ALGER

Inspired by Change, Driven by Growth.

Capital Markets: Observations and Insights

Productivity Pick-Up

Winter 2018

Productivity Pick-Up

Productivity. We all want more of it — to be able to do more in less time because we can't find more hours in the day. The economy also craves productivity. While it does produce slightly more labor hours each year, the more important determinant of economic growth is output per labor hour or productivity.

Last quarter we wrote about our belief that business spending would improve and lead the economy forward. Indeed it has and we think this is only the beginning. The recently completed U.S. tax reform bill only strengthens our conviction in this thesis.

But it is the impact of stronger business spending on which we focus in this presentation. Investment is a key driver of productivity, which in turn dictates long-run economic growth. Therefore, we are hopeful that the surge in business spending that we anticipate will boost the long-run potential growth of the U.S. economy.

Then we can all stop hoping for more hours in the day.

Daniel C. Chung, CFA
Chief Executive Officer
Chief Investment Officer

Brad Neuman, CFA
Senior Vice President
Client Investment Strategist

Key Observations

- **Business spending is set to accelerate** and outpace the broader economy, given strong earnings growth, tax reform, solid business confidence, and accommodative financial and lending conditions
- Increasing corporate investment should help drive a **resurgence in productivity growth,** which is the key to **stronger, sustainable long-term economic growth**
- Leading indicators suggest **the economy will continue to expand** and **corporate profits will continue to rise**

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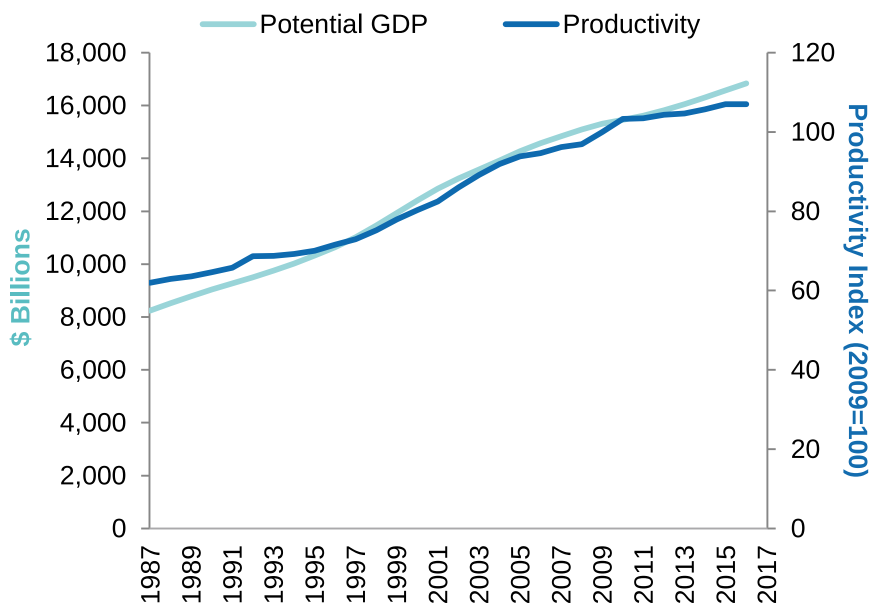
Productivity Pick-Up

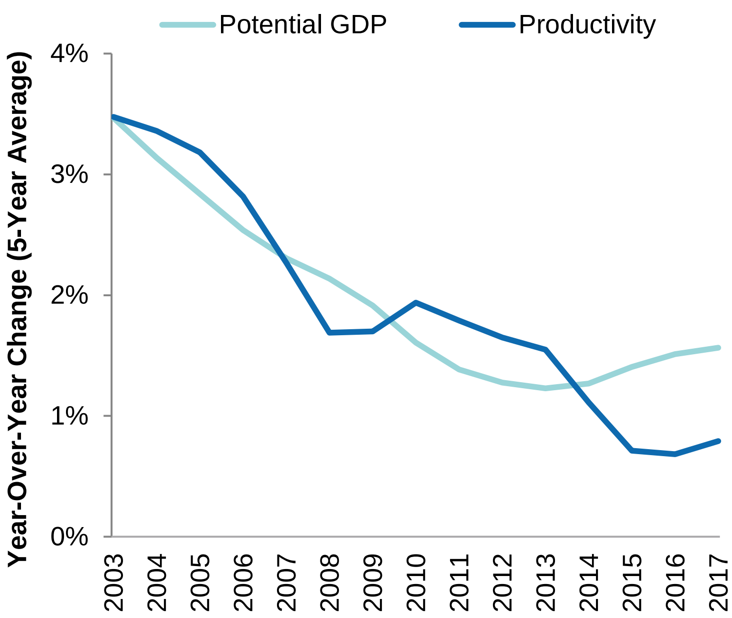
Productivity Drives Potential GDP

- Economic output = labor hours x output per hour (i.e., productivity)
- Therefore, to increase long-run economic growth, we have to increase productivity growth

Productivity Drives Potential GDP…



…And Recently Both Have Trended Lower

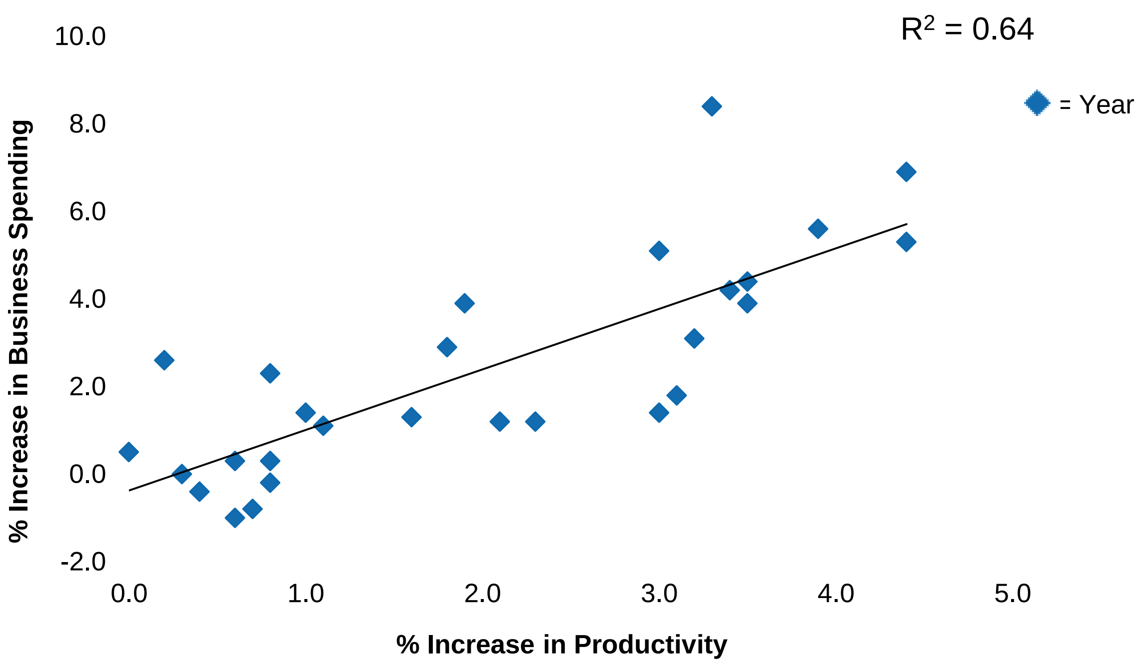


Source: FactSet using CBO potential GDP data and U.S. Bureau of Labor Statistics productivity data as well as Alger estimates for 4Q17.

Productivity Growth Dependent on Business Spending

- Stronger business spending should drive innovation as businesses have more cash to deploy to research and development and capital expenditures
- Historically, increases in business spending lead to higher productivity

Business Spending vs. Labor Productivity
(1988-2016)



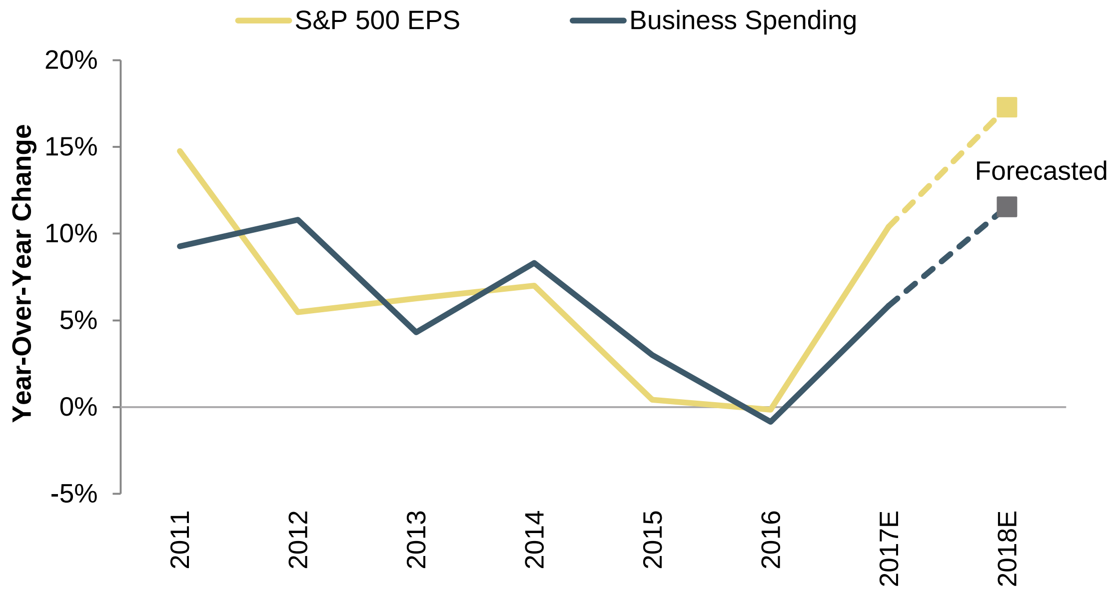
Higher business spending leads to higher productivity

Source: Bureau of Labor Statistics. Business spending is capital intensity (capital services per hour worked and advanced one year), and labor productivity is output per labor hour.

Productivity Pick-Up

Recipe for an Increase in Business Spending

- Profit growth
- Tax reform—lower statutory rates, foreign profit repatriation, accelerated depreciation
- Higher business confidence—driven in part by lower regulation and certainty on taxes
- Banks' increased willingness to make commercial loans
- Accommodative financial conditions—interest rates and spreads



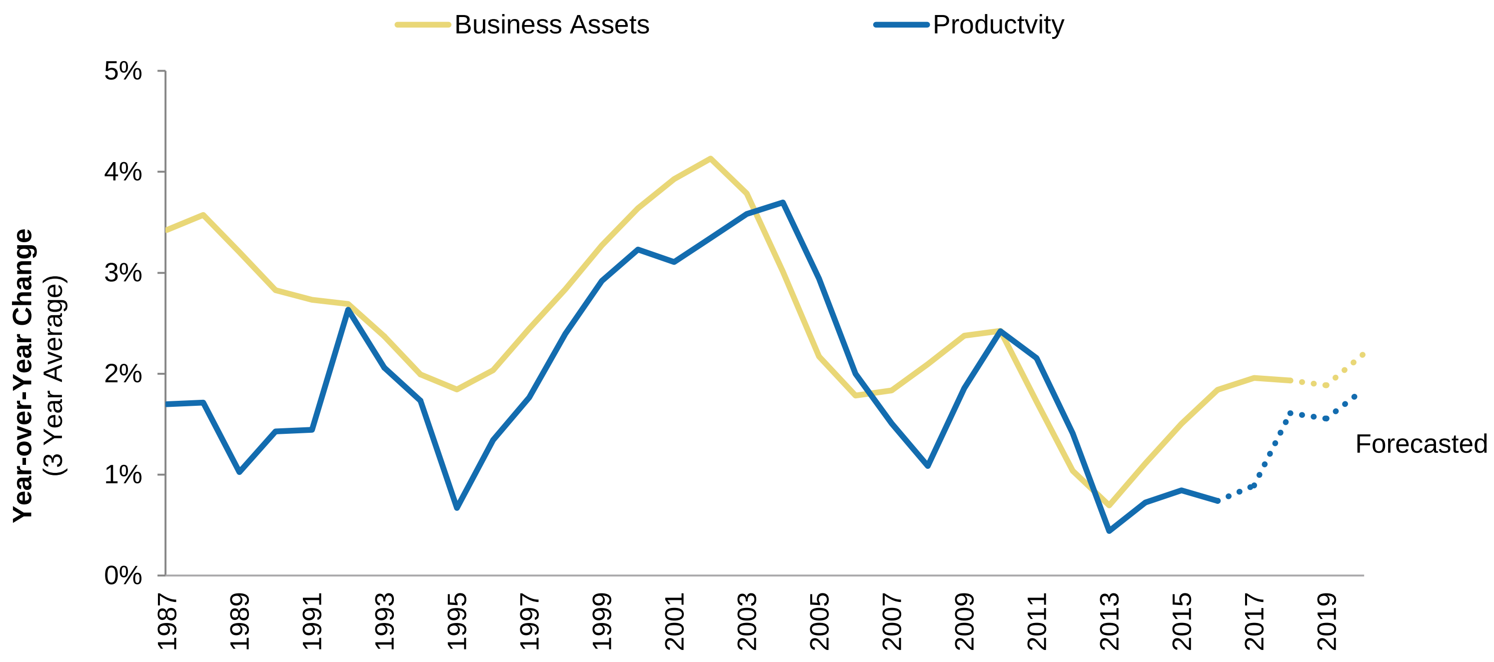
An acceleration in earnings growth should help drive a double-digit increase in business spending

Source: FactSet. Business spending is U.S. private fixed nonresidential investment with an estimate for 4Q17 as well as 2018, the latter based on a regression with S&P 500 EPS. S&P 500 EPS 2017 estimate based on consensus and 2018 is Alger estimate.

Productivity Pick-Up

Higher Investment to Lead to Higher Productivity

- A surge in business spending on assets (e.g., plants, property, equipment, IT, etc.) should drive higher productivity

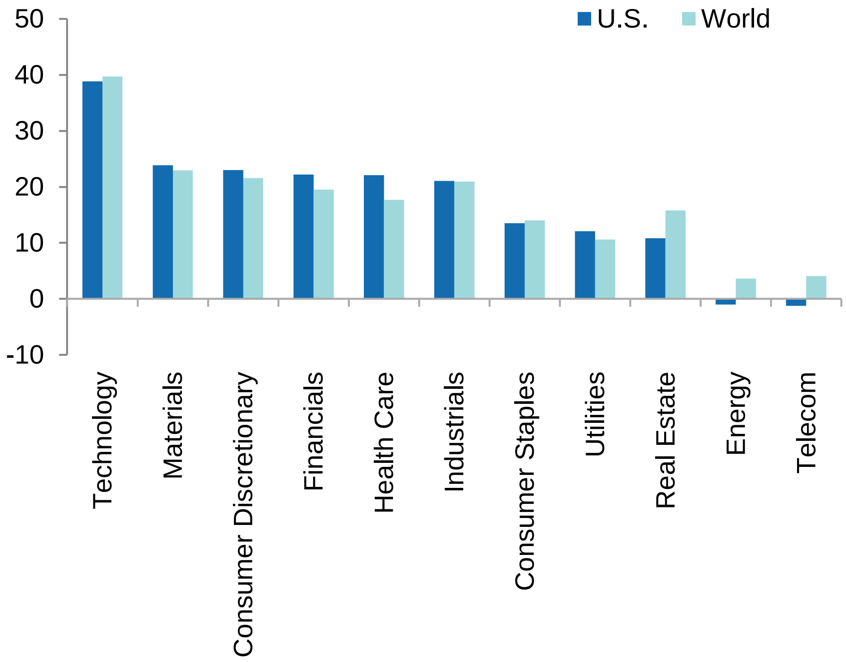


Source: FactSet, Bureau of Economic Analysis and Alger estimates. Business assets is U.S. real private nonresidential capital stock, which is advanced two years. Productivity is U.S. output per labor hour. Estimates are based on regression with real private capital stock.

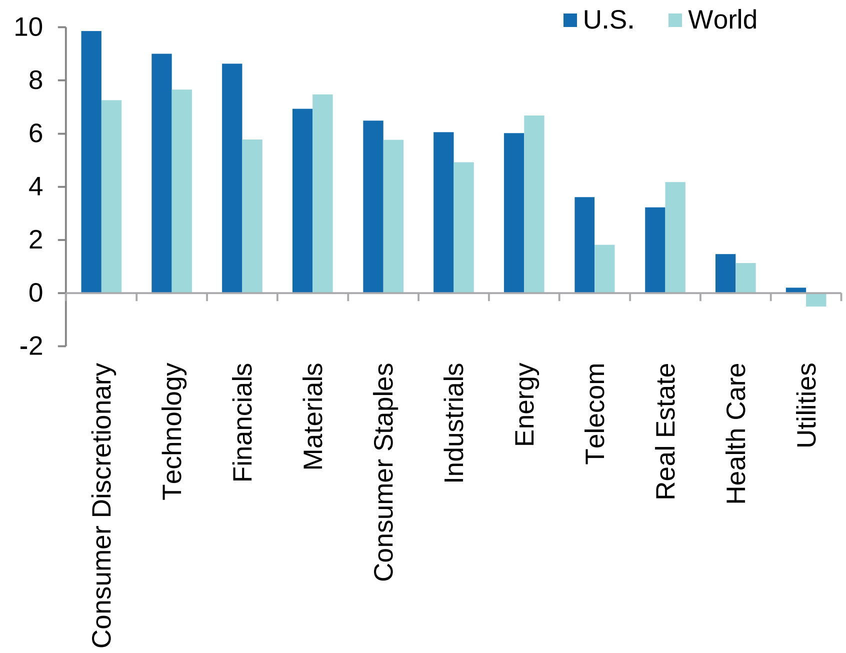
Performance
Sector Disparities

- In 2017, the technology sector vastly outperformed other sectors of the market both in the U.S. and globally, driven by strong fundamentals
- U.S. tax reform and rising interest rates influenced 4Q17 performance with relatively high tax rate sectors outperforming those with lower tax rates or bond-like characteristics

2017
Returns (%)



4Q17
Returns (%)



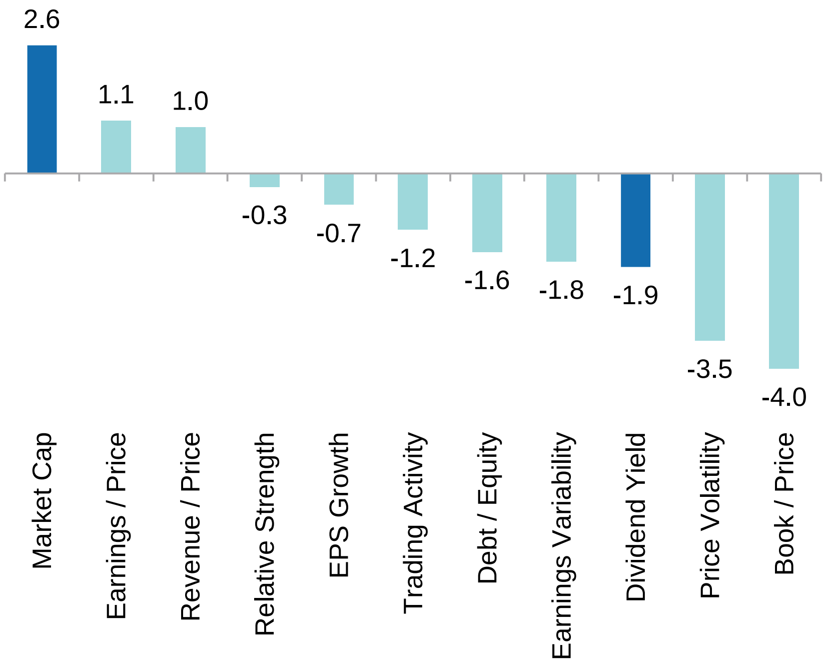
Source: FactSet as of 12/31/17. U.S. represented by S&P 500 and World is represented by MSCI All Country World Index in local currency.

Performance

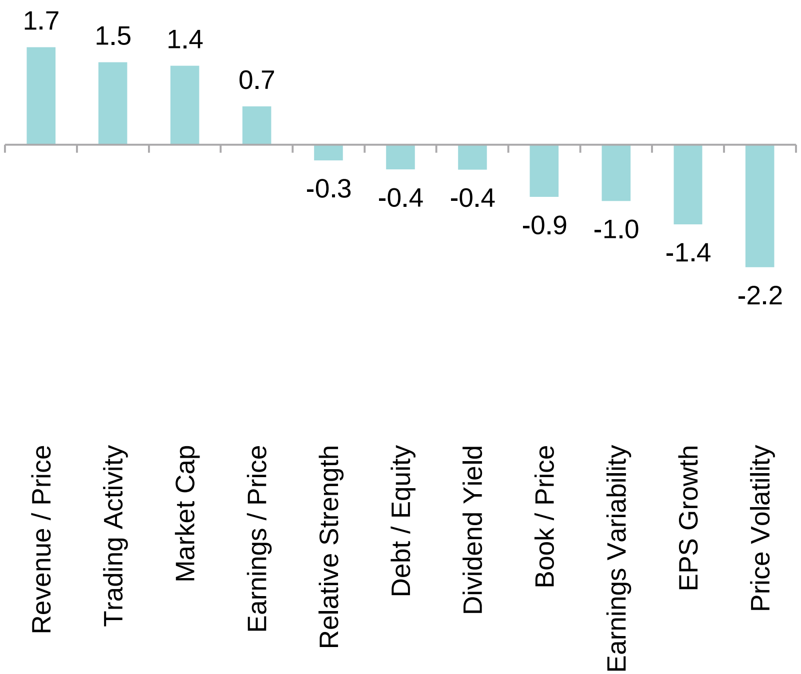
Scale Rewarded

- Large cap stocks with low volatility did best in 2017, while dividend yield, which had benefitted in recent years from lower rates, underperformed
- Tax reform drove 4Q17 performance; many domestic stocks that have low revenue multiples and high tax rates outperformed

2017
Excess Return (%)



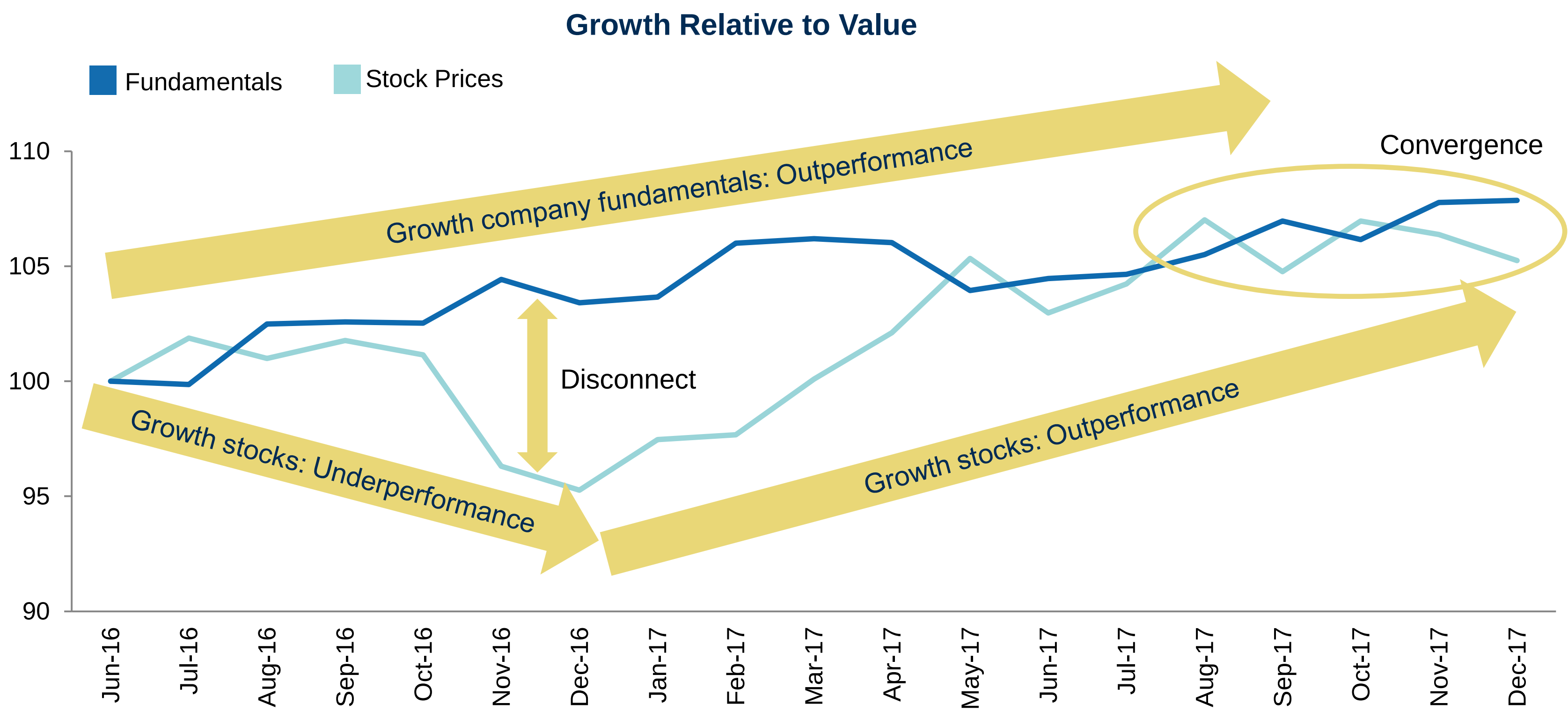
4Q17
Excess Return (%)



Source: FactSet as of 12/31/17 using Northfield defined quantitative factors for the Northfield broad U.S. market database.

Performance
Prices and Fundamentals Converge

- Stock prices and fundamentals converged in 2017 after having previously diverged
- Growth stock fundamentals continue to imply outperformance



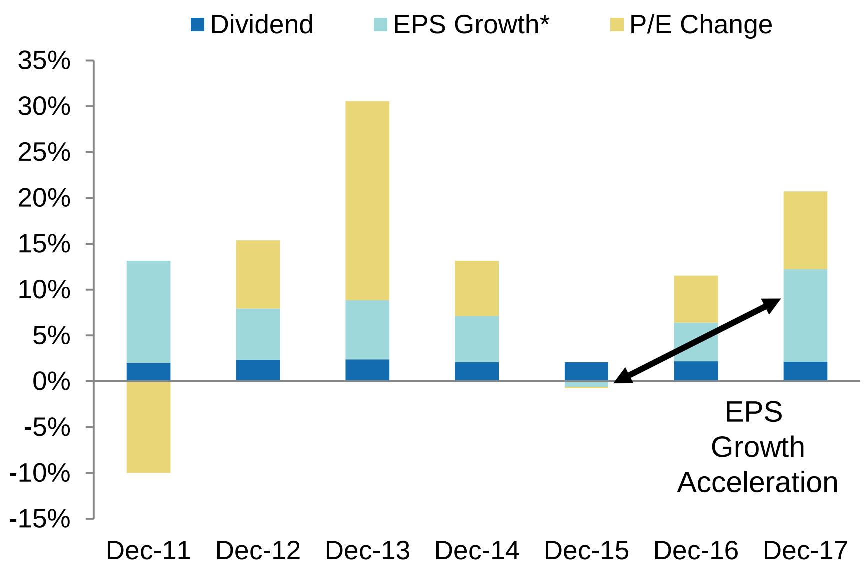
Source: FactSet as of 12/31/2017. S&P 500 Growth and Value Indices used to represent Growth and Value stocks. Fundamentals are LTM EPS.

Performance

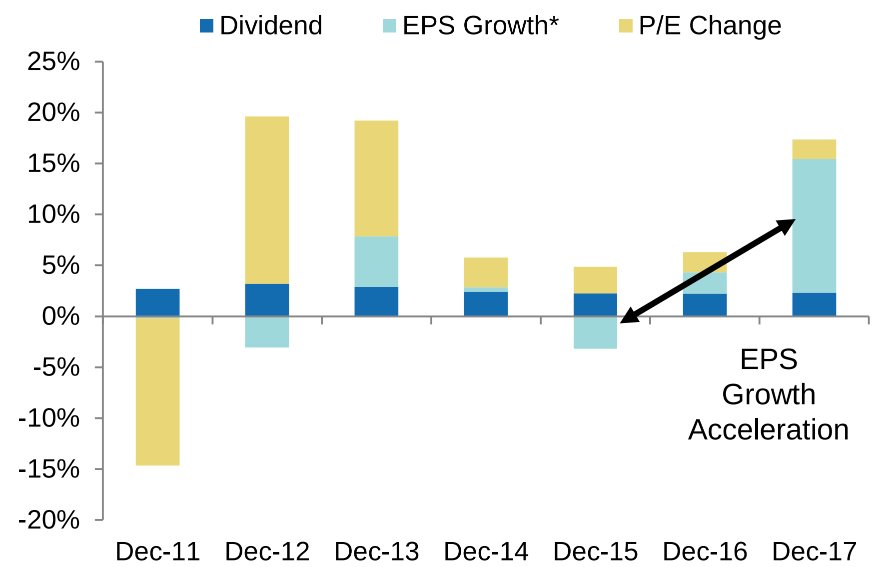
The Earnings Growth Resurgence Is Boosting Performance

Total Return = Dividend Yield + EPS Growth +/- P/E Change

S&P 500



MSCI All Country World Index ex-USA



12-Month Total Return:	**2%**	**16%**	**32%**	**14%**	**1%**	**12%**	**22%**

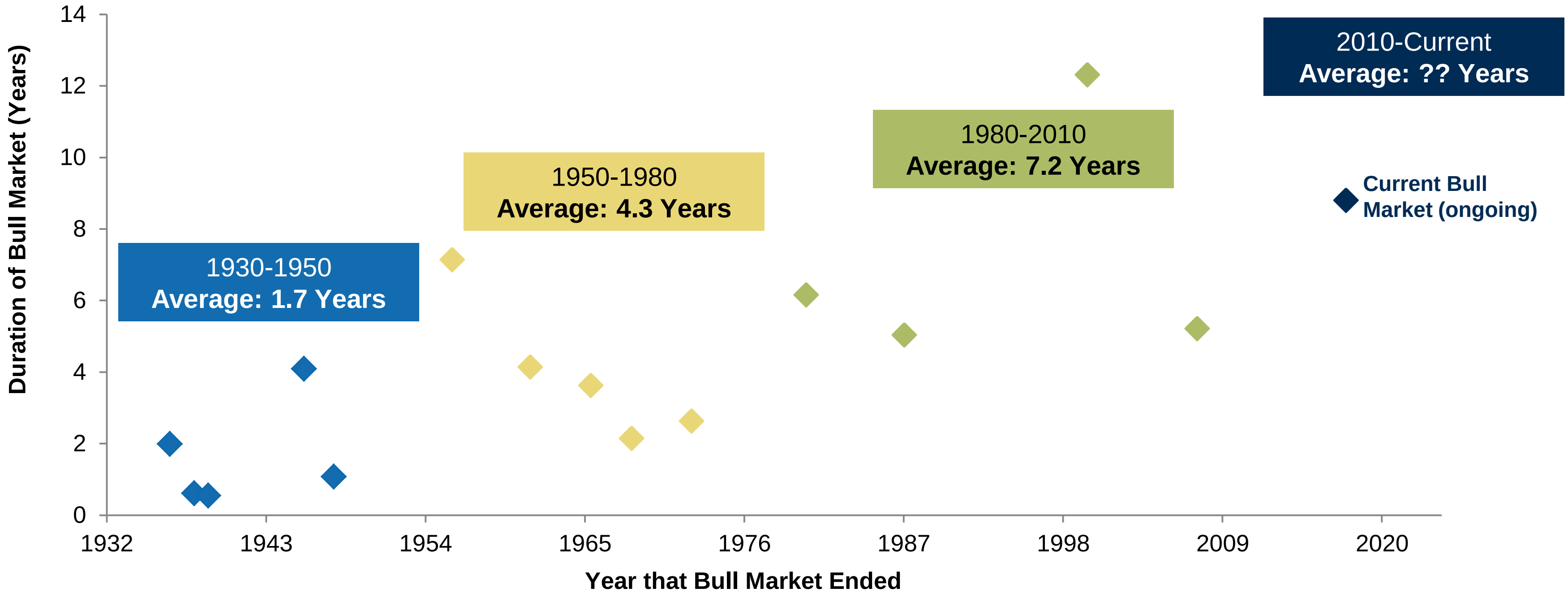
12-Month Total Return:	**-12%**	**17%**	**21%**	**7%**	**2%**	**7%**	**19%**

Source: FactSet as of 12/31/17. *Based on consensus estimates of next 12-month EPS. Actual earnings per share might be materially different than shown. MSCI ACWI ex-US performance based on local currency.

Performance

Bull Market Is Aging Well

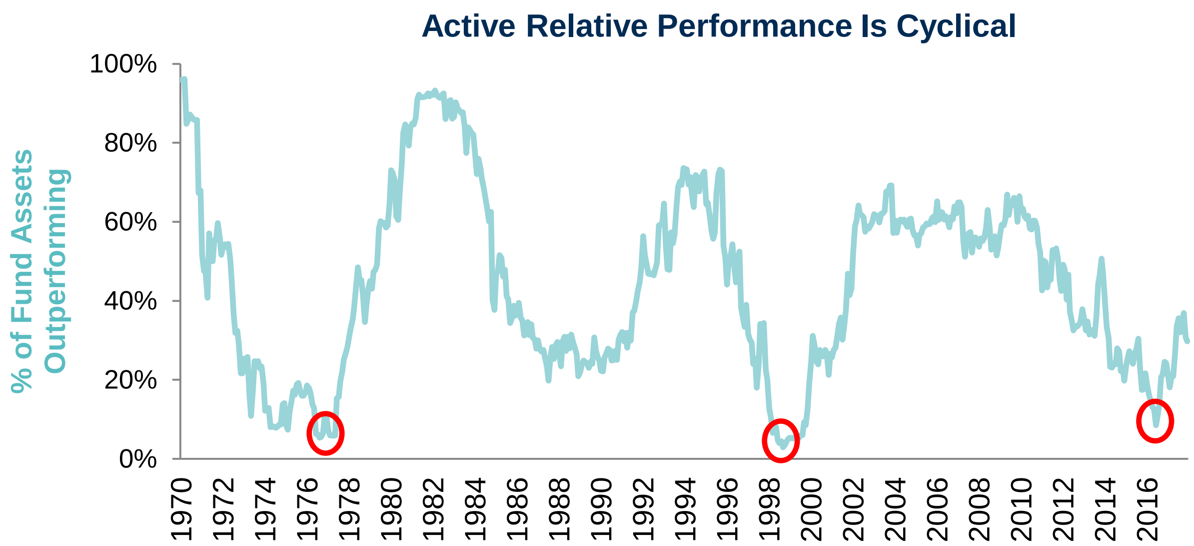
- Bull markets have been getting longer over time
  - Factors prolonging economic expansions include: increased fiscal and monetary intervention, structural changes in the economy, and technological advances, such as improved inventory management
  - The current bull market is 3.5 years younger than the 1990s bull market



Source: FactSet and Goldman Sachs as of 12/31/17. Bull markets over six months in duration since 1930.

Has Active Relative Performance Troughed?

- While there are secular pressures affecting U.S. active management, cyclical factors tend to be much more powerful in the short term. Examples include:
  - small cap performance
  - overall market performance
  - non-U.S. stock performance
  - interest rates/bond-like equities

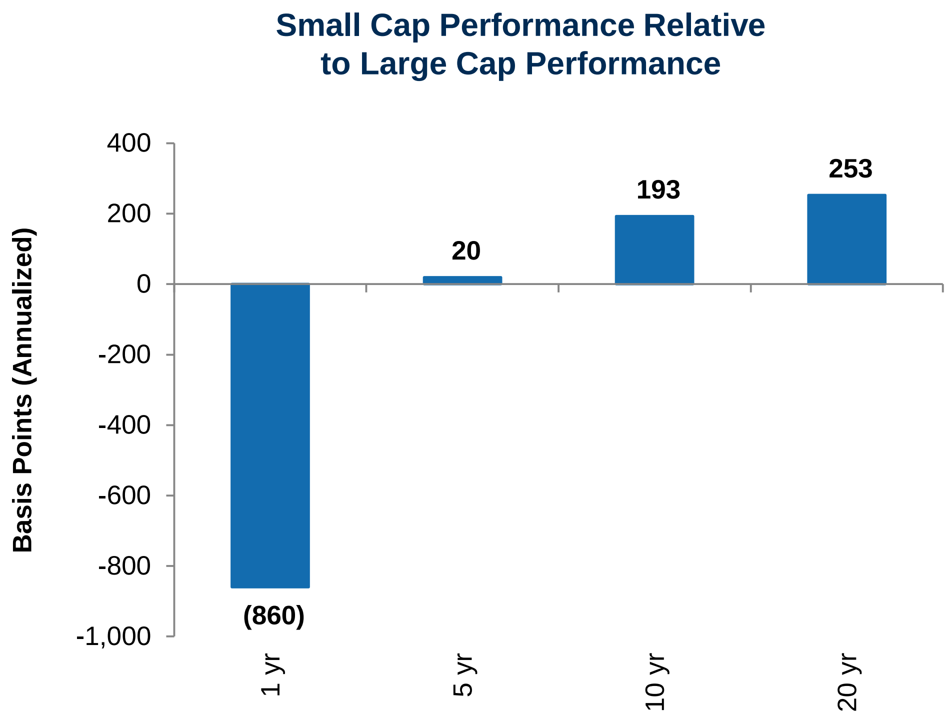


2017 saw the best large cap active management performance in eight years

Source: Nomura/Instinet, Joseph Mezrich and FactSet through 12/31/17. Fund performance is trailing five-year data. Sidebar data based on active performance from Bank of America Merrill Lynch U.S. Equity and U.S. Quant Strategy using Lipper data

Small Caps Due for a Comeback

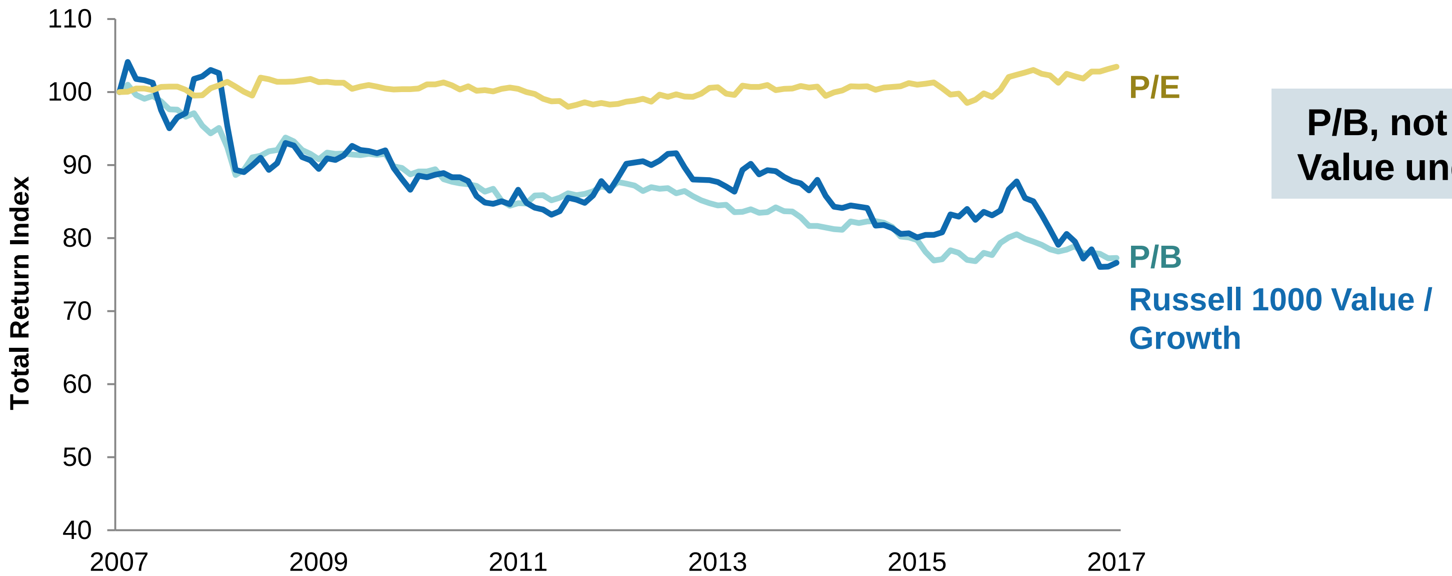
- Small caps dramatically underperformed large caps in 2017 in stark contrast to their historic outperformance
- Taken together, these data points may imply small caps are poised for a comeback



Small caps underperformed large caps last year in contrast to their long term outperformance

Source: FactSet as of 12/31/17 using S&P Small Cap and Large Cap indices.

- Growth stocks have dramatically outperformed (+31%) Value stocks over the past decade
- The culprit for value investors has been the very weak performance of buying low P/B stocks, while P/E strategies have fared much better
- Book value may no longer be as relevant given changing business models, e.g., R&D is not capitalized in book value



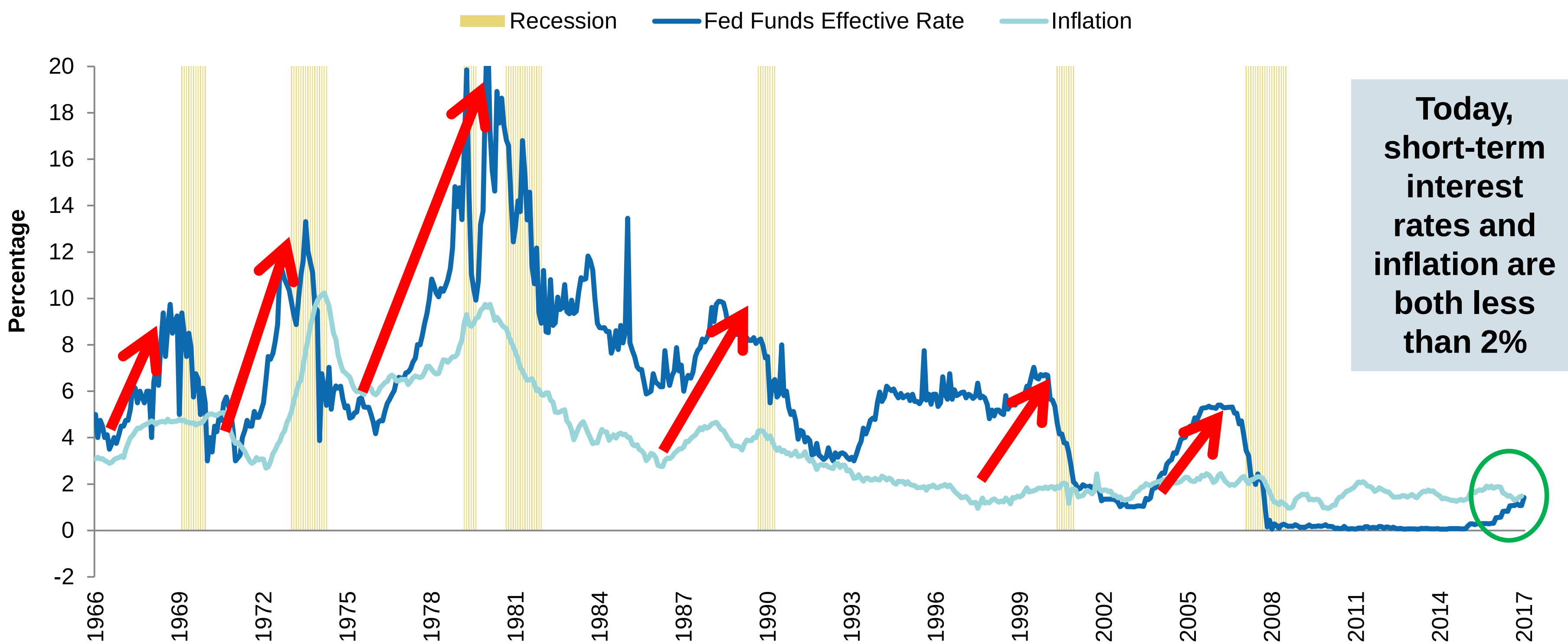
P/B, not P/E, has driven Value underperformance

Source: FactSet as of 12/31/17. Price-to-earnings and price-to-book returns are based on the E/P and B/P Northfield factors for the Northfield broad U.S. market database.

Fundamentals

Leading Cycle Indicators Are Benign

- Every major recession in the past 75 years has been preceded by substantial Fed Funds rate tightening or inflation acceleration, or both
- We believe the Fed can be patient given forces weighing on inflation, including innovation (price transparency), labor dynamics (retirees), and globalization



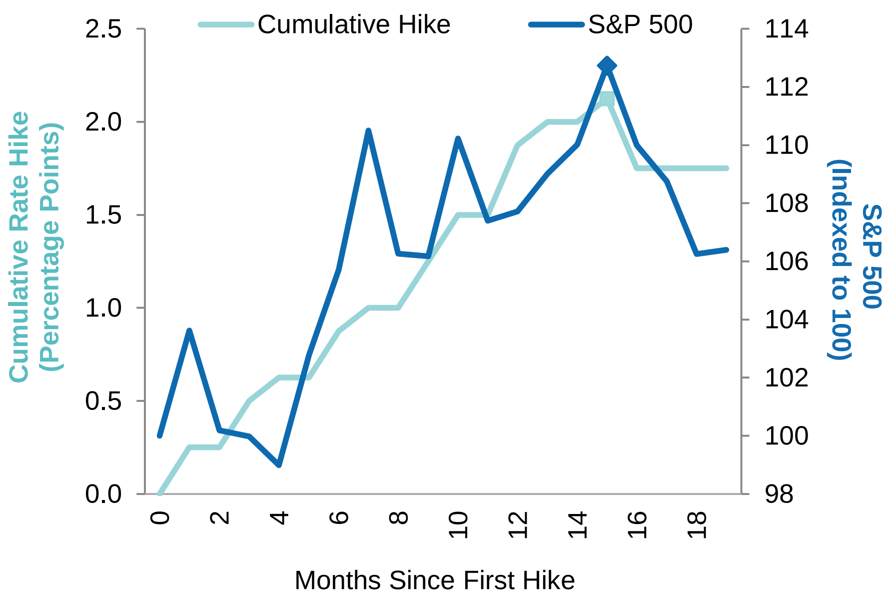
Source: FactSet as of December 2017. Inflation represented by PCE Price Index ex-food and energy (year over year).

Fundamentals

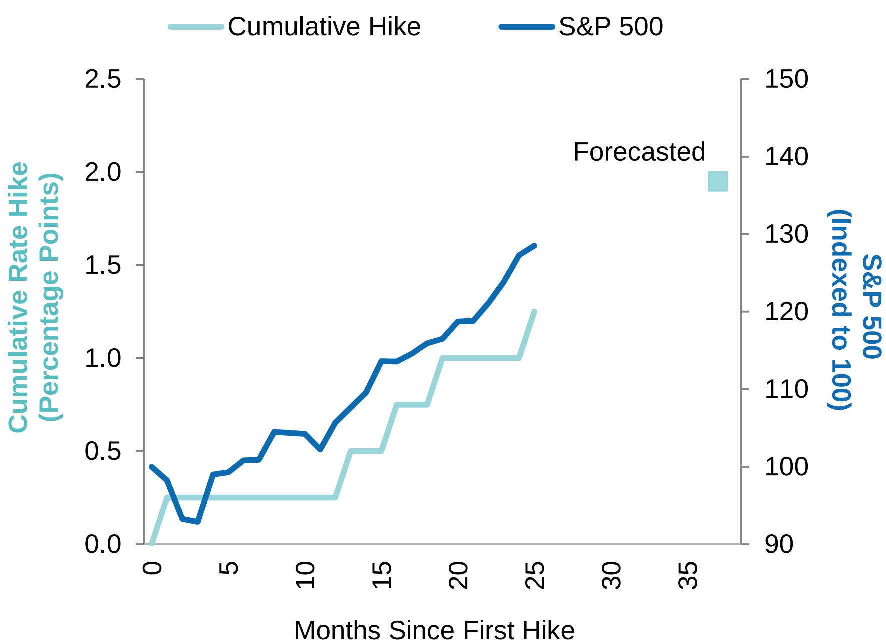
Fed Tightening Unlikely to Derail Equities Yet

- The stock market has actually historically risen with the Federal Funds rate
- Only *after* rates have stopped rising are equities likely to have peaked
- With the Fed still trying to normalize rates, equities may have room to run

Stock Market Declines *After* Peak in Fed Funds
(Average of '99/'00 & '04/'05 Periods)



Fed Not Done, So Stocks Not Done?
(Current Hiking Period)

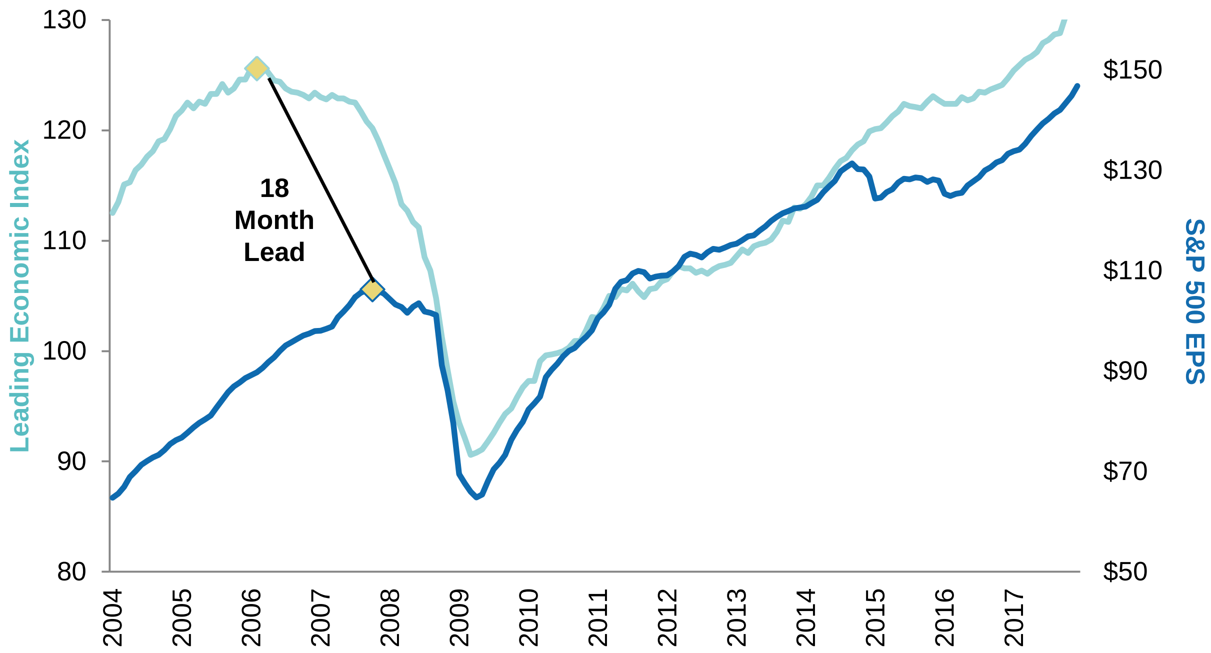


Source: FactSet. Estimated future Fed rate hikes based on "Economic Projections of Federal Reserve Board Members and Federal Reserve Bank Presidents," December 2017.

Fundamentals

Leading Indicators Suggest Earnings Will Continue to Rise

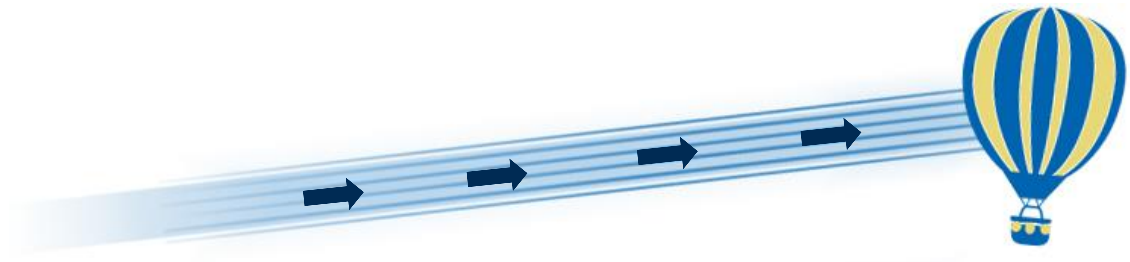
- The Conference Board Leading Economic Index (LEI) typically leads earnings by 6-18 months and usually peaks one to two years prior to a recession
- Given that the LEI is increasing solidly year over year and hit a record high in 4Q17, we believe the economy and earnings have room to run



Leading Economic Index indicates further EPS growth

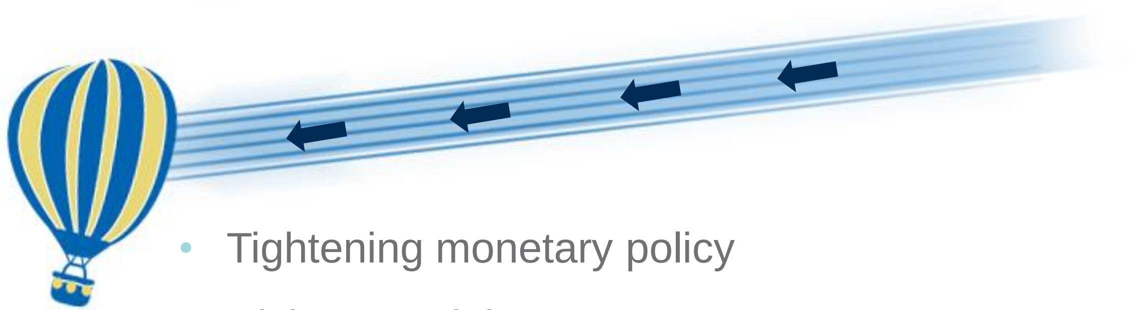
Source: FactSet, Conference Board as of December 2017. Based on NTM EPS estimates.

Tailwinds



- Robust corporate profits
- Fiscal stimulus/tax reform
- Strong business and consumer confidence
- Solid U.S. consumer balance sheet

Headwinds

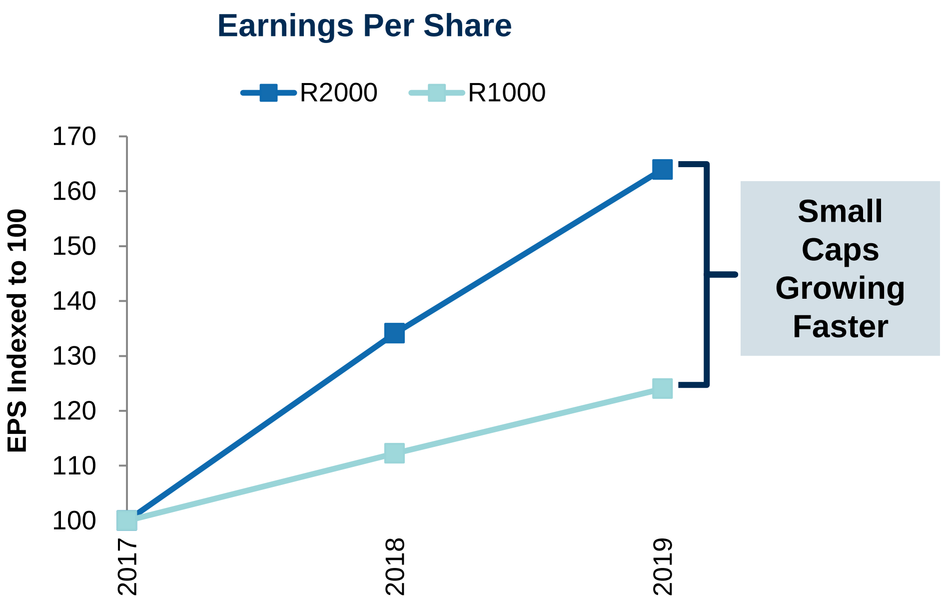


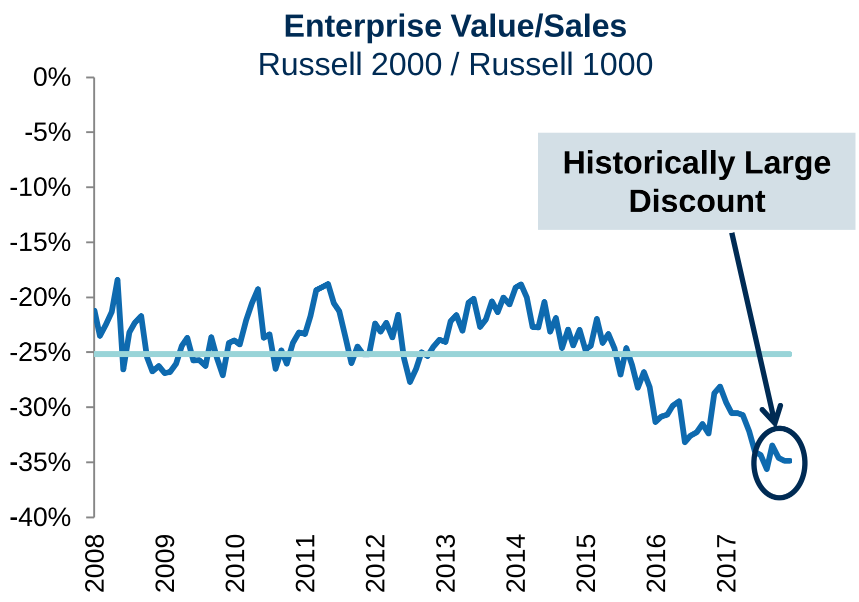
- Tightening monetary policy
- Rising U.S. labor costs
- China growth slowdown
- Geopolitical risk

Fundamentals

Smaller Capitalization Stocks Poised to Outperform

- **Stronger fundamentals**: Estimated small cap EPS growth for 2018 more than double large cap
- **More levered to fiscal stimulus**: Small caps are more U.S.-oriented and have higher operating leverage
- **Rising interest rates**: Small caps have historically outperformed large caps in rising rate environments and vice versa in falling rate environments
- **Attractive valuation**: Small cap sales multiple discount implies opportunity





Source: FactSet as of December 2017. EPS for 2017-2019 are consensus estimates and actual earnings per share might be materially different than shown.

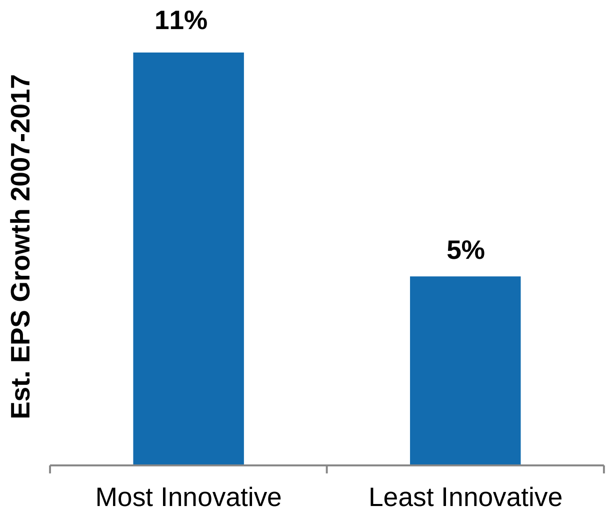
Fundamentals

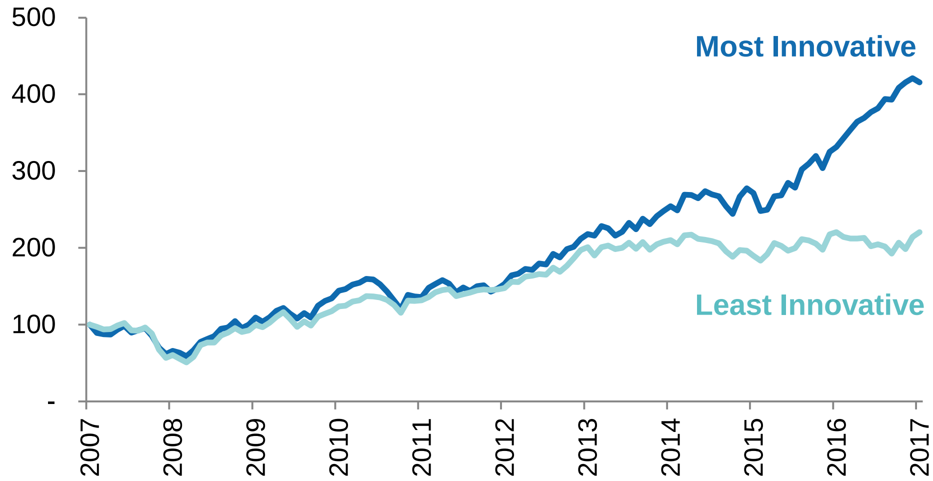
Innovative Companies Grow Earnings and Stock Prices Faster

- Innovation propels economic growth over time
  - Studies have shown, and our research demonstrates, that the most innovative companies grow their sales, earnings, and stock prices faster*

Innovation Drives:

EPS Growth… **and** **…Stock Prices**



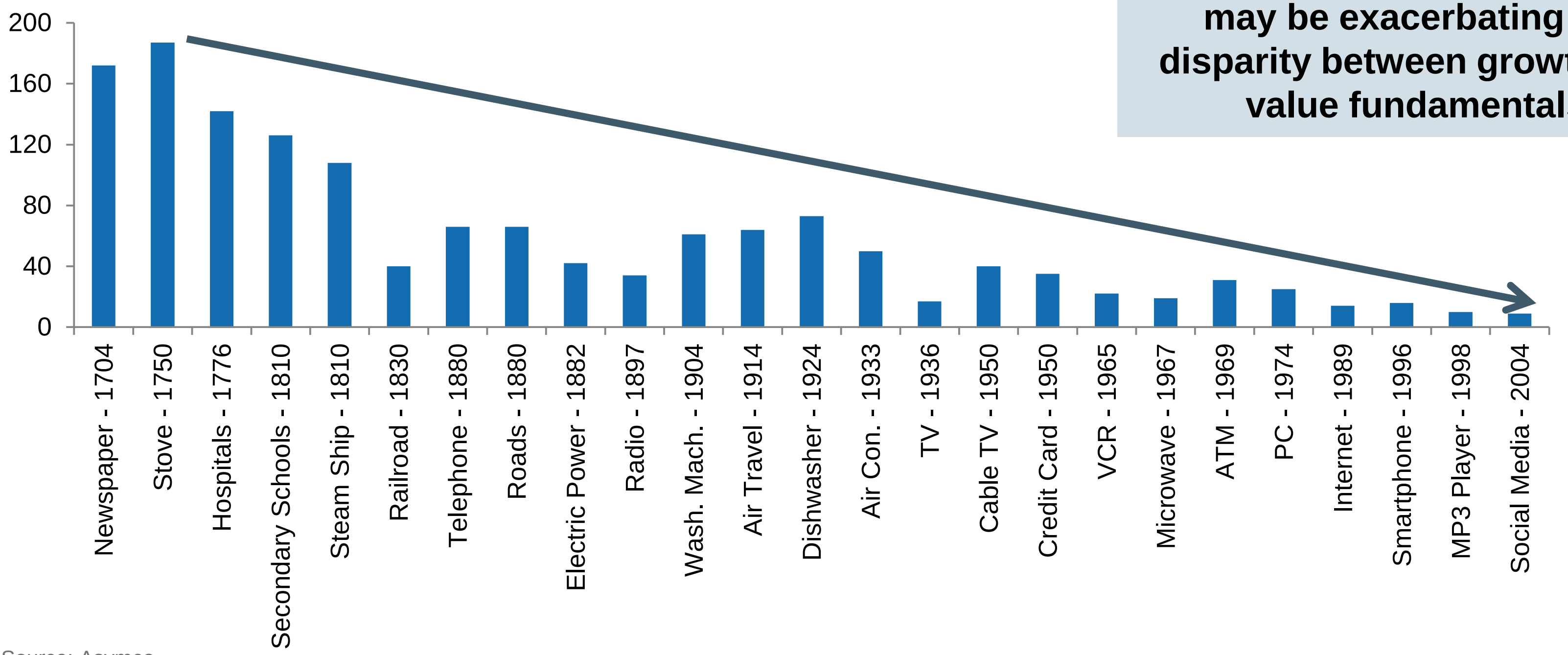


Source: FactSet. Most/least innovative based on R&D percent of sales. Est EPS growth December 2007 - December 2017 measured after classification of S&P 1500 companies into innovation quintiles in December 2007. Most/least innovative stock performance based on S&P 1500 quintiles one month returns for same time period, normalized for market value.
*Baruch Lev and Suresh Radhakrishnan, "The Stock Market Valuation of R&D Leaders."

Fundamentals
Speed of Innovation Is Accelerating

- Innovations are penetrating U.S. markets at an even faster pace
  – “Growth” stocks should benefit from innovation while “value” stocks that appear cheap may simply be victims of change

Years from Market Entry to 50% Penetration in the U.S.



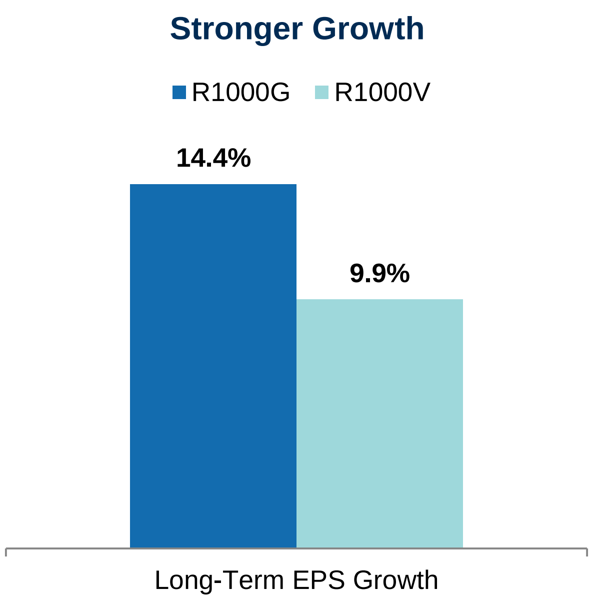
The faster speed of innovation may be exacerbating the disparity between growth and value fundamentals

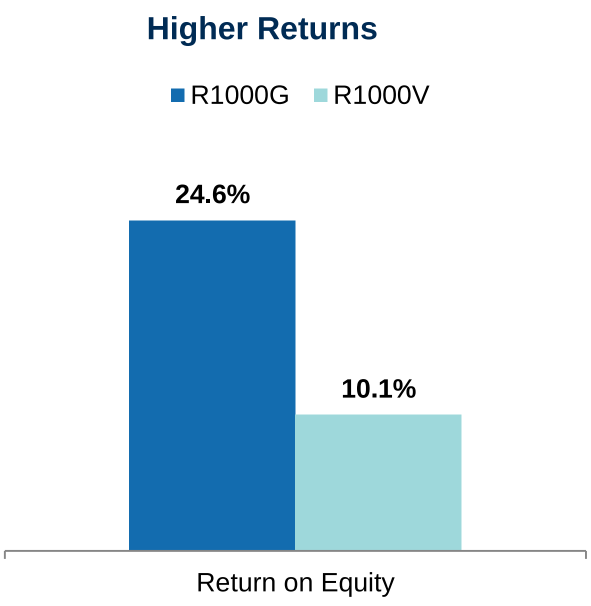
Source: Asymco.

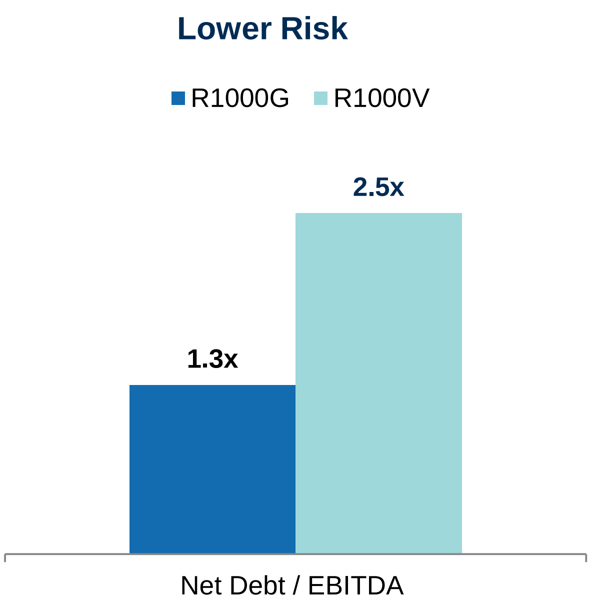
Fundamentals

The Growth Advantage

- Three variables drive P/E multiples: growth, returns, and risk
- As compared to the Russell 1000 Value, the Russell 1000 Growth has higher expected EPS growth, higher returns on equity, and lower risk in the form of better balance sheets



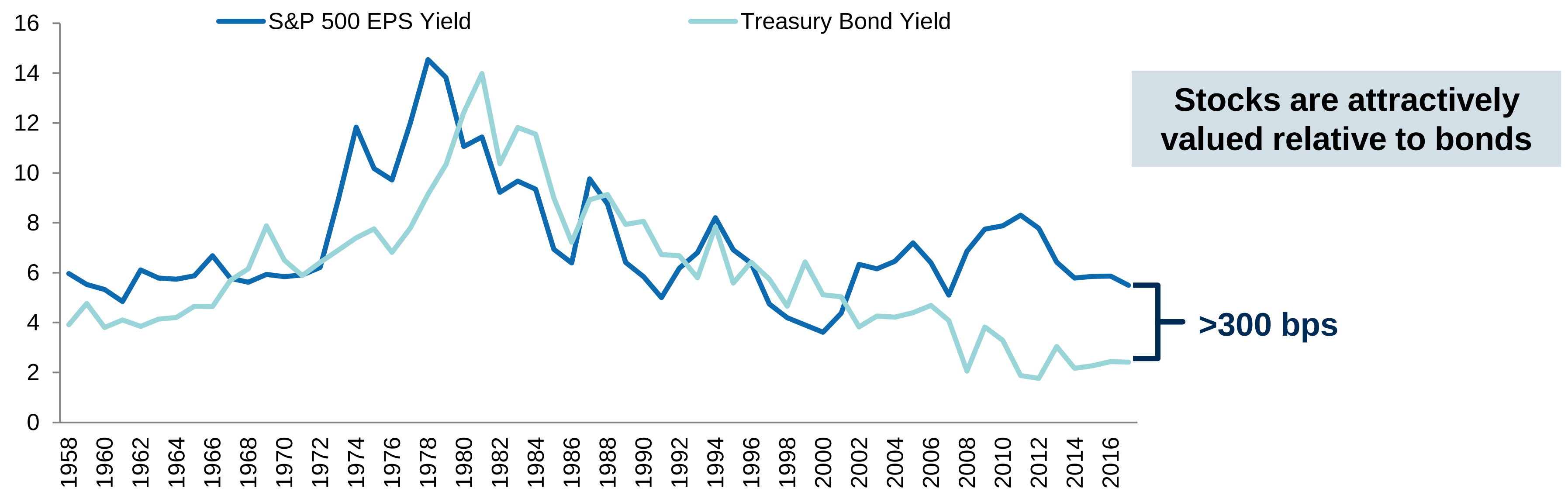




Source: FactSet as of December 2017. Growth represents consensus long-term analyst estimates, and actual future EPS growth rates might be materially different than the forecasts shown.

- Moving from monetary stimulus and quantitative easing to fiscal stimulus and increased deficits should drive a Great Rotation from bonds to stocks
- The magnitude of the rotation will be fueled by the valuation disparity between equities and bonds, which are expensive by comparison
  - The earnings yield of equities is more than 300 bps greater than the yield of 10-year Treasury notes vs. 55 bps median over the past half-century prior to the Global Financial Crisis

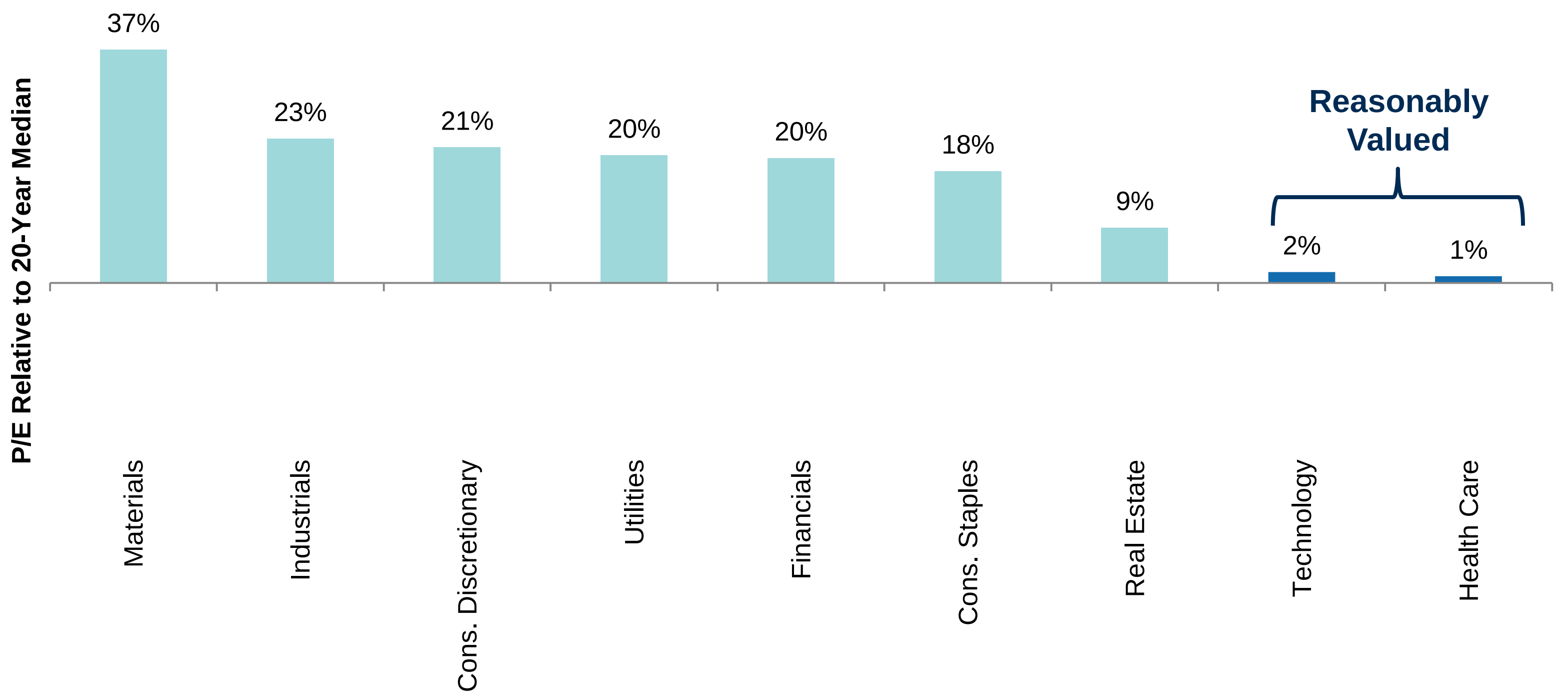
Equity vs. Bond "Yields"



Source: FactSet, Federal Reserve, and S&P, as of 12/31/17.

Valuation
Not All Sectors Are Expensive

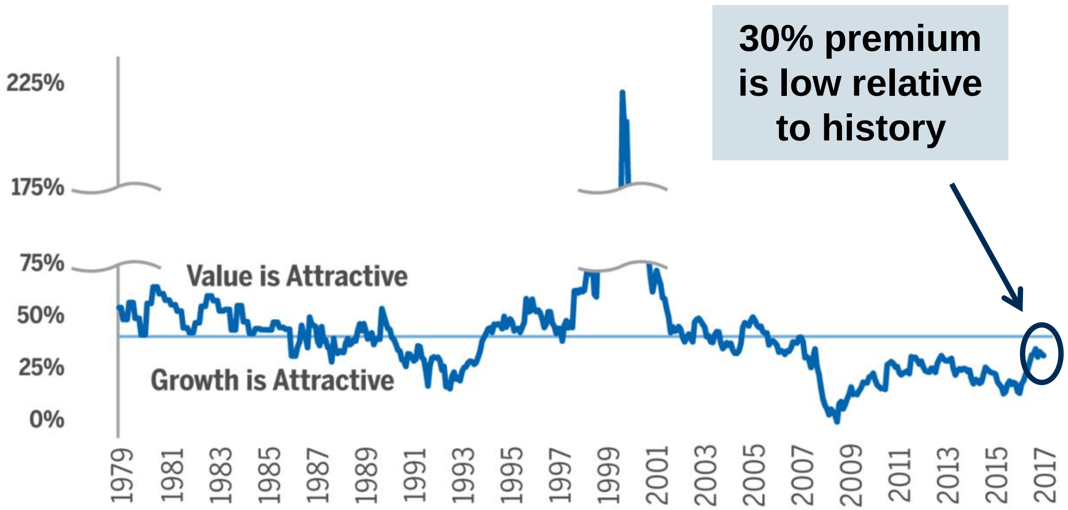
- Growth-oriented sectors are reasonably valued compared to history, particularly given low levels of interest rates, in contrast to many other sectors



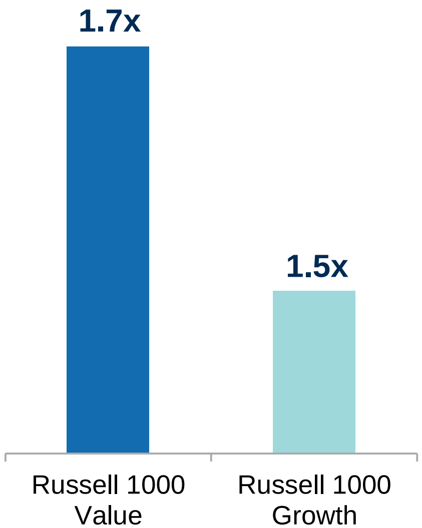
Source: FactSet, based on S&P 500 Index, 12/31/17. Note: energy and telecom are excluded; the former because of an extremely high P/E due to depressed earnings and the latter owing to a small number of constituents. Real estate is a new sector classification, so for the historical data shown above, an industry group category that has approximately 16 years of data was utilized.

- Despite their recent outperformance, Growth stocks remain attractively valued compared to Value stocks, relative to history and their respective growth rates

Russell 1000 Growth vs. Russell 1000 Value P/E



Russell 1000 Growth vs. Russell 1000 Value PEG Ratio
(P/E Divided by Long-Term Growth Rate)

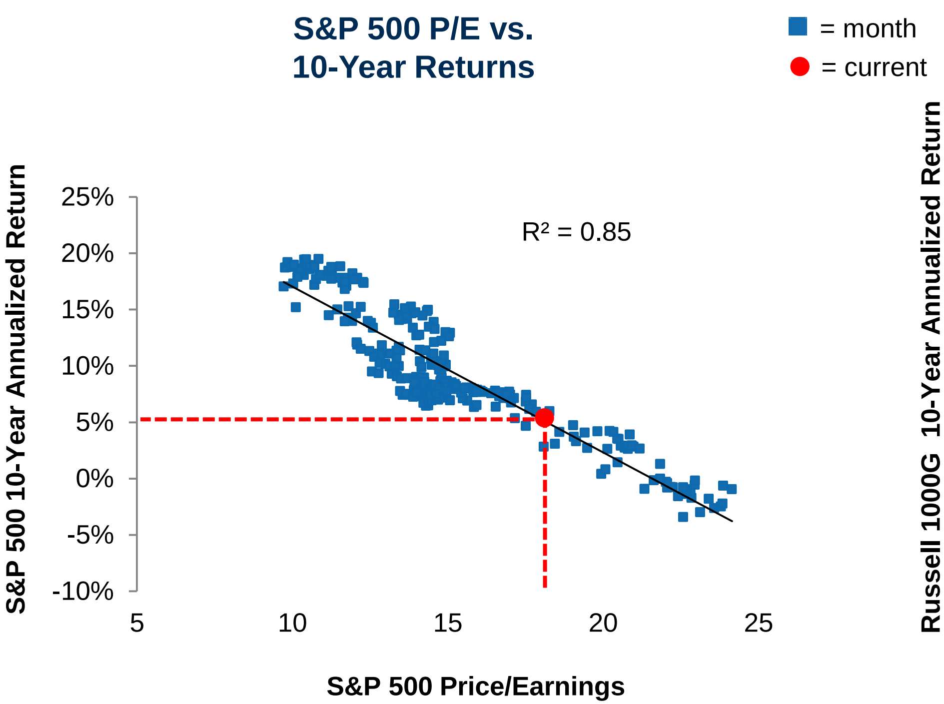


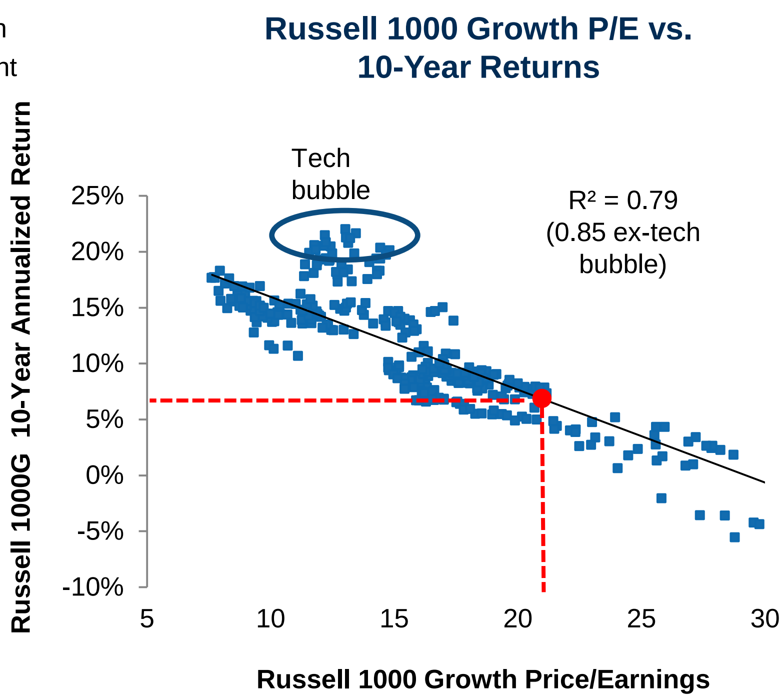
Source: FactSet, Bank of America as of 12/31/17.

Valuation

The Single Greatest Predictor of Future Stock Market Returns

- Current valuations suggest equities, particularly growth stocks, should materially outperform bonds over the coming decade
- The full impact of tax reform implies lower P/Es and higher annualized returns than current estimates shown below



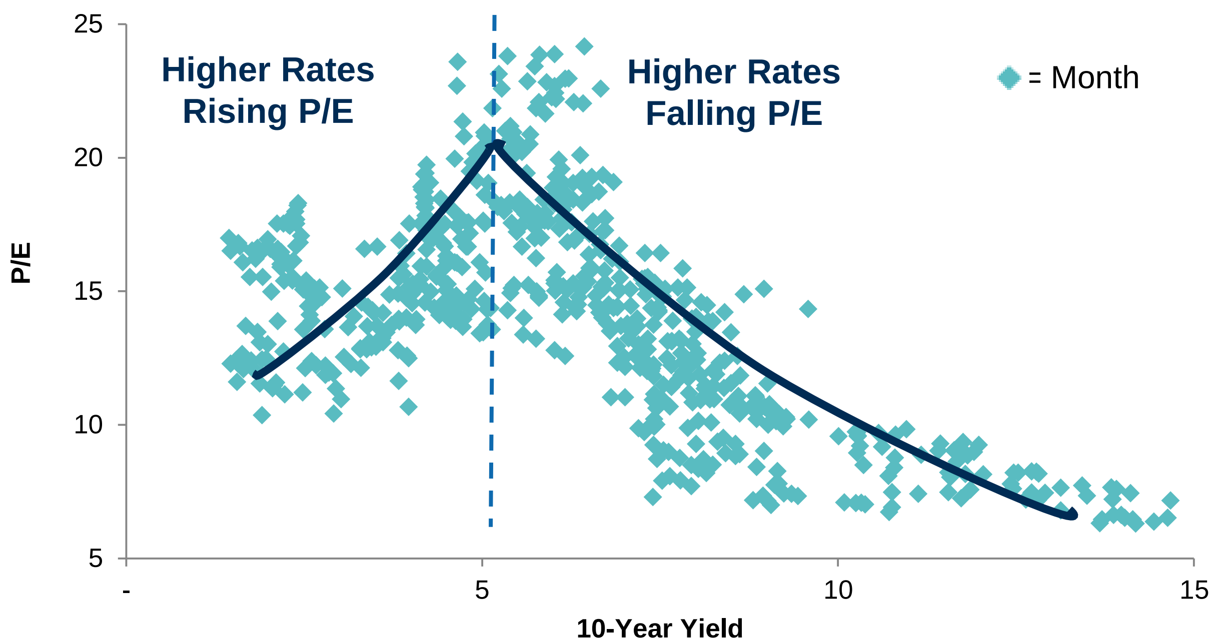


Source: FactSet. Monthly data through December 2017 and beginning in January 1986 (S&P 500) and December 1978 (Russell 1000 Growth). The tech bubble, represented by the 10-year returns beginning in April 1987-March 1990 and ending in April 1997- March 2000, skewed the regression by resulting in higher returns for given valuations than the historical relationship would imply.

Addressing Interest Rate Risks—It's Too Soon to Worry

- **Potential Risk**: higher bond yields → lower equity valuations?
- **Potential Solution**: favor equities over bonds given that increasing interest rates have supported higher P/E multiples at low absolute levels

S&P 500 NTM P/E vs. 10-Yr Treasury Note Yield 1964-2017



Source: RBC Capital Markets and FactSet. Data through December 2017.

Disclosure

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The S&P 500 Index is an unmanaged index generally representative of the U.S. stock market without regard to company size. The Russell 1000® Growth Index is an unmanaged index designed to measure the performance of the largest 1000 companies in the Russell 3000 Index with higher price-to-book ratios and higher forecasted growth values. The Russell 1000 Value Index measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values. The Russell 2000 Growth Index is an unmanaged index generally representative of common stocks designed to track performance of small-capitalization companies with greater than average growth orientation. The Russell 2000 Value Index is an unmanaged index generally representative of the small-cap value segment of the U.S. equity universe and measures the performance of Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values. The Russell 3000® Growth Index is an unmanaged index designed to measure the performance of those Russell 3000® Index companies with higher price-to-book ratios and higher forecasted growth values. The Russell 3000 Value Index is an unmanaged index generally representative of stocks from the Russell 3000 Index with lower price-to-book ratios and lower expected growth rates. The MSCI ACWI Index (gross) is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI ACWI consists of 45 country indices comprising 24 developed and 21 emerging market country indices. The indices presented are provided for illustrative purposes, reflect the reinvestment of dividends and do not assess fees and expenses that would have the effect of reducing returns. Investors cannot invest directly in any index. The index performance does not represent the returns of any portfolio advised by Fred Alger Management, Inc. and actual client results might differ materially than the indices shown. Note that past performance is no guarantee of future results. Comparison to a different index might have materially different results than those shown.

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