). There's also been a lot of tax rate arbitrage activity involving tax-haven countries. Exhibit 10 compares all the profits retained overseas by U.S. companies to those earned in tax havens (i.e., the Netherlands, Ireland, Switzerland and Singapore). In 2015 the latter was just about 75% of the former which has spurred the calls for reform.

One of the objectives of the proposed legislation is to incent companies to shift the income earned in tax havens, that's usually intermediated through U.S. financial institutions, back on shore, hopefully creating multiplier effects. That hope would make sense if there were signs that the parents of the most-aggressive tax avoiders were capital constrained. We don't see evidence of that, rather, they look to have plenty of debt capacity, that in fact they've drawn upon it in recent years to make acquisitions and buy back their own shares (see Exhibit 11).

[1]Autor, D., Dorn, D., Katz, L. R., Patterson, C. and John Van Reenan, 2017. "Concentrating on the Fall of the Labor Share," IZA Institute of Labor Economics, DP No. 10539.

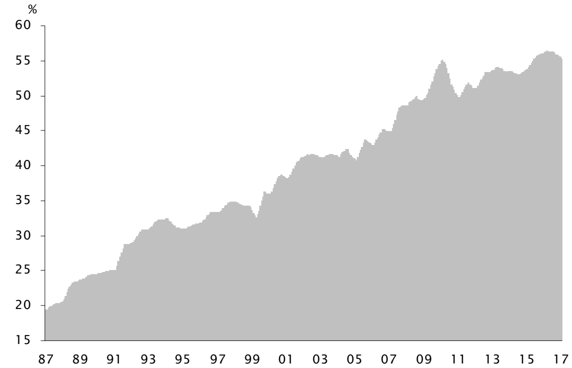
Exhibit 7: The S&P 500: Manufacturers Effective Tax Rate[1] 1956 Through January 2017



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

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

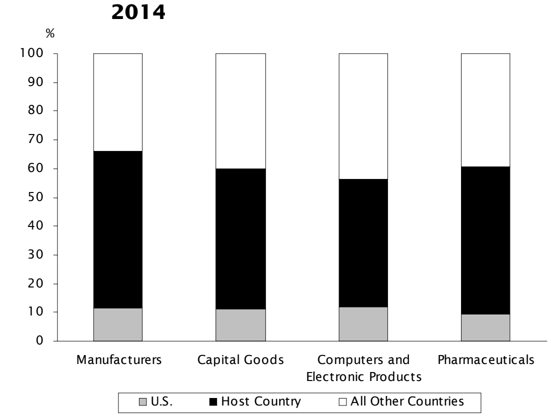
Exhibit 8: Large-Capitalization U.S. Manufacturers Foreign Sales as a Share of Total[1] 1987 Through January 2017



Source: Empirical Research Partners Analysis.

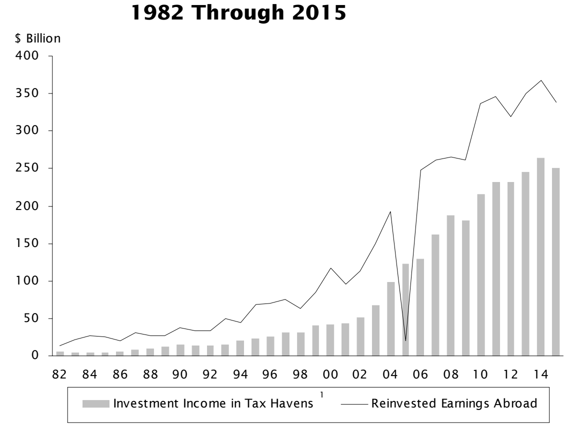
[1]Data smoothed on trailing six-month basis.

Exhibit 9: U.S. Multinationals Manufacturers and Select Industries Breakdown of Foreign Affiliates' Sales: To the U.S., The Host Country and Other Countries 2014



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

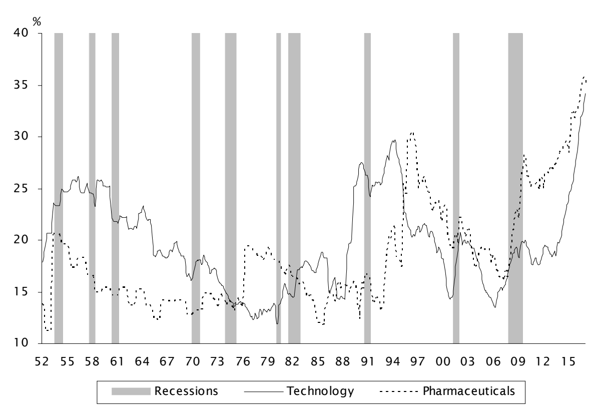
Exhibit 10: U.S. Corporations Direct Investment Income from Tax Havens[1] and Reinvested Earnings on Direct Investments Abroad 1982 Through 2015



Source: Gabriel Zucman, 2014. "Taxing across Borders: Tracking Personal Wealth and Corporate Profits." *Journal of Economic Perspectives,* Vol. 28, (4), pp.121-148, Brad Setser, 2017. "Dark Matter. Soon to be Revealed?" Council on Foreign Relations, Bureau of Economic Analysis, Empirical Research Partners Analysis.

[1]The Netherlands, Ireland, Switzerland, Singapore, Luxembourg, Bermuda and other Caribbean havens.

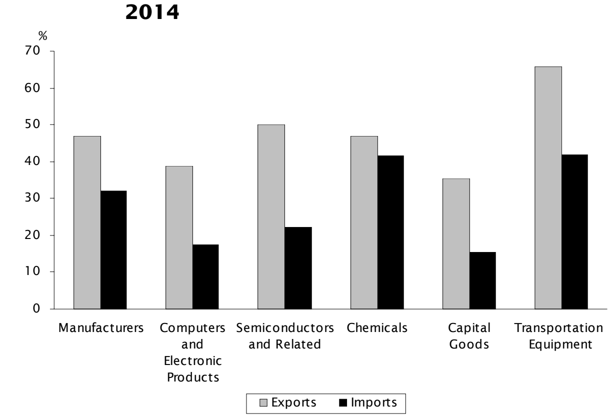
Exhibit 11: Large-Cap U.S. Technology and Pharmaceutical Stocks Debt-to-Capital Ratios[1] 1952 Through January 2017



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

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

Exhibit 12: U.S. Multinationals Manufacturers and Select Industries Share of Total U.S. Exports and Imports 2014

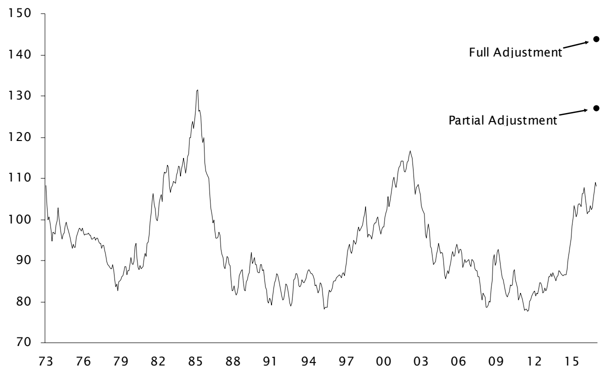


Source: Bureau of Economic Analysis, Empirical Research Partners Analysis.

Conclusion: The Apple Cart Effect

A destination tax would *technically* prove to be a windfall for most U.S. multinationals because they export more than they import (see Exhibit 12 overleaf). Our concern is that it would upset the globalization dynamic, that's worked to the advantage of most companies. In addition, the resulting strength in the Dollar, that's hard to forecast, would undermine competitiveness (see Exhibit 13). The rise in consumer prices would be regressive, impeding a key driver of the cycle, the tightness at the low-end of the labor market (see Exhibits 14 and 15).

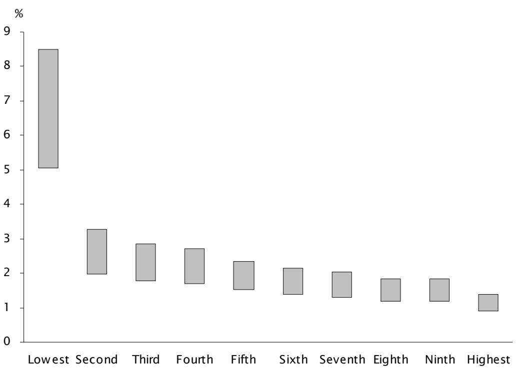
Exhibit 13: Real Trade-Weighted U.S. Dollar and Its Estimated Full and Partial Adjustment Due to Destination Tax[1] (March 1973=100) 1973 Through January 2017



Source: Jason Furman, 2017. "Border Adjustment as Tax Policy and as Macroeconomic Policy," Peterson Institute for International Economics Conference of Border Tax Adjustment and Corporate Tax Reforms, Federal Reserve Board.

[1]Trade-weighted U.S. Dollar against a basket of developed market currencies.

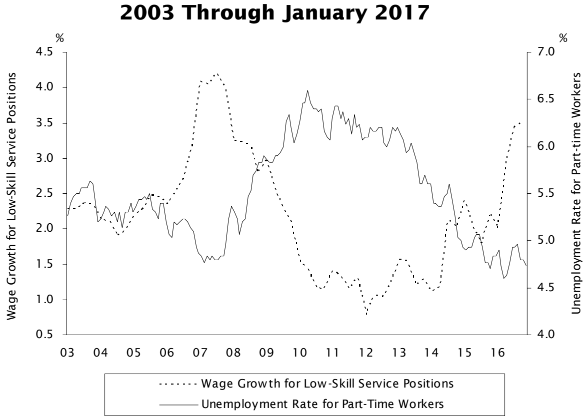
Exhibit 14: Range of Potential Tariff Burdens from a 20% Border Adjustment Tax as a Percent of After-Tax Household Income By Decile of Pre-Tax Income 2014



Source: Kadee Russ, 2017. "Distributional Implications of the Border Adjustment Tax for U.S. Households: Lower- and Middle-Income Households May be Hard Hit," http://www.econbrower.com. U.S. Census Bureau.

There's also the question of whether all other things will remain equal. The destination tax proposal allows U.S. companies to deduct wage costs, that are probably in the ballpark of about a third of revenues, while not giving the same benefit to their foreign counterparts. The World Trade Organization could interpret that preferential treatment as an import restriction or export subsidy and allow the U.S.'s trading partners to raise tariffs by a like amount. Since most multinationals are net exporters that would be a problem. The U.S. has a long history of making complaints with that organization and being the subject of them as well (see Exhibit 16).

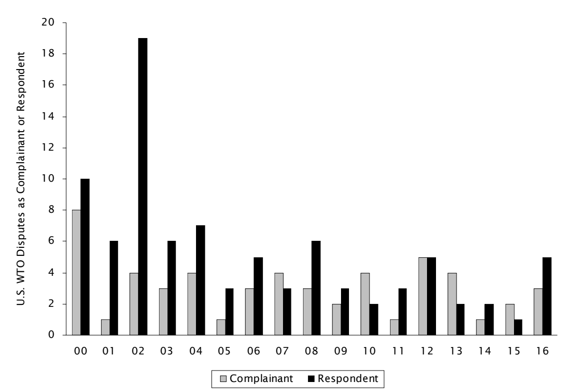
Exhibit 15: Wage Growth for Low-Skill Service Positions[1] and Unemployment Rate for Part-Time Workers 2003 Through January 2017



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

[1]Wage growth through Q4 2016. Unemployment rate smoothed on a trailing three-month basis.

Exhibit 16: U.S. WTO Disputes As Complainant or Respondent 2000 Through 2016



Source: World Trade Organization.

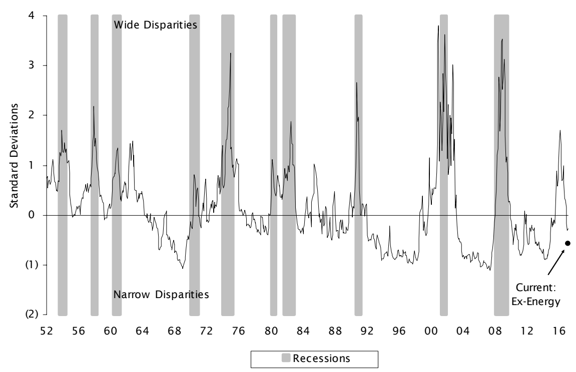
For most U.S. companies the Apple Cart has been stable for the 15 years of the Bretton Woods II era, to the benefit of margins and multiples. Most of the forces that got us to this point would be costly to reverse and tax avoidance is one part of a complex puzzle. We believe any serious attempt to reset the global world order through tax policy or higher tariffs could call the market's multiple into question.

Going with GARP: The Distrusted Fifty

Redefining Value

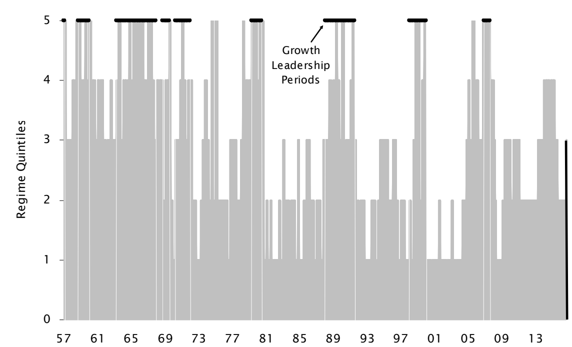
The outlook for value investing is today decidedly less interesting than it was a year ago because many of the stresses in place back then have abated. That's reflected in our valuation spreads that have come down by two standard deviations and now sit somewhere between a third and a half a deviation below their long-term average (see Exhibit 17). Our regime indicator, that's designed to forecast the stylistic bias within the market, recently moved from a value-tilted to a neutral stance (see Exhibit 18).[2] Several of the other measures that we use to interpret the market's dynamic tell a similar story. Stocks with strong dividend growth have outperformed those with high yields, a sign of renewed confidence, and issues offering stable growth have fared poorly (see Exhibits 19 and 20). Jitters have been replaced by a case of the blahs.

**Exhibit 17: The U.S. Equity Market
Valuation Spreads
Expected Return of the Top Quintile
Compared to the Average
2003 Through January 2017**



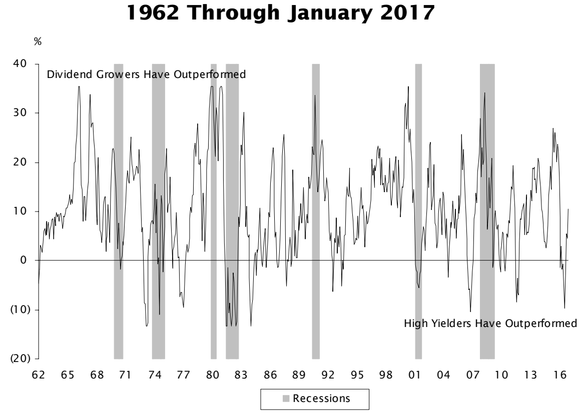
Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

**Exhibit 18: The U.S. Equity Market
Regime Indicator Quintiles
(5=Growth-Driven Dynamic;
1=Valuation-Driven Dynamic)
1957 Through January 2017**



Source: Empirical Research Partners Analysis.

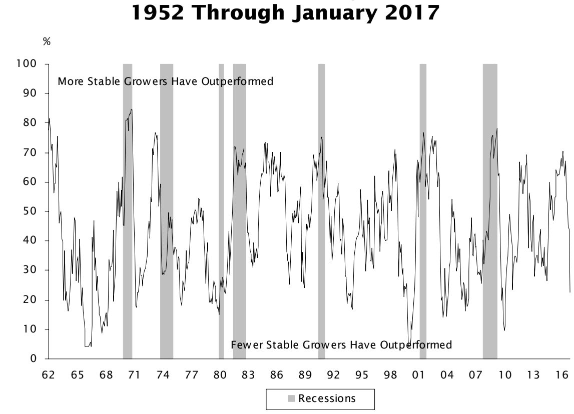
**Exhibit 19: Large-Capitalization Stocks
Dividend Growers Versus High Yielders[1]
Comparison of Nine-Month Stock Price Performance
1962 Through January 2017**



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

[1]Defined as the highest quintile of dividend growth versus that of dividend yield.

**Exhibit 20: Large-Capitalization Stocks
Stable Growers[1]
Share Outperforming[2]
1952 Through January 2017**



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

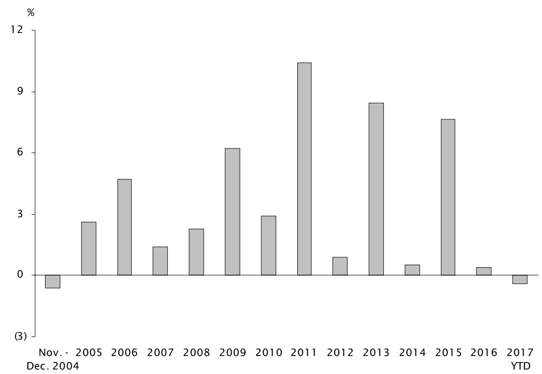
[1]Measured using daily data over the prior nine months.
[2]Defined as the highest quintile of dividend growth versus that of dividend yield.

Given that, we think we should transition from looking for deep-value ideas to seeking out those of a softer variety, typically GARP stocks, as typified by the holdings of our Distrusted Fifty Portfolio. To populate it we screen for very-profitable growth stocks retaining lots of capital. We're trying to find situations where the market is skeptical and as a result the stocks discount modest growth prospects. To help us avoid blow-ups we use our large-cap

[2]*Stock Selection: Research and Results* January 2017. "Regime Change: From Value Tilted to Neutral."

growth model as an up-front screen, a part of the process that's proven to be consistently helpful (see Exhibit 21). We have a bias toward stocks with higher free cash flow yields, also a continuing source of virtue (see Exhibit 22).

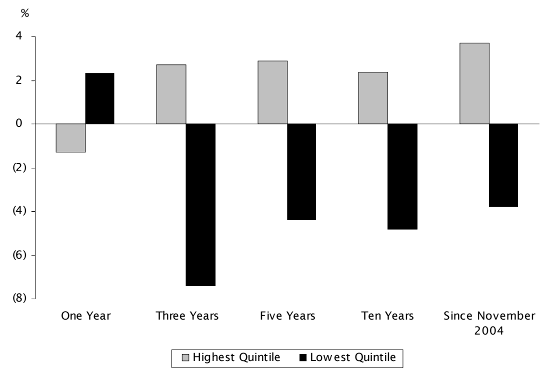
Exhibit 21: The Large-Capitalization Growth Model Annual Relative Returns of the Top Quintile[1] Monthly Data Compounded to Annual Periods November 2004 Through Early-February 2017



Source: Empirical Research Partners Analysis.

[1]Equally-weighted data. Relative to the large-capitalization growth universe.

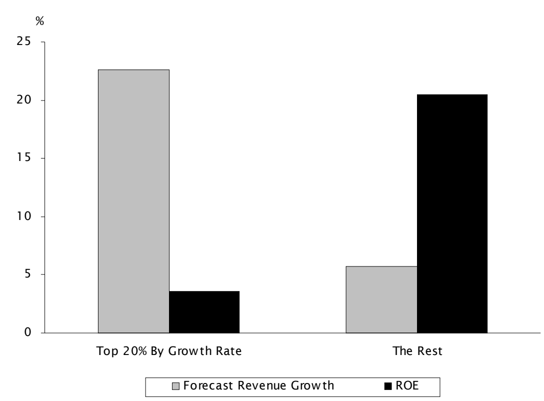
Exhibit 22: Large-Capitalization Growth Stocks Relative Returns to the Highest and Lowest Quintiles of Free Cash Flow-to-Enterprise Value Monthly Data Compounded to Annual Periods November 2004 Through Early-February 2017



Source: Empirical Research Partners Analysis.

We're trying to take advantage of the bifurcation within our 300-issue growth universe. The top 60 issues grow quickly while the rest are plebeian, with mid-single-digit top-line growth (see Exhibit 23). That larger group is quite profitable and it's the demonstrable uncertainty about its deployment of capital that we're trying to exploit (see Exhibit 24). Since November of 2004, our growth model has generated nearly +3 percentage points of alpha per year when picking among the narrow cohort of Big Growers and about +4.5 points when choosing among the rest.

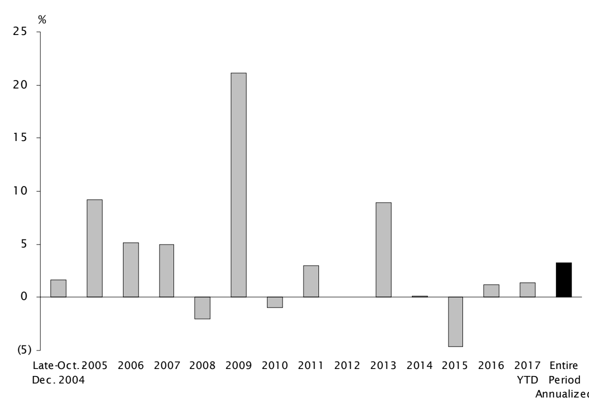
Exhibit 23: Large-Capitalization Growth Stocks *Median* Forecast Revenue Growth Rates and ROEs The Top 20% of Growers and the Rest As of Early-February 2017



Source: Empirical Research Partners Analysis.

[1]Based on forecasts of 2017 and 2018 revenue growth.

Exhibit 24: The Distrusted Fifty Annual Returns Relative to the S&P 500 Late-October 2004 Through Early-February 2017



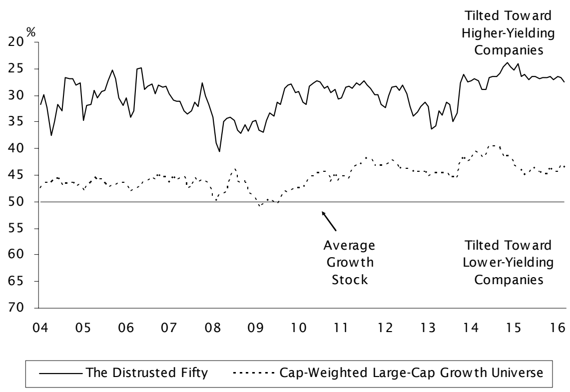
Source: Empirical Research Partners Analysis.

The Distrusted Fifty: Portfolio Analytics

We ran the history of our Distrusted Fifty holdings through our Portfolio Analytics System to better understand the bets we've actually made. The comparator in the charts is the cap-weighted large-cap growth universe with the reading for the average stock represented by the line at the 50th percentile.

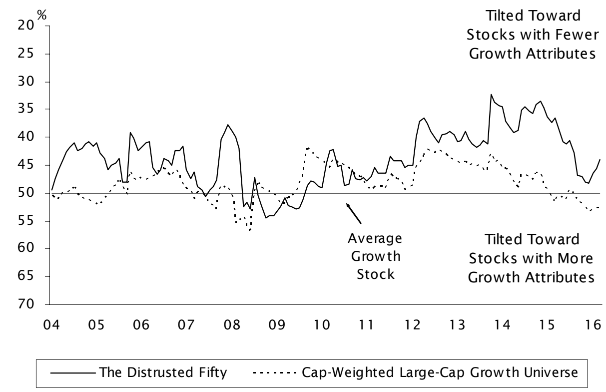
The Distrusted Fifty has always had a large exposure to growth stocks with the highest free cash flow yields, that grow more slowly than the universe that we're picking from (see Exhibits 25 and 26). Its holdings generate above-average free cash flow margins and are large buyers of their own stock (see Exhibit 27 and 28). The portfolio scores well in our capital deployment and growth model frameworks, and together they've sourced much of its alpha (see Exhibits 29 through 32). On average nearly 40% of its holdings were top ranked, not a bad hit rate given the portfolio's 30% annual turnover rate. The reason it's worked is that cash flow generation proved sustainable and the return of capital made it tangible for shareholders. The free cash flow yield premium translated into alpha.

Exhibit 25: The Distrusted Fifty and the Large-Cap Growth Universe Free Cash Flow-to-Enterprise Value Analysis: Percentiles October 2004 Through 2016



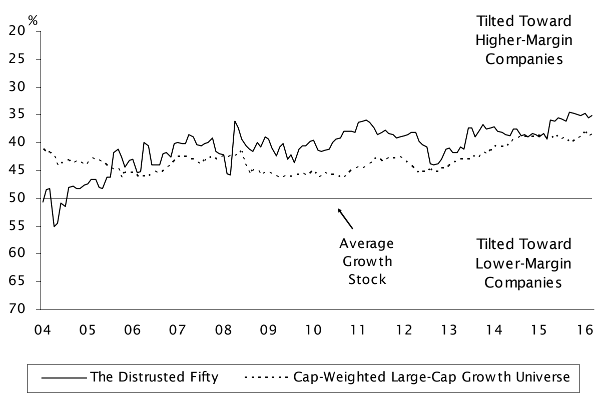
Source: Empirical Research Partners Analysis.

Exhibit 26: The Distrusted Fifty and the Large-Cap Growth Universe Growth Score Analysis: Percentiles October 2004 Through 2016



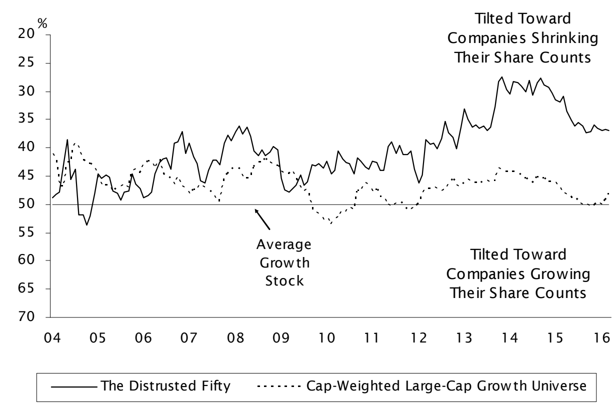
Source: Empirical Research Partners Analysis.

Exhibit 27: The Distrusted Fifty and the Large-Cap Growth Universe Free Cash Flow Margin Analysis: Percentiles October 2004 Through 2016



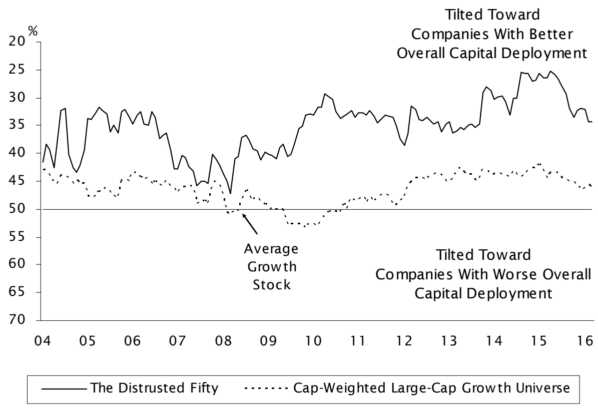
Source: Empirical Research Partners Analysis.

Exhibit 28: The Distrusted Fifty and the Large-Cap Growth Universe Change in Shares Outstanding Analysis: Percentiles October 2004 Through 2016



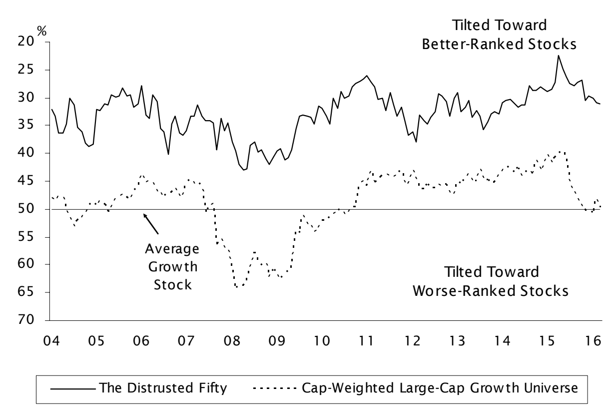
Source: Empirical Research Partners Analysis.

Exhibit 29: The Distrusted Fifty and the Large-Cap Growth Universe Capital Deployment Analysis: Percentiles October 2004 Through 2016



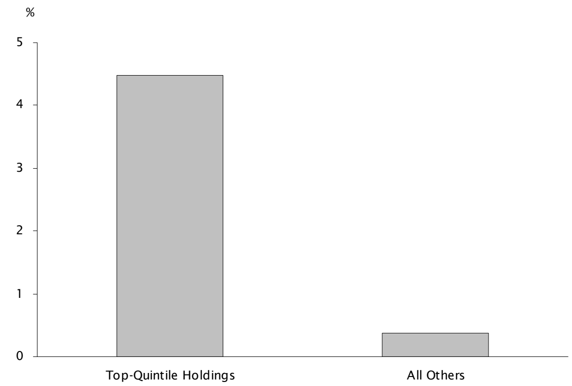
Source: Empirical Research Partners Analysis.

Exhibit 30: The Distrusted Fifty and the Large-Cap Growth Universe Growth Model Analysis: Percentiles October 2004 Through 2016



Source: Empirical Research Partners Analysis.

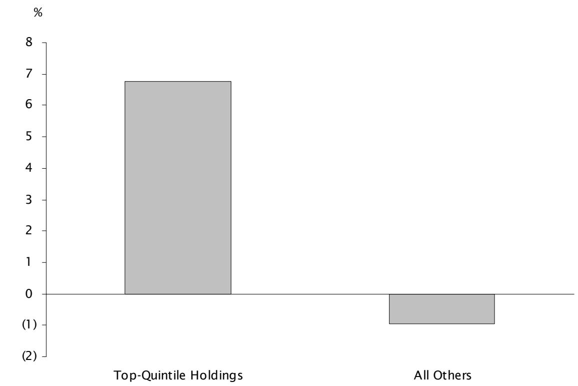
Exhibit 31: The Distrusted Fifty
Relative Returns to Holdings Based on Their Capital Deployment Ranks[1]
Monthly Data Compounded and Annualized
October 2004 Through 2016



Source: Empirical Research Partners Analysis.

[1]Equally-weighted returns relative to the large-cap growth universe.

Exhibit 32: The Distrusted Fifty
Relative Returns to Holdings Based on Their Growth Model Ranks[1]
Monthly Data Compounded and Annualized
October 2004 Through 2016



Source: Empirical Research Partners Analysis.

[1]Equally-weighted returns relative to the large-cap growth universe.

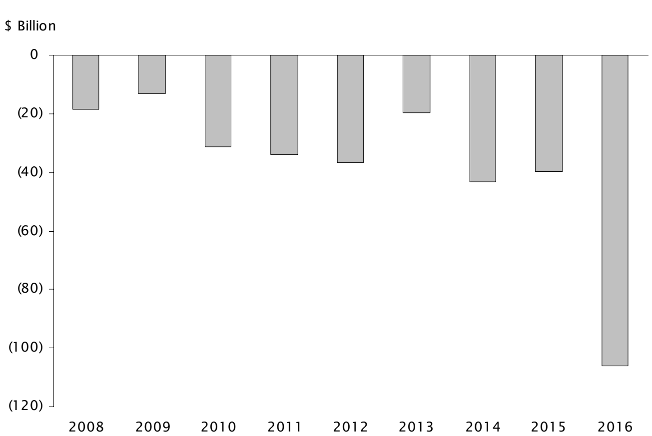
Conclusion: Going With GARP

With the opportunity set for traditional value investing looking less potent than it did a year ago we're returning to our default strategy, growth-at-a-reasonable-price. Our Distrusted Fifty portfolio is a fairly disciplined application of that philosophy. We remain optimistic about its prospects because there's been a marked decline in the amount of patient capital willing and able to exploit the exceptional returns on capital produced by much of our growth universe. We see that in the outflows from mutual funds with that objective have totaled nearly $(350) billion since 2008 (see Exhibit 33). The exodus from institutional growth products has been even larger, on the order of $(450) to $(500) billion. The retail monies are now more than three times the size the institutional pie. We believe that the equity yield curve has become steeper as the active management business has come under intense pressure.

The Distrusted Fifty is a wager on the sustainability of ROEs and free cash flow margins, that for its holdings are far above those of the S&P 500 (see Exhibit 34). The average one has a 35% ROE and discounts longer-term earnings growth that's in mid-single-digits. That relationship is key to the methodology. Our large-cap growth stock selection model, that's used to prevent potential blow ups, is another key source of alpha. It's outperformed its benchmark in every year since 2005, and has done well when picking from among both the plodders and the Big Growers.

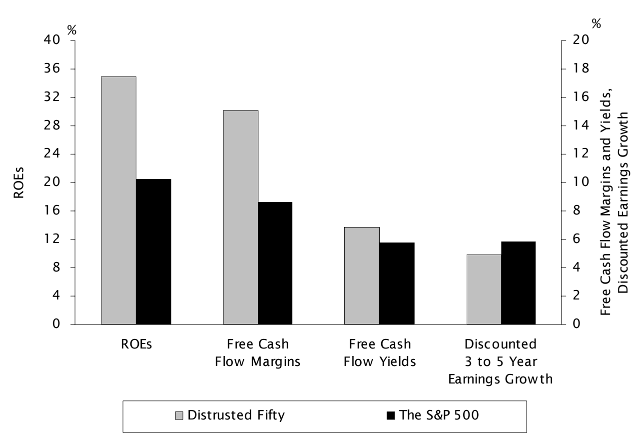
Appendix 1 on page 15 presents the current constituents of the Distrusted Fifty while Appendix 2 presents other stocks that would qualify for the portfolio.

Exhibit 33: Large-Cap Growth Mutual Funds
Net Outflows
2008 Through 2016



Source: Strategic Insight Simfund.

Exhibit 34: The Distrusted Fifty and The S&P 500
Select Financial Metrics
As of Early-February 2017



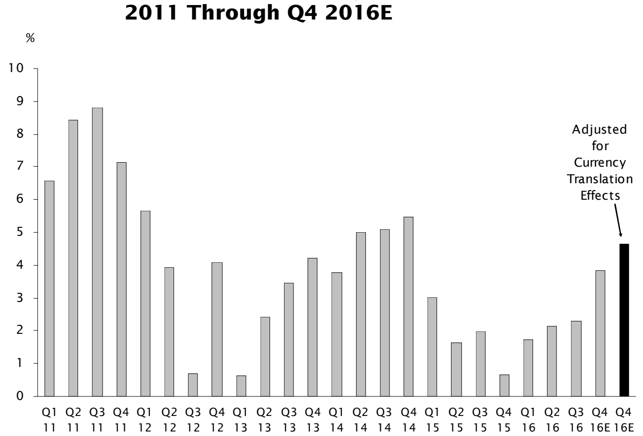
Source: Corporate Reports, Empirical Research Partners Analysis.

Fourth-Quarter Earnings: Operating Leverage, Unbowed

On Track to Normal

The reported top-line growth for the core of the S&P 500 (i.e., excluding financials, energy and industrial commodities) will come in close to +4% in the fourth quarter, better than the average growth rate of around +2% since 2015 (see Exhibit 35). If we adjust for currency translation effects the rate becomes around +4.5%. Growth bottomed a year ago and has since crawled upwards as the headwinds of dollar appreciation worked their way through the system. In the second-half of last year, two years after the Dollar took off, the headwinds gradually faded and benefits began to show up. The trajectory for the core of the market has, as usual, tracked the nominal growth rate of the U.S economy (see Exhibit 36). Moreover, top-line growth for energy and industrial commodities turned positive in the fourth quarter after a two-year bust, another encouraging sign of a return to something resembling normal (see Exhibit 37).

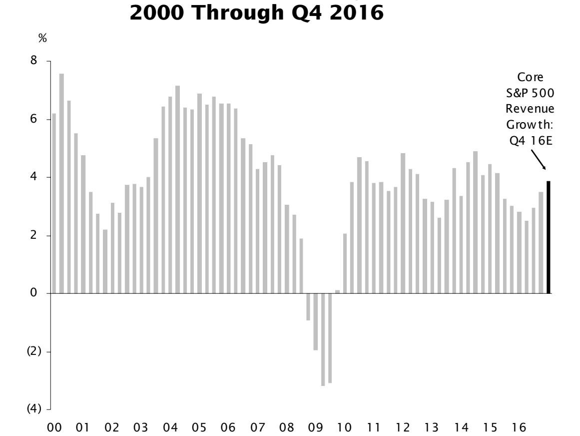
Exhibit 35: The Core S&P 500[1]
Year-Over-Year Changes in Revenues
2011 Through Q4 2016E



Source: Corporate Reports, Empirical Research Partners Analysis and Estimates.

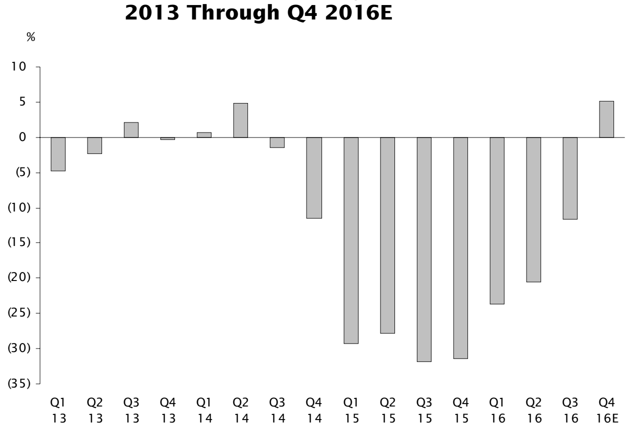
[1]The core excludes the financial, energy and industrial commodity sectors.

Exhibit 36: The U.S.
Year-over-Year Changes in Nominal GDP
2000 Through Q4 2016



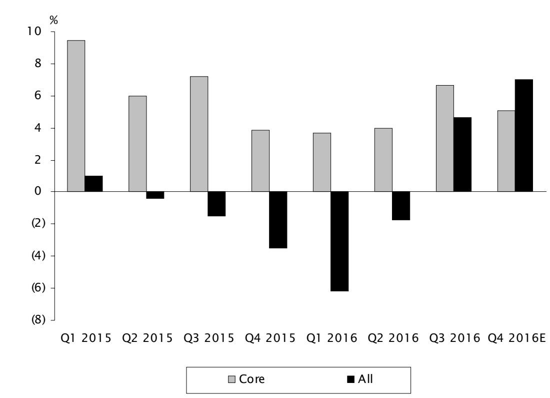
Source: Bureau of Economic Analysis, Empirical Research Partners Analysis.

Exhibit 37: The S&P 500: Energy and Industrial Commodities
Year-Over-Year Changes in Revenues
2013 Through Q4 2016E



Source: Corporate Reports, Empirical Research Partners Analysis and Estimates.

Exhibit 38: The S&P 500 Stocks: Core and All[1]
Earning Per Share Growth Rates
2015 Through Q4 2016E

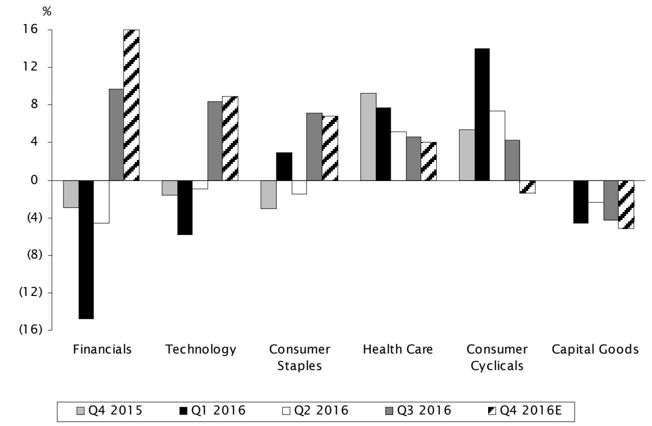


Source: Empirical Research Partners Analysis.

[1]The core excludes the financial, energy and industrial commodity sectors.

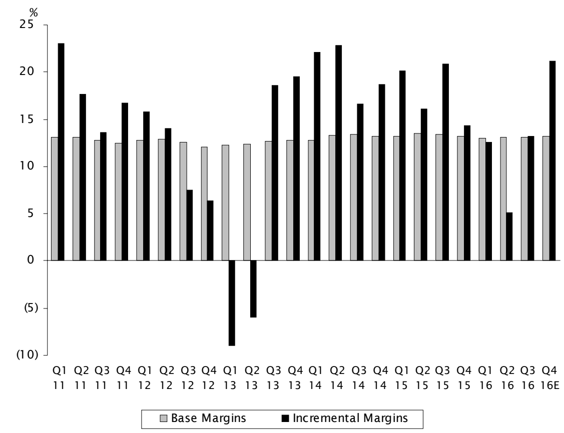
Operating earnings per share of the core of the S&P 500 (that excludes the finals and commodity sectors) grew by around +5% in the quarter, while that number for the entire S&P 500 was about +7%, the best result in several years (see Exhibit 38). The overall result is attributable to better results from the financial and technology sectors as well as the turnaround in commodity prices (see Exhibit 39). The profit of the commodity businesses has turned positive as the top-line grew by more than +5%. On the other hand, the plateauing of the auto cycle and the increase in S,G&A in airlines, the result of their settlements with the pilots' union, hurt the performance of consumer cyclicals and transports.

Exhibit 39: The S&P 500
Year-over-Year Changes in Operating Earnings
Q4 2015 Through Q4 2016E



Source: Empirical Research Partners Analysis.

Exhibit 40: The Core S&P 500[1]
Base and Incremental Pre-Tax Margins
2011 Through Q4 2016E



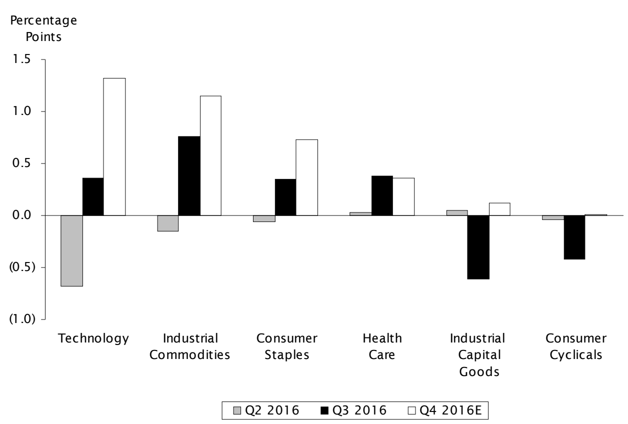
Source: Corporate Reports, Empirical Research Partners Analysis.

[1]The core excludes the financial, energy and industrial commodity sectors.

Margins Going Higher

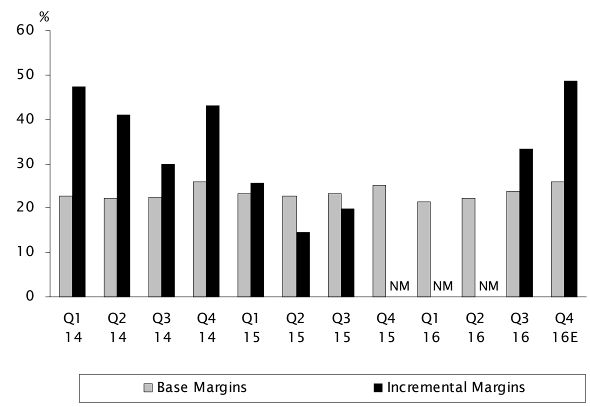
The incremental pre-tax margins associated with a new dollar of sales for the core group came in above +20% in the quarter, almost double the base level (see Exhibit 40). A result of that sort was last seen in 2014 when the economy had recovered from the woes in Europe. Technology, commodities and consumer staples sectors had sizable margin improvements and the margin for health care sector held up well in the face of declining top-line growth (see Exhibits 41 through 43). More than half of the companies saw their margins turn up, a reading last seen back in 2014 (see Exhibit 44).

Exhibit 41: The S&P 500: Select Sectors
Year-over-Year Changes in Pretax Margins
Q2 2016 Through Q4 2016E



Source: Empirical Research Partners Analysis.

Exhibit 42: The S&P 500 Technology Stocks
Base and Incremental Pre-Tax Margins
2014 Through Q4 2016E

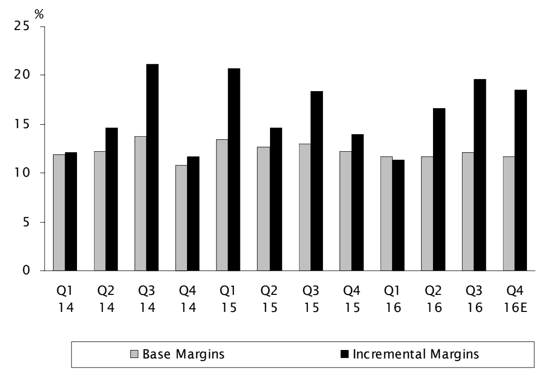


Source: Corporate Reports, Empirical Research Partners Analysis.

Exhibit 45 summarizes the margin story: half of the damage done to the margins of the commodity producers has been recovered while margins elsewhere have remained remarkably stable. The four-point margin gains for manufacturers can be explained by globalization which reduced labor costs and companies' effective tax rates. The profit problem over the last few quarters didn't stem from the misbegotten behaviors of managements but instead was rooted in the tepid pace of global economic growth. As the multiplier effects from trade flows faded there simply hasn't been enough growth to go around. In the fourth quarter though as top-line growth rates turned up they produced impressive incremental margins.

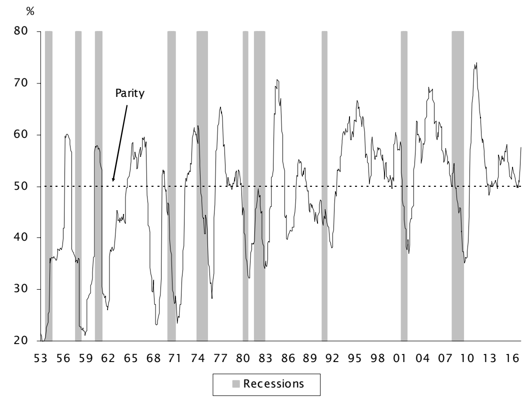
The profit dynamic that has prevailed throughout the Bretton Wood II era remains intact and surprisingly the weakness in global growth didn't sap the system's operating leverage (see Exhibit 46). Globalization isn't dead but is facing significant uncertainty from proposals by the current administration to revise the world order through trade and tax policies.

Exhibit 43: The S&P 500 Health Care Stocks
Base and Incremental Pre-Tax Margins
2014 Through Q4 2016E



Source: Corporate Reports, Empirical Research Partners Analysis.

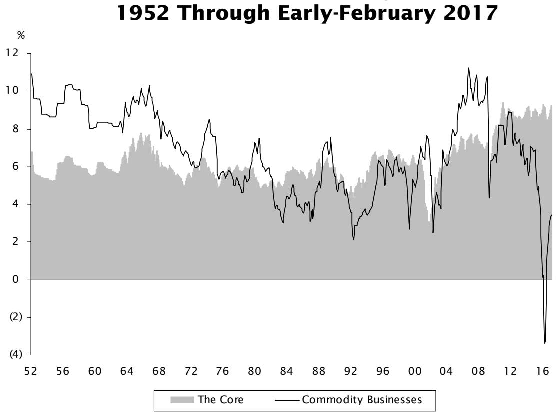
Exhibit 44: Large-Capitalization Stocks
Share With Rising Profit Margins[1]
1953 Through Q4 2016E



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

[1]Excludes financials; margins measured versus the same quarter in prior year.

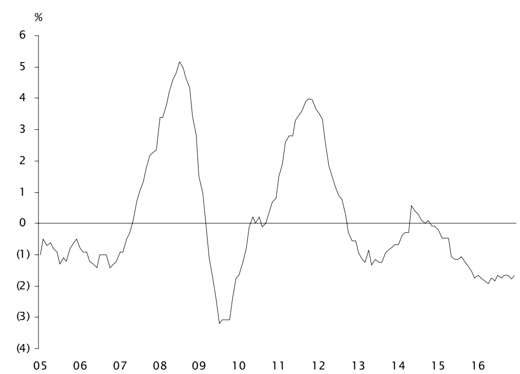
Exhibit 45: Large-Capitalization U.S. Stocks
The Core of the Market and Commodity Businesses[1]
Quarterly Net Profit Margins
1952 Through Early-February 2017



Source: Corporate Reports, Empirical Research Partners Analysis.

[1]The core excludes financials, energy and industrial commodity sectors; data based on quarterly number and smoothed on a trailing three-month basis.

Exhibit 46: Price of U.S. Imports from China
Year-over-Year Changes
2005 Through 2016



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

Fourteen Years of Free Cash Flow

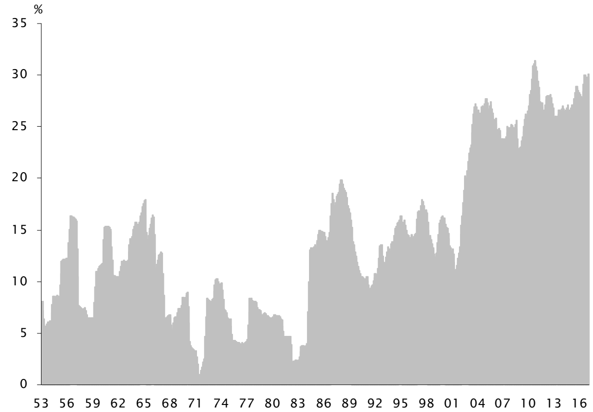
Stepping back, most of the last decade can be seen as one big free cash flow super cycle. Free cash flow margin doubled fourteen years ago and have remained at unprecedented levels since (see Exhibit 47). What happened was that profit margins moved up and capital spending didn't follow suit.

Throughout this cycle there's been little evidence of self-undermining behavior by managements. Growth rates in earnings have mostly outpaced those in capital spending (see Exhibits 48). Much of the overall increase in capital spending over the last three quarters is largely attributed to the technology sector, where the level of expenditures has essentially followed gross cash flow since 2012. In excess of a third of the increase in expenditures is attributable to Google. There was little going on in other sectors (see Exhibits 49 and 50).

Conclusion: Cash Flow Generation Remains Key

The margins for the core of the market have been resilient throughout this decade and the long-anticipated regression to the mean hasn't happened. Lately, the future path of the margins got into question due to the uncertainty in global trade policies. There was a rotation away from companies with high free cash flow margins in November and a return to form in the last couple of months (see Exhibit 51). Coincident with a shift in our regime indicator, to neutral from a value-tilt, investors become interested in higher sales growth accompanied by high cash flow margins, a combination that foretells higher cash flow production ahead (see Exhibit 52).

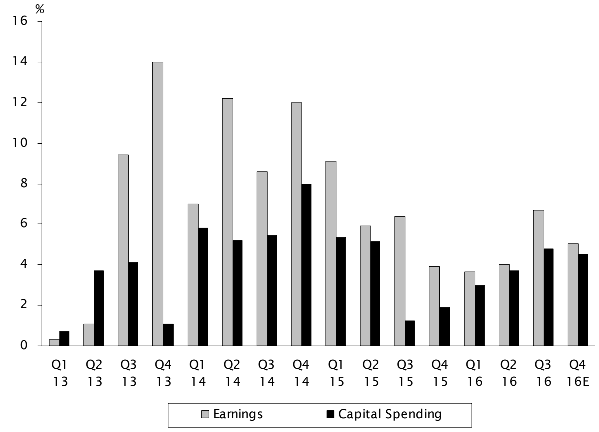
**Exhibit 47: Large-Capitalization Stocks
Free Cash Flow Margins[1]
1953 Through January 2017**



Source: Empirical Research Partners Analysis.

[1]Based on quarterly data smoothed on a trailing three-month basis; excluding financials and utilities.

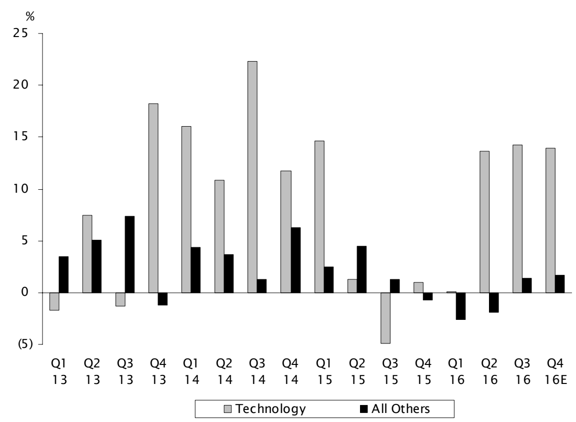
**Exhibit 48: The Core S&P 500[1]
Growth Rates in Capital Spending
and Earnings Per Share
2013 Through Q4 2016E**



Source: Corporate Reports, Empirical Research Partners Analysis.

[1]The core excludes financials, energy and industrial commodity sectors; computed on a year-over-year basis.

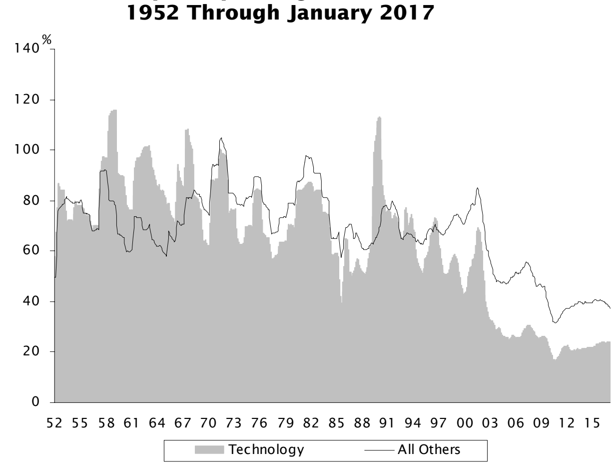
**Exhibit 49: The Core S&P 500: Technology and All Others
Year-over-Year Changes in Capital Spending[1]
2013 Through Q4 2016E**



Source: Empirical Research Partners Analysis.

[1]The core excludes financials, energy and industrial commodity sectors.

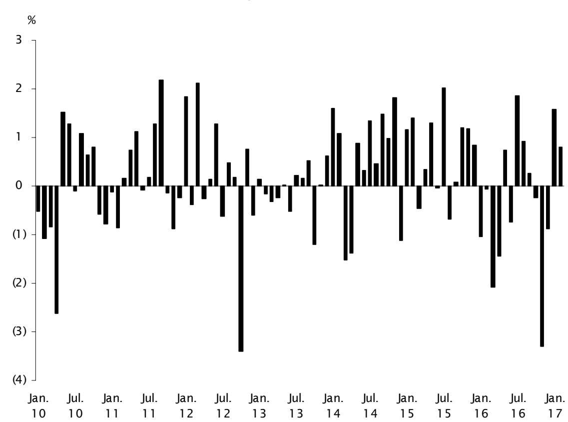
**Exhibit 50: Large-Capitalization Core Stocks:
Technology and All Others[1]
Capital Spending as a Share of Gross Cash Flow
1952 Through January 2017**



Source: Corporate Reports, Empirical Research Partners Analysis.

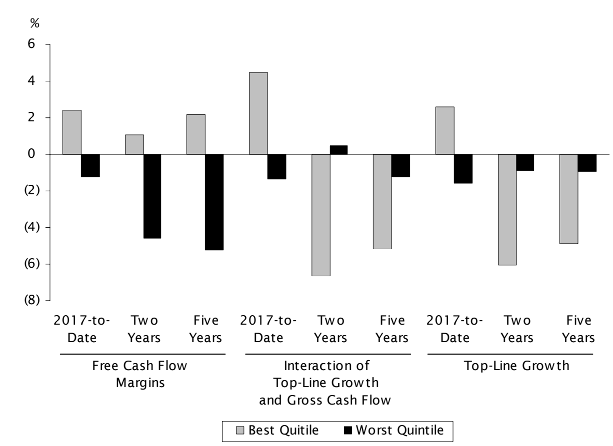
[1]Excludes financials, energy, utilities and industrial commodity sectors; based on trailing four-quarter data and smoothed on a three-month basis.

**Exhibit 51: Large-Capitalization Stocks
Relative Returns to the Highest Quintile of
Free Cash Flow Margins
Measured Over One-Month Holding Periods
2010 Through Early-February 2017**



Source: Empirical Research Partners Analysis.

**Exhibit 52: Large-Capitalization Stocks:
Relative Returns to Select Factors
Monthly Data Compounded to Annual Periods
Five Years Ending Early-February 2017**



Source: Empirical Research Partners Analysis.

Appendix 1: The Distrusted Fifty
Large-Capitalization Growth Stocks With High Reinvestment Rates Discounting Relatively Low Secular Earnings Growth
Sorted by Capitalization
As of Early-February 2017

				Quintile Ranks (1=Best; 5=Worst)										
				Super Factors										
				Management Behavior										
Symbol	Company	Price at Inclusion	Recent Price	Capital Deployment	Earnings Quality and Trend	Market Reaction	Valuation	Growth Model Rank	Forward-P/E Ratio	Rate of Earnings Reinvestment	Implied Earnings Growth Rate	Implied Earnings Growth/ Reinvestment Rate	Free Cash Flow Yield	Market Capitalization ($ Billion)
AAPL	APPLE INC	$13.24	$131.53	3	3	2	1	2	14.8 x	25 %	+4.2 %	16 %	7.7 %	$691.2
GOOGL	ALPHABET INC	149.40	829.23	2	2	4	3	3	24.9	15	12.3	81	4.5	573.2
MSFT	MICROSOFT CORP	41.23	63.43	1	2	3	2	1	20.9	7	6.1	84	5.7	490.3
WFC	WELLS FARGO & CO	32.42	56.34	3	na	3	1	3	13.5	7	3.3	47	na	282.6
CMCSA	COMCAST CORP	54.67	74.86	3	2	3	2	2	20.0	11	7.1	63	5.4	177.9
IBM	IBM CORP.	119.33	178.46	3	5	3	1	3	12.9	44	1.7	4	7.7	169.7
TSM	TAIWAN SEMICONDUCTOR MFG CO	16.75	30.52	2	3	2	2	1	13.8	14	2.8	20	4.1	158.3
PM	PHILIP MORRIS INTERNATIONAL	42.70	101.63	4	1	3	4	4	21.3	1	6.1	NM	4.3	157.7
UNH	UNITEDHEALTH GROUP INC	74.70	160.53	2	4	2	2	3	16.9	13	5.2	41	4.9	152.8
PEP	PEPSICO INC	82.15	105.61	3	1	4	3	3	20.6	19	5.7	30	5.0	151.7
MMM	3M CO	77.21	175.76	3	2	5	3	4	20.4	19	5.7	30	5.0	104.9
BA	BOEING CO	74.78	166.50	1	2	3	2	2	18.0	42	4.7	11	7.7	102.8
ABBV	ABBVIE INC	55.65	60.56	1	2	4	1	1	11.1	43	(3.0)	NM	7.1	98.4
GILD	GILEAD SCIENCES INC	20.12	73.13	1	3	5	1	1	6.8	74	(0.6)	NM	18.0	96.3
AGN	ALLERGAN PLC	229.32	232.61	1	1	2	2	1	14.6	NM	4.4	NM	5.8	88.7
AVGO	BROADCOM LTD	32.35	205.91	5	5	2	4	5	14.7	NM	4.4	NM	3.4	82.2
ACN	ACCENTURE PLC	31.89	115.92	3	1	5	3	2	19.7	44	6.7	15	5.9	76.9
TXN	TEXAS INSTRUMENTS INC	59.28	76.18	2	1	2	4	1	20.8	18	5.9	32	5.4	76.1
AXP	AMERICAN EXPRESS CO	20.04	77.72	1	na	3	2	3	13.6	20	4.2	21	na	71.1
BIIB	BIOGEN INC	67.38	266.11	3	1	4	1	1	12.7	34	4.4	13	6.8	57.5
ADBE	ADOBE SYSTEMS INC	27.81	114.96	3	1	3	5	2	30.4	16	14.1	87	3.5	57.2
TJX	TJX COMPANIES INC	16.34	75.23	2	2	4	2	2	19.9	38	7.1	18	4.8	49.0
HAL	HALLIBURTON CO	55.14	54.88	2	5	1	5	5	46.9	NM	11.1	NM	(4.8)	47.4
ITW	ILLINOIS TOOL WORKS	63.12	126.94	2	2	2	4	2	20.5	24	6.2	26	4.6	44.6
COF	CAPITAL ONE FINANCIAL CORP	42.77	88.11	1	na	3	1	1	11.2	6	(1.0)	NM	na	42.3
ESRX	EXPRESS SCRIPTS HOLDING CO	74.58	67.74	2	2	5	1	2	9.8	17	(0.4)	NM	12.4	41.8
EBAY	EBAY INC	25.75	32.43	1	1	3	1	1	16.1	28	6.9	25	6.2	35.3
MAR	MARRIOTT INTERNATIONAL INC	69.75	85.81	5	5	1	4	5	21.3	37	6.2	17	3.8	33.5
HCA	HCA HOLDINGS INC	81.95	82.59	2	1	2	1	1	11.2	34	(0.4)	NM	9.5	30.6
MCK	MCKESSON CORP	182.39	139.93	1	3	5	1	2	11.6	22	4.4	20	20.1	29.7
STT	STATE STREET CORP	29.97	77.50	1	na	2	1	1	13.5	7	3.9	58	na	29.6
TEL	TE CONNECTIVITY LTD	74.62	75.71	2	1	2	2	1	17.2	17	6.4	37	5.4	26.9
DFS	DISCOVER FINANCIAL SERVICES INC	43.74	68.51	1	na	3	1	1	11.2	16	(1.0)	NM	na	26.7
WDC	WESTERN DIGITAL CORP	18.87	79.05	5	5	1	1	2	9.6	NM	3.7	NM	7.7	22.6
MCO	MOODY'S CORP	28.63	107.06	2	1	3	3	2	21.1	NM	7.1	NM	4.9	20.5
DG	DOLLAR GENERAL CORP	73.39	72.80	3	2	5	1	2	15.5	18	4.8	27	5.9	20.3
LRCX	LAM RESEARCH CORP	82.66	117.00	1	2	1	1	1	12.8	13	3.8	29	6.9	19.0
CHKP	CHECK POINT SOFTWARE TECHNOLOGIES INC	34.41	100.27	4	3	2	3	3	19.1	20	9.1	45	5.1	17.5
TROW	PRICE (T. ROWE) GROUP	65.36	67.55	2	na	5	2	4	14.0	13	2.8	21	na	16.5
TDG	TRANSDIGM GROUP INC	259.46	245.88	2	2	5	3	3	20.1	72	10.3	14	4.8	13.1
ADS	ALLIANCE DATA SYSTEMS CORP	152.77	225.11	1	3	4	1	1	12.2	28	4.4	16	14.5	13.0
CTXS	CITRIX SYSTEMS INC	55.49	77.65	2	1	4	1	1	16.8	21	7.7	37	8.1	12.1
WAT	WATERS CORP	47.00	147.31	1	2	2	4	2	21.0	24	10.3	43	4.3	11.9
WYNN	WYNN RESORTS LTD	137.30	97.01	4	1	4	4	3	23.7	NM	7.3	NM	(6.4)	9.9
SNI	SCRIPPS NETWORKS INTERACTIVE	63.97	75.52	3	1	2	1	1	14.2	38	4.4	12	8.3	9.8
FFIV	F5 NETWORKS INC	118.56	138.57	4	3	1	2	2	16.6	30	7.7	26	7.0	9.0
WYN	WYNDHAM WORLDWIDE CORP	61.65	80.50	1	1	1	1	1	12.9	41	1.9	5	8.7	8.7
VRSN	VERISIGN INC	56.47	82.26	1	1	5	2	1	21.5	40	10.3	26	7.3	8.6
JAZZ	JAZZ PHARMACEUTICALS PLC	143.63	125.05	1	4	5	1	3	11.3	22	(0.4)	NM	6.9	7.5
BBBY	BED BATH & BEYOND INC	67.34	39.26	1	2	5	1	1	8.6	26	(0.4)	NM	15.3	5.9
Average									16.9 x	25 %	5.0 %	20 %	6.6 %	
All Other Large-Cap Stocks									18.2 x	5 %	6.2 %	121 %	3.5 %	

Source: Empirical Research Partners Analysis.

Appendix 2: Distrusted Fifty Candidates
Large Growth Model Rankings and Other Relevant Data
Sorted By Model Rank and Market Capitalization
As of Early-February 2017

			Quintile Ranks (1=Best;5=Worst)										
			Super Factors						Other Considerations				
			Management Behavior										
Symbol	Company	Recent Price	Capital Deployment	Earnings Quality and Trend	Market Reaction	Valuation	Growth Model Rank	Forward-P/E Ratio	Rate of Earnings Reinvestment	Implied Growth Rate	Implied Earnings Growth/ Reinvestment Rate	Free Cash Flow Yield	Market Capitalization ($ Billion)
INTC	INTEL CORP	$36.35	2	4	3	1	1	13.0 x	9.1 %	1.6 %	17 %	6.2 %	$172.3
HD	HOME DEPOT INC	136.65	1	2	3	2	1	19.1	66.1	5.4	8	5.0	166.7
AMGN	AMGEN INC	166.82	1	1	4	1	1	13.5	16.1	3.3	20	7.8	124.1
ABBV	ABBVIE INC	60.56	1	2	4	1	1	11.1	43.3	(3.0)	NM	7.1	98.4
UNP	UNION PACIFIC CORP	107.65	2	1	3	3	1	19.1	11.4	5.4	47	4.6	87.8
AMAT	APPLIED MATERIALS INC	35.54	2	1	1	3	1	14.9	17.2	4.2	24	5.8	38.4
HCA	HCA HOLDINGS INC	82.59	2	1	2	1	1	11.2	33.9	(0.4)	(1)	9.5	30.6
ROST	ROSS STORES INC	66.36	1	2	2	3	1	21.3	34.6	8.3	24	4.9	26.2
EA	ELECTRONIC ARTS INC	82.21	2	1	2	3	1	20.2	39.6	10.3	26	5.0	24.8
SIRI	SIRIUS XM HOLDINGS INC	4.72	1	1	2	3	1	26.2	303.4	14.1	5	6.1	22.8
BEN	FRANKLIN RESOURCES INC	40.01	1	na	3	1	1	14.9	10.6	4.8	45	na	22.6
LVLT	LEVEL 3 COMMUNICATIONS INC	58.18	3	2	3	2	1	31.0	42.8	14.1	33	4.7	20.9
ABC	AMERISOURCEBERGEN CORP	90.33	5	1	1	1	1	15.5	61.3	4.8	8	7.6	19.6
SWKS	SKYWORKS SOLUTIONS INC	91.78	1	1	1	2	1	14.8	19.5	4.2	21	6.4	17.0
KLAC	KLA-TENCOR CORP	87.66	1	1	1	2	1	15.2	79.1	3.4	4	6.0	13.7
IDXX	IDEXX LABS INC	143.13	3	1	1	5	1	48.7	2,682.4	14.7	1	2.1	12.8
ALK	ALASKA AIR GROUP INC	94.10	1	2	1	1	1	12.4	29.3	3.8	13	7.7	11.6
DISCA	DISCOVERY COMMUNICATIONS INC	27.99	1	2	4	1	1	12.1	20.4	4.0	20	12.5	10.8
URI	UNITED RENTALS INC	126.24	1	1	1	1	1	14.0	38.3	5.9	15	10.6	10.6
CBG	CBRE GROUP INC	30.95	3	3	2	2	1	13.3	17.8	4.4	25	na	10.4
CDW	CDW CORP	56.93	2	1	2	2	1	14.9	32.8	4.4	13	5.9	9.1
FL	FOOT LOCKER INC	68.33	2	1	3	1	1	12.9	18.8	2.7	14	5.9	9.0
PKG	PACKAGING CORP OF AMERICA	95.08	1	2	1	2	1	16.9	13.9	4.2	30	5.8	9.0
BWA	BORGWARNER INC	40.10	1	5	1	1	1	11.7	11.4	2.7	24	5.6	8.5
HAR	HARMAN INTERNATIONAL INDUSTRIES INC	111.40	2	2	1	1	1	15.1	10.5	4.3	41	7.1	7.8
SPB	SPECTRUM BRANDS HOLDINGS INC	132.54	3	2	1	2	1	22.5	15.6	7.0	45	9.5	7.8
UTHR	UNITED THERAPEUTICS CORP	162.82	1	1	1	1	1	11.6	42.5	4.4	10	6.5	6.9
NDSN	NORDSON CORP	113.53	4	1	1	3	1	22.9	28.5	8.0	28	4.2	6.5
ORCL	ORACLE CORP	40.07	1	4	4	1	2	15.1	13.4	4.3	32	7.6	164.5
MA	MASTERCARD INC	106.60	1	1	4	4	2	25.0	51.1	8.0	16	3.7	115.2
CELG	CELGENE CORP	116.26	4	1	3	5	2	16.1	38.7	6.9	18	3.8	90.1
WBA	WALGREENS BOOTS ALLIANCE INC	81.43	1	5	4	2	2	16.2	8.5	3.4	40	7.6	87.9
CVS	CVS HEALTH CORP	76.36	2	5	5	1	2	13.1	9.1	1.9	21	11.6	81.4
NVDA	NVIDIA CORP	119.13	2	2	1	5	2	43.4	19.8	9.3	47	2.1	64.2
LOW	LOWE'S COMPANIES INC	72.24	1	3	4	1	2	16.1	18.3	3.0	16	6.9	63.1
ADP	AUTOMATIC DATA PROCESSING	96.29	2	2	4	4	2	25.6	18.1	7.7	42	4.7	43.2
ESRX	EXPRESS SCRIPTS HOLDING CO	67.74	2	2	5	1	2	9.8	17.1	(0.4)	(2)	12.4	41.8
LVS	LAS VEGAS SANDS CORP	51.94	3	2	3	2	2	20.2	24.6	5.8	23	5.6	41.3
CAH	CARDINAL HEALTH INC	77.76	2	4	4	1	2	14.0	12.2	3.3	27	6.9	24.9
INCY	INCYTE CORP	118.18	5	1	1	5	2	85.6	65.6	14.7	22	0.8	22.3
VFC	VF CORP	48.32	1	2	5	1	2	14.5	11.7	2.4	20	6.6	20.0
HLT	HILTON WORLDWIDE HOLDINGS	57.81	2	4	2	2	2	33.2	21.7	10.8	50	5.3	19.1
BCR	BARD (C.R.) INC	236.65	2	1	1	5	2	20.3	27.2	9.2	34	2.1	17.4
GWW	GRAINGER (W W) INC	253.39	3	3	2	2	2	21.4	15.7	5.9	38	4.8	14.9
JBHT	HUNT (JB) TRANSPORT SERVICES INC	98.51	3	2	2	3	2	23.5	25.3	8.0	32	4.6	11.0
CDK	CDK GLOBAL INC	64.71	4	1	2	4	2	25.9	55.1	7.9	14	4.3	9.4
HDS	HD SUPPLY HOLDINGS INC	43.50	4	2	2	2	2	13.4	289.9	4.4	2	6.6	8.8
OTEX	OPEN TEXT CORP	33.03	2	4	2	2	2	15.2	37.7	6.9	18	4.8	8.7
MELI	MERCADOLIBRE INC	191.61	4	1	1	5	2	48.6	26.8	10.8	40	2.2	8.5
CDNS	CADENCE DESIGN SYSTEMS INC	29.38	2	3	1	3	2	21.5	21.2	10.3	48	4.7	8.4
HBI	HANESBRANDS INC	19.30	1	2	5	1	2	9.8	28.3	(1.5)	(5)	7.1	7.3
JKHY	HENRY (JACK) & ASSOCIATES	90.01	1	1	4	3	2	28.4	18.2	7.9	44	4.8	7.0
SPR	SPIRIT AEROSYSTEMS HOLDINGS	56.35	1	5	2	2	2	11.7	24.8	4.4	18	6.8	6.9
RHI	ROBERT HALF INTERNATIONAL INC	47.37	3	3	2	1	2	17.7	23.4	5.2	22	6.4	6.1

Source: Empirical Research Partners Analysis.