ALGER

Inspired by Change, Driven by Growth.

Winter 2019

Capital Markets: Observations and Insights

Sanguine About Slowing

Sanguine About Slowing

Sanguine: being optimistic, especially in an apparently difficult situation.

Peak growth is probably behind us. Earnings and GDP growth are unlikely to reach new heights this cycle, but does that mean the expansion is ending?

No, not in our view. There have been many times in the past few decades, and even in this expansion, when economic growth has slowed materially without ending the economic cycle or equity bull market.

The best example of a slowing but still growing economy may come from the mid-1990s. In 1994, the economy was growing robustly as the Federal Reserve tightened monetary policy. While U.S. economic growth slowed significantly in 1995, earnings grew and the U.S. equity market turned in a strong year. More recently, economic growth slowed materially in 2016, while stocks posted solid, albeit varied, returns.

While we are positive on equities in general in this environment, our research shows that there are always areas of the economy and innovative companies that can grow irrespective of economic conditions. Those companies and industries are, and always have been, our focus.

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Chief Executive Officer
Chief Investment Officer

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Director of Market Strategy

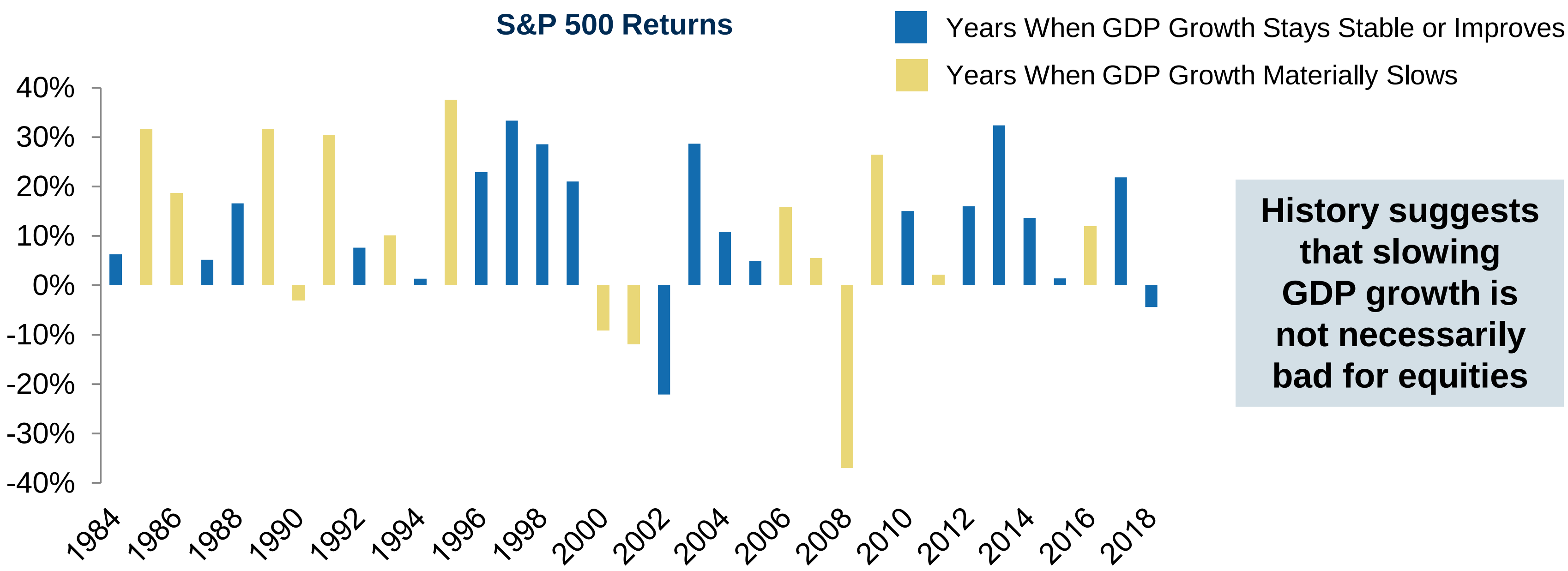
Key Observations

- While pessimism abounds and equities are discounting a significant economic slowdown, we believe **stocks are likely to post solid long-term returns**, particularly relative to other asset classes
- Monetary conditions have tightened but we believe **equities and the economy should be able to absorb the moderate increase in interest rates**
- Trade policy issues are weighing on global economic growth and while there could be more pain to come, **we believe the powerful trend toward lower tariffs and more trade will ultimately prevail**

Table of Contents

Sanguine About Slowing
Prospering Through a Slowdown

- Economic growth is likely to decelerate in 2019 but that does not necessarily mean weak equity returns
  - In the past 35 years, there have been 15 years when U.S. GDP growth materially slowed, with the vast majority generating positive U.S. stock returns
  - Returns were negative only when accompanied by a recession (1990, 2000/2001, 2008)



History suggests that slowing GDP growth is not necessarily bad for equities

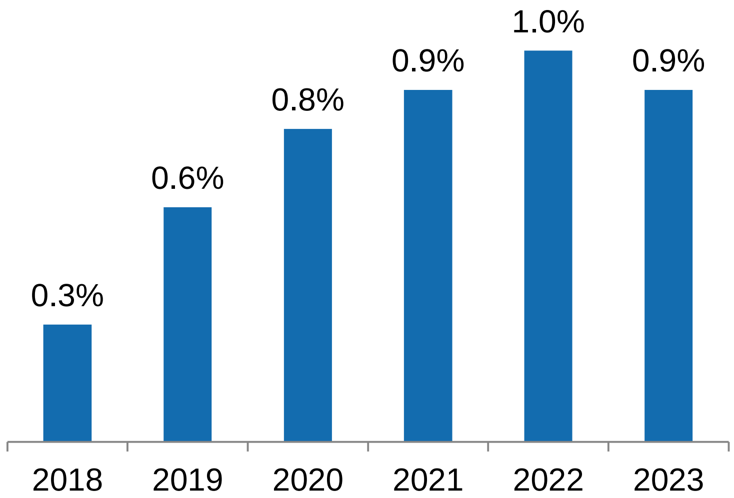
Source: FactSet, Alger. Note: Material slowing of GDP is defined as 50bps or more of a negative change in the annual real GDP growth rate.

Sanguine About Slowing

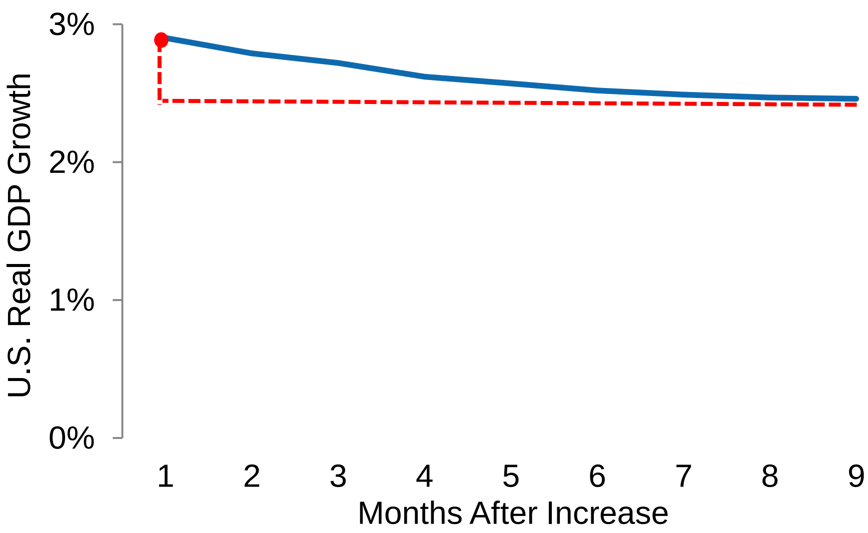
Tailwinds Meet Headwinds

- Fiscal stimulus remains a tailwind with the cumulative benefit continuing to build…
- While the Federal Reserve's tightening monetary policy is a headwind to economic growth

Cumulative GDP Boost from 2017 Tax Act



Estimated GDP Impact of 100bps Increase in the Federal Funds Rate



Source: Tax Act impact is from CBO, based on fiscal years ending in September. Effect of 100bps increase in Fed Funds rate is based on impact shown in FRB/US Model (November 2014 VAR version).

Sanguine About Slowing

Not Signaling Recession

- Recent economic statistics are materially stronger than those prior to previous recessions
- Relevant metrics indicate continued expansion

■ = Recessionary

■ = Expansionary

Data Preceding U.S. Recessions

	Leading Economic Indicator YoY	Yield Curve (Min Past 18- Months)	ISM Manufacturing New Orders	Real Fed Funds Rate	Capacity Utilization	Jobless Claims YoY
December 1969	-2.1%	-0.4%	48.0	3.1%	85.5%	10.2%
November 1973	-1.6%	-1.4%	65.2	4.4%	88.7%	1.4%
January 1980	-5.8%	-1.7%	47.1	6.0%	84.3%	15.9%
July 1981	-1.6%	-1.9%	47.6	10.1%	80.5%	-21.4%
July 1990	-0.9%	0.0%	46.7	3.9%	82.8%	8.0%
March 2001	-7.6%	-0.6%	41.5	3.1%	77.9%	41.8%
December 2007	-4.6%	-0.6%	46.5	2.0%	81.1%	7.8%
Average	-3.5%	-0.9%	48.9	4.7%	83.0%	9.1%
Present	5.2%	0.2%	51.1	0.6%	78.5%	-8.5%

Source: FactSet and Alger. Recessionary thresholds are as follows: Leading Economic Indicator YoY <0.0%; Yield Curve (10 year minus 3 month) <0.0% in past 18 months; ISM Manufacturing New Orders <50; Real Federal Funds Rate >1.75%; Capacity Utilization >80%; Jobless Claims >0%.

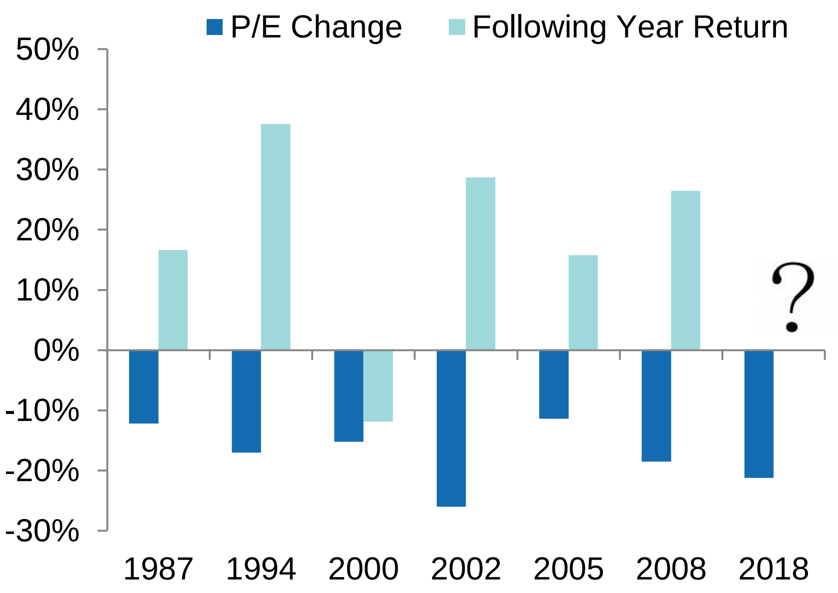
Sanguine About Slowing

A Silver Lining?

- Equity valuations declined dramatically in 2018
  - Second largest decline in past three decades
- Historically, returns have been robust after such episodes
  - Annual returns have averaged 19% after double-digit declines in P/E

Change in S&P 500 P/E

Double-Digit S&P 500 P/E Declines



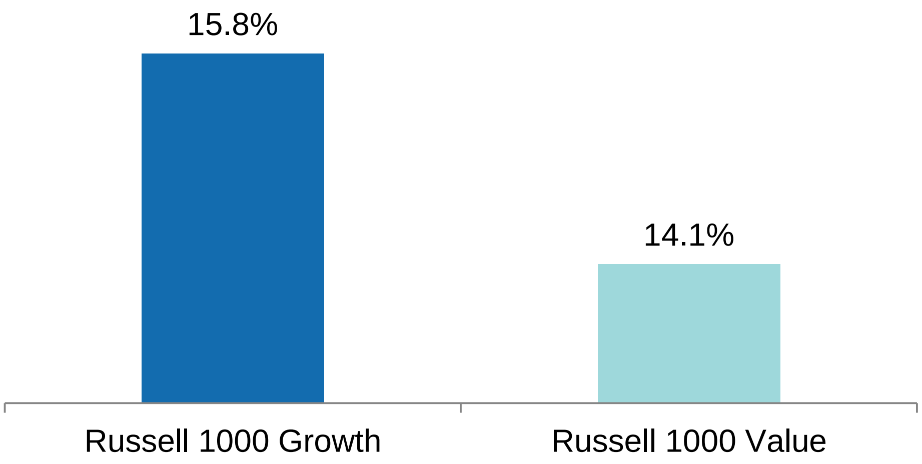
Source: FactSet and Alger. Data is 1986-2018.

Sanguine About Slowing

What Outperforms in a Slowdown?

- Growth equities typically outperform when overall EPS growth decelerates, likely because:
  - Growth equities are less cyclical
  - Value stocks have more operational and financial leverage
  - Higher growth is more scarce

Equity Returns in Periods of Profit Deceleration (1982-2018)



Growth has historically outperformed Value when fundamentals decelerate

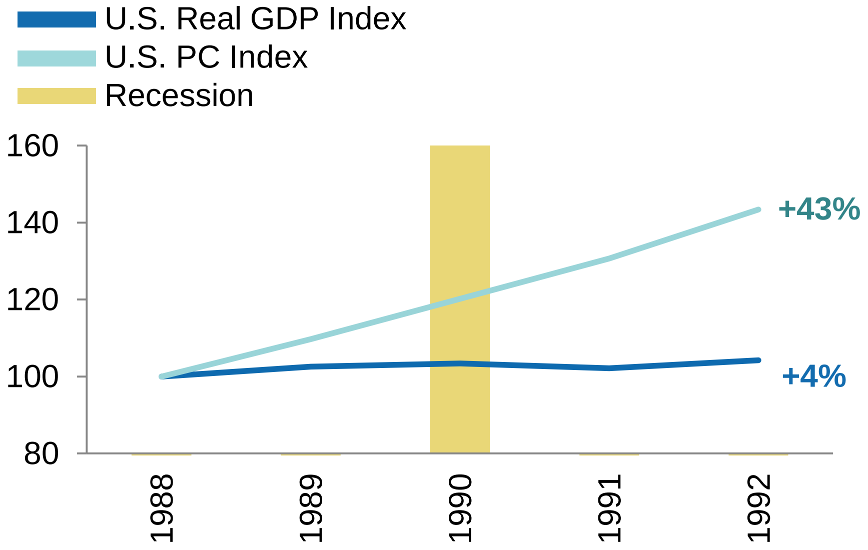
Source: Bank of America Merrill Lynch Quantitative Strategy. Median data for periods identified are Jun 1984-Dec 1985, Jun 1988-Dec 1991, Mar 1995-Sep 1998, Mar 2000-Dec 2001, Dec 2003-Jun 2005, Mar 2006-Mar 2009, Jun 2010-Sep 2012, and Dec 2013-Dec 2015.

Sanguine About Slowing

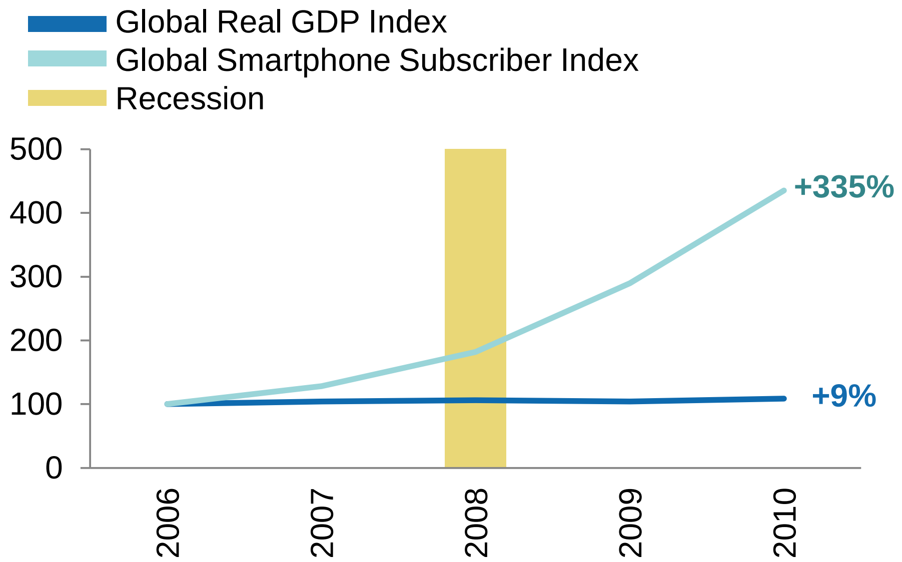
Innovation Through Economic Cycles

- Innovation can flourish even if the economy languishes
  – History shows that there are areas of innovation and growth throughout recessions, depressions and panics over the past 150 years*

Personal Computer Penetration Grew Through Early '90s Recession



Global Smartphone Subscribers Grew Through Global Financial Crisis

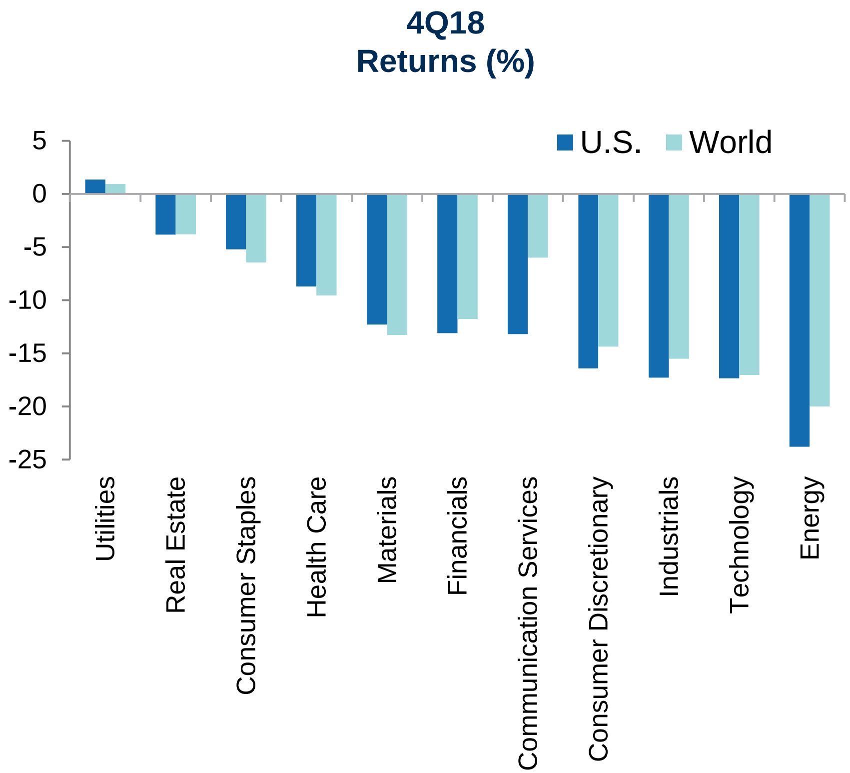


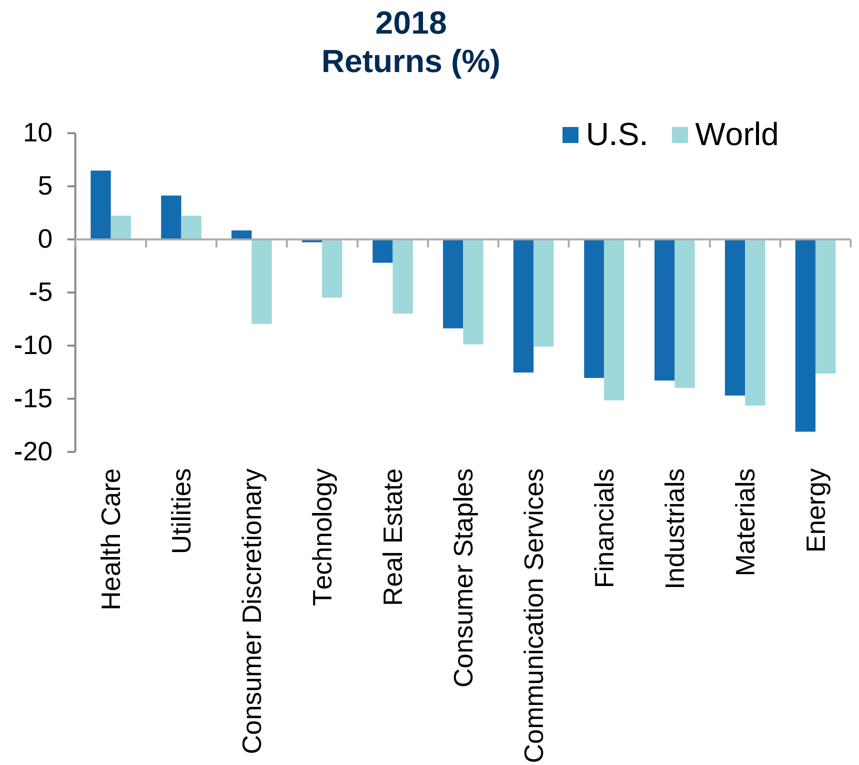
Source: Diego Comin and Bart Hobijn "Historical Cross Country Technology Adoption Dataset"; U.S. Department of Transportation; GSM Association; FactSet . Each graph is indexed to 100. *See Alger's white paper "The Enduring Force of Innovation."

Performance

Investors Play Defense

- In a severe equity market correction in 4Q18, defensive and less cyclical sectors performed best, highly impacting 2018 returns

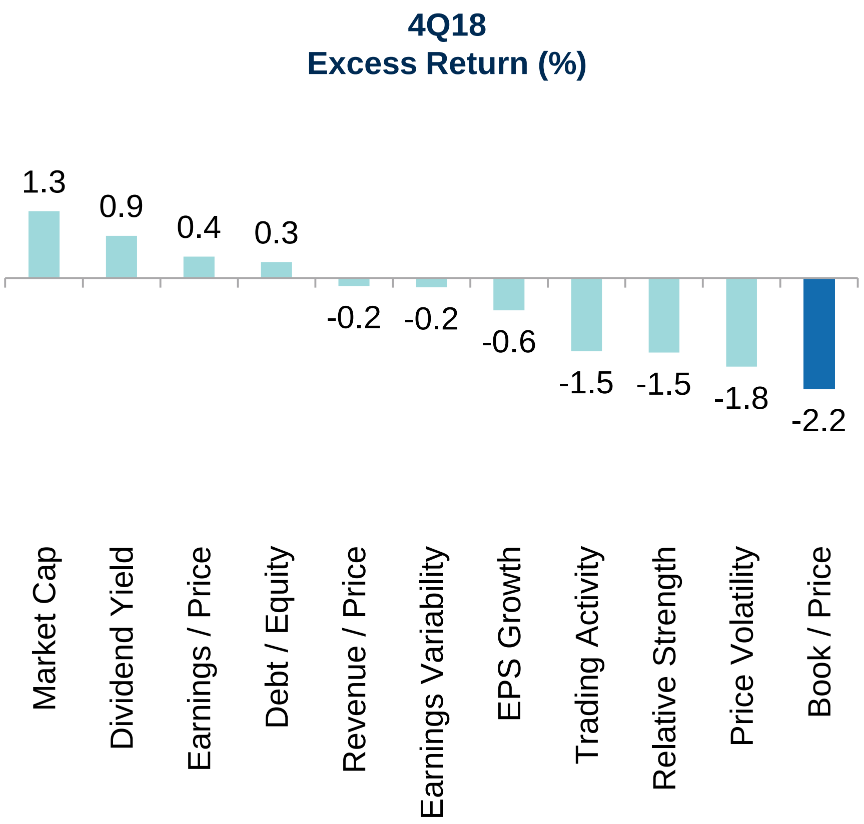


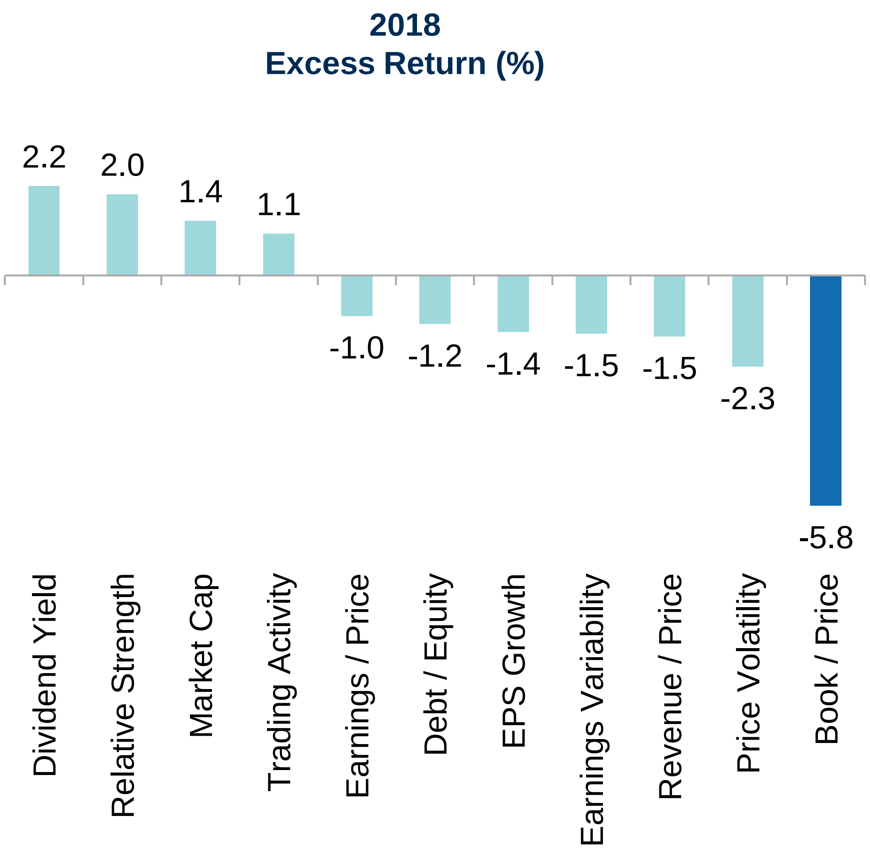


Source: FactSet as of 12/31/18. U.S. represented by S&P 500 and World represented by MSCI AC World Index in USD.

Performance
Value Has Lagged

- In 2018, higher yielding large cap stocks generally outperformed, while more economically sensitive Value equities underperformed

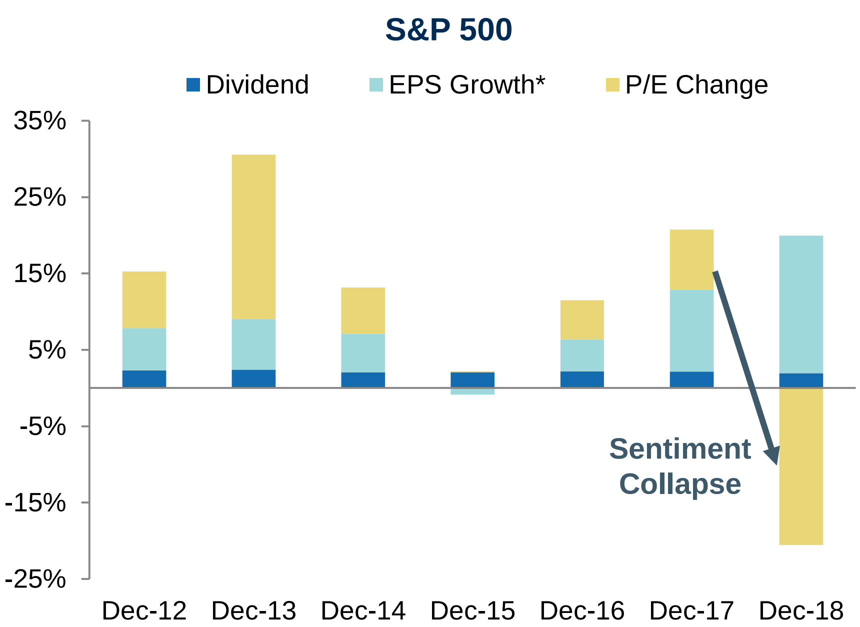


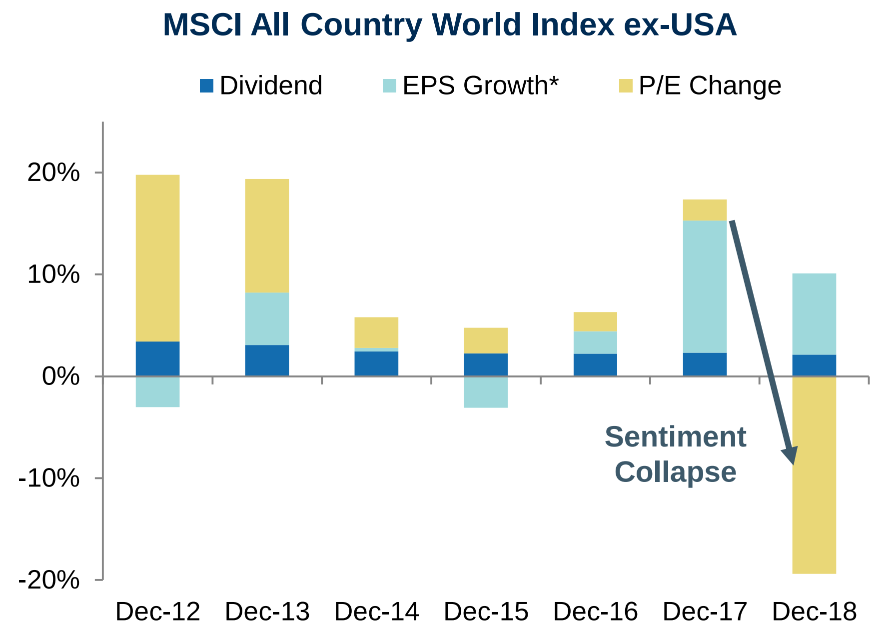


Source: FactSet as of 12/31/18 using Northfield defined quantitative factors for the Northfield broad U.S. market database.

Performance
Valuation Correction Offsets Earnings Growth

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





12-Month Total Return:	**16%**	**33%**	**14%**	**1%**	**12%**	**22%**	**-4%**

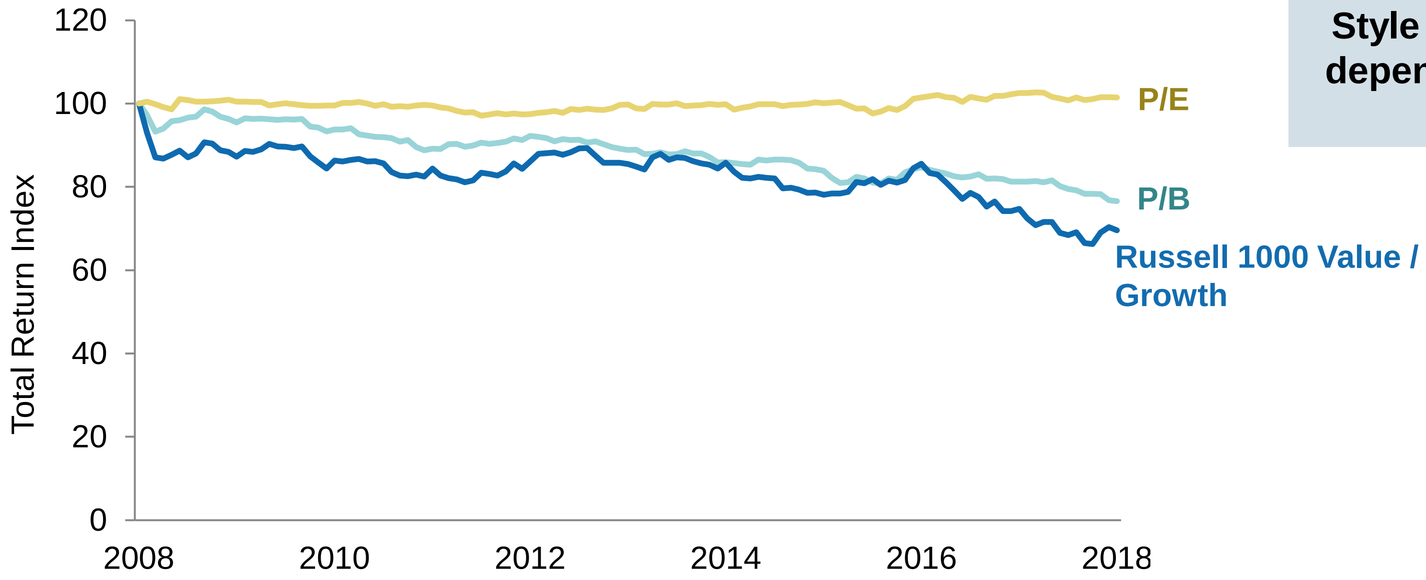
12-Month Total Return:	**17%**	**21%**	**6%**	**2%**	**7%**	**19%**	**-10%**

Source: FactSet as of 12/31/18. *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

Structural Issues Driving Growth vs. Value

- Growth stocks have dramatically outperformed (+44%) Value stocks over the past decade
- The culprit for value investors has been the very weak performance of buying low P/B stocks, while low P/E strategies have fared much better
- Book value, used heavily in index classification of Growth vs. Value, may no longer be as relevant given changing business models, e.g., R&D is not capitalized in book value



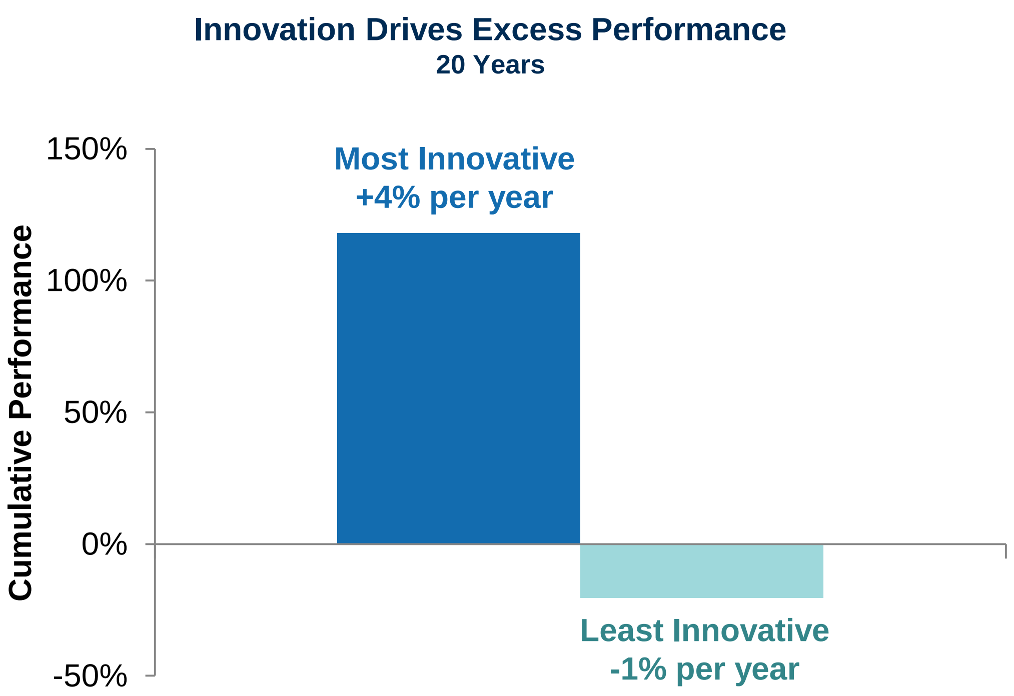
Style classification too dependent upon flawed book value

Source: FactSet as of 12/31/18. 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.

Performance

Innovative Companies Often Outperform

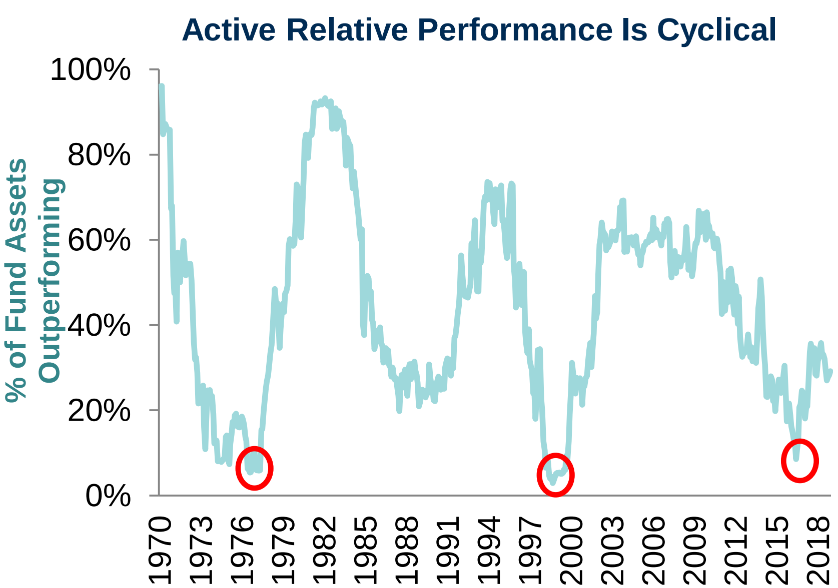
- Studies have shown, and our research demonstrates, that the most innovative companies grow their sales, earnings, and stock prices faster*

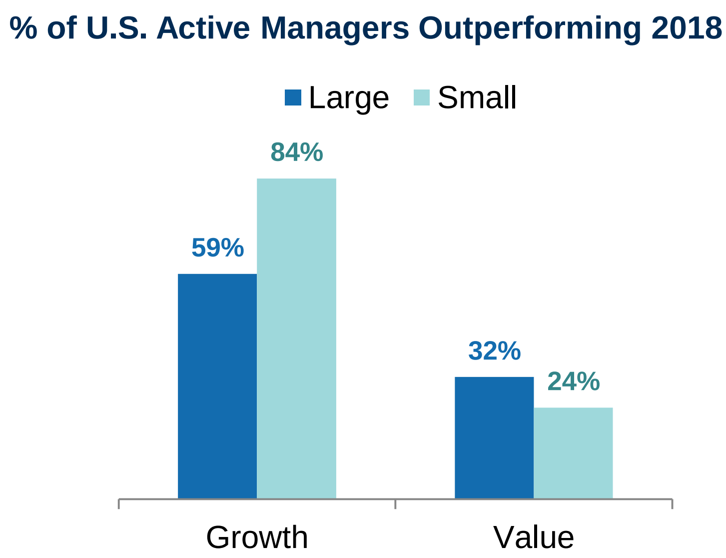


Source: FactSet. Most/least innovative stock excess performance is derived from highest and lowest S&P 1500 quintiles based on R&D as % of sales, normalized for market value, using one month returns for 20 years ending 10/31/18. *Baruch Lev and Suresh Radhakrishnan, “The Stock Market Valuation of R&D Leaders.”

Has Active Relative Performance Troughed?

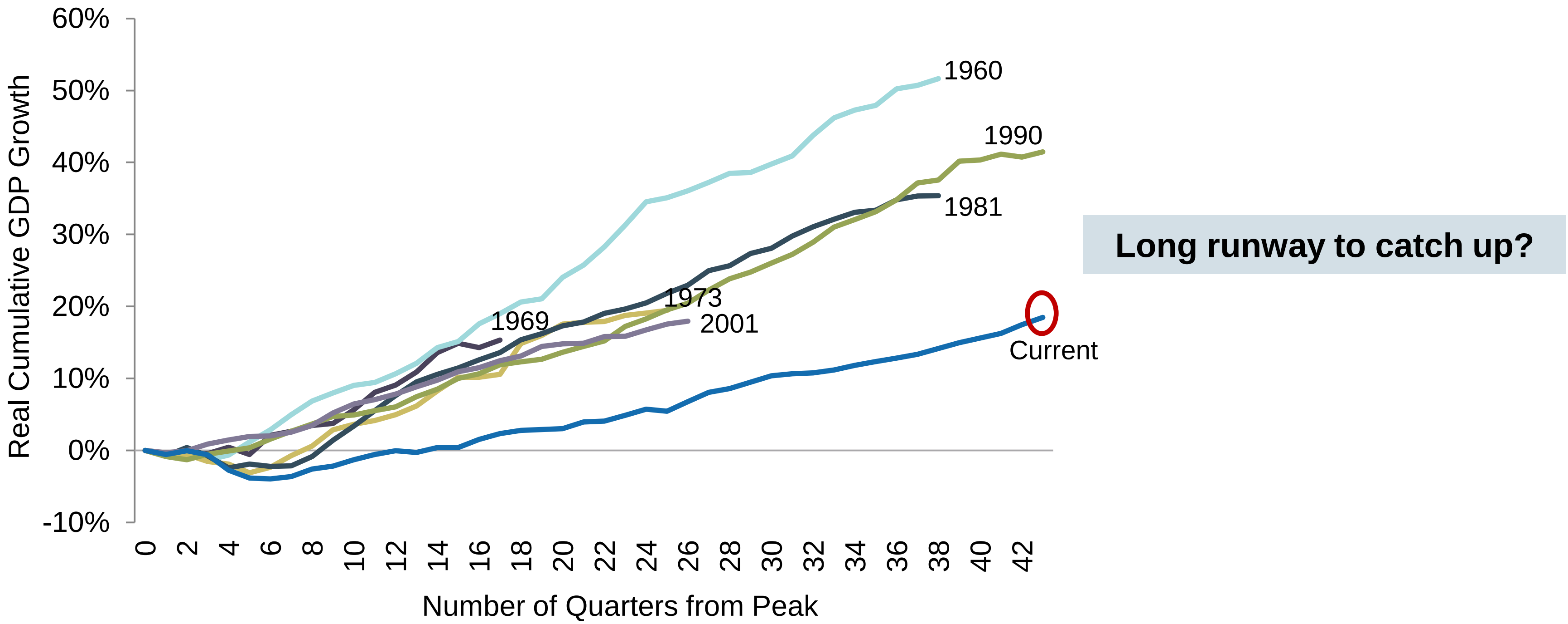
- Powerful cyclical factors impact U.S. active relative performance:
  - Interest rates/bond-like equities
  - Small cap performance
  - Overall market performance
  - Non-U.S. stock performance
- As some of those factors reverse, active management, particularly Growth, has been doing better
  - Interest rates no longer falling
  - Market performance more subdued





Source: Left chart: Nomura/Instinet, Joseph Mezrich and FactSet through 12/31/18. Fund performance is trailing five-year data of U.S. active equity mutual funds in existence for five years or more and part of the growth, growth & income, and income categories based on CRSP codes. Right chart: Bank of America Merrill Lynch U.S. Equity and U.S. Quant Strategy using Lipper data relative to Russell benchmarks through 12/31/18.

- Why has the current economic expansion lasted so long and when will it end?
  - A big part of the answer is the depth of the recession that preceded it and the rate of the recovery thus far
  - Economic recoveries of comparable length have had far more growth than the present one, suggesting a significant runway of economic expansion now

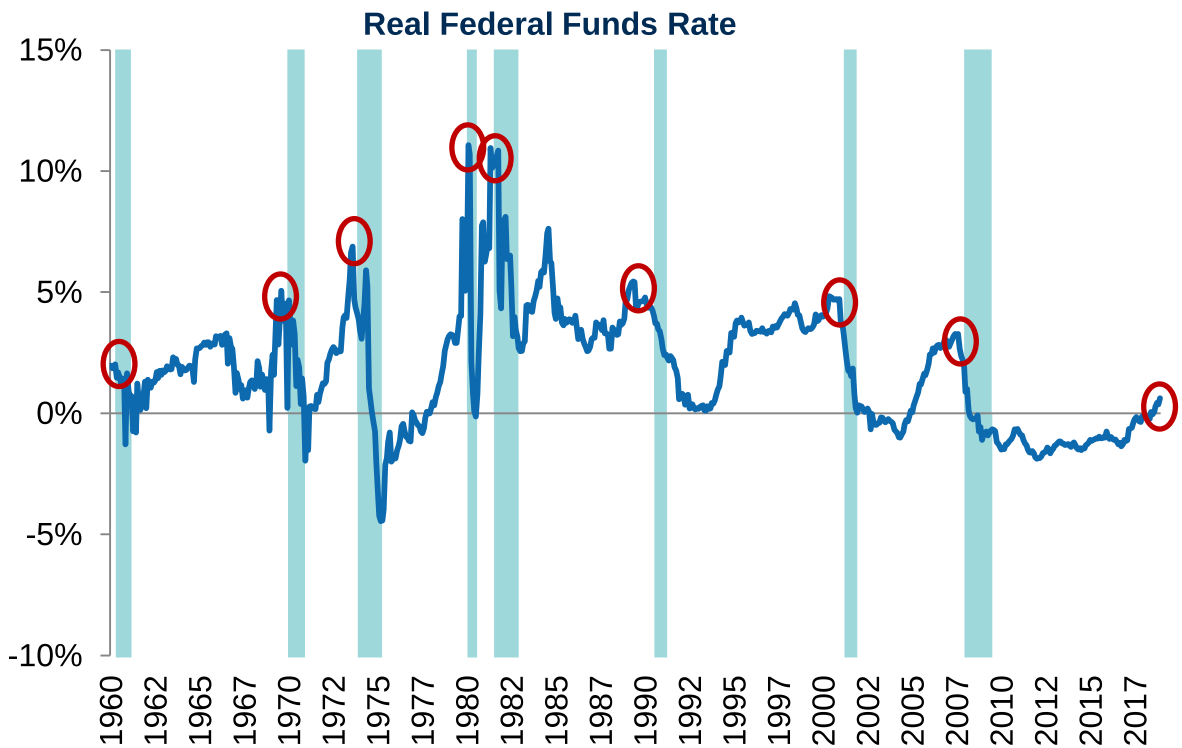


Source: U.S. Bureau of Economic Analysis and Alger as of December 2018. Dates indicate beginning of measurement periods.

Fundamentals

Monetary Policy Is Not Restrictive

- Over the past half century, every U.S. recession has been preceded by a significantly positive real Fed Funds rate of 2% or higher
- In contrast, today we have a real Fed Funds rate of close to 0%



Today real short-term interest rates are far lower than what induced previous recessions

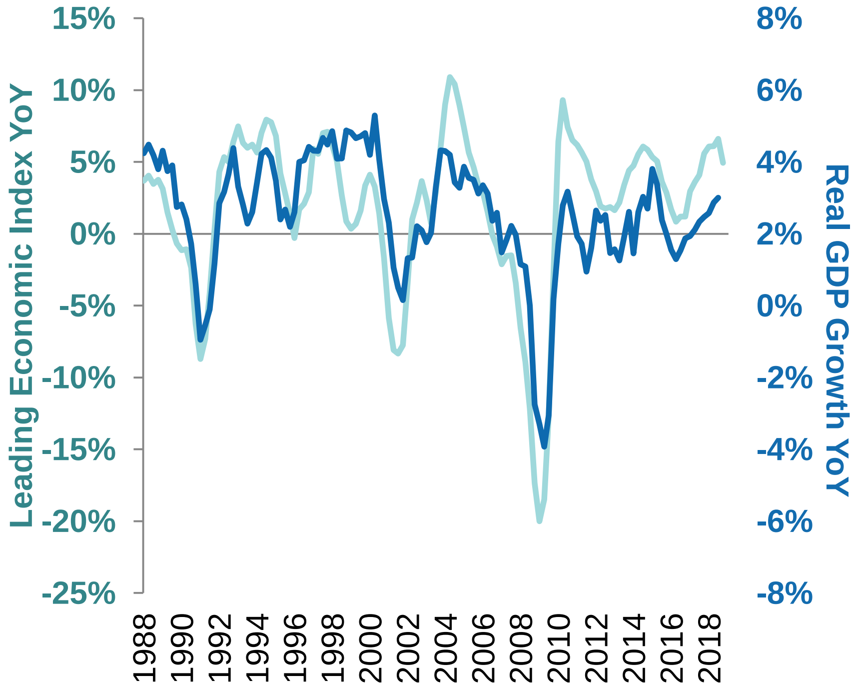
Source: FactSet, through December 2018. Real Federal Funds rate is equal to the Federal Funds rate less the year-over-year change in the PCE Price Index ex-food and energy. Shaded regions denote U.S. recessions.

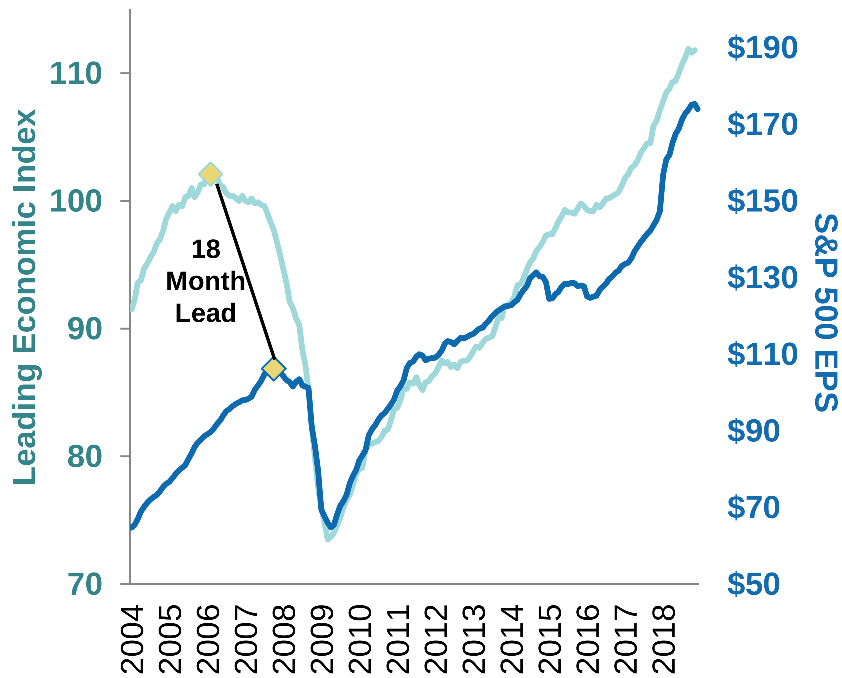
Fundamentals

Leading Indicators Suggest Continued Expansion

- Typically, changes in the Leading Economic Index (LEI) have preceded changes in economic growth
- The rate of change of the LEI implies solid, albeit slowing, economic growth

- The LEI historically leads S&P 500 EPS by 6-18 months
- The increase in the LEI suggests EPS should continue growing





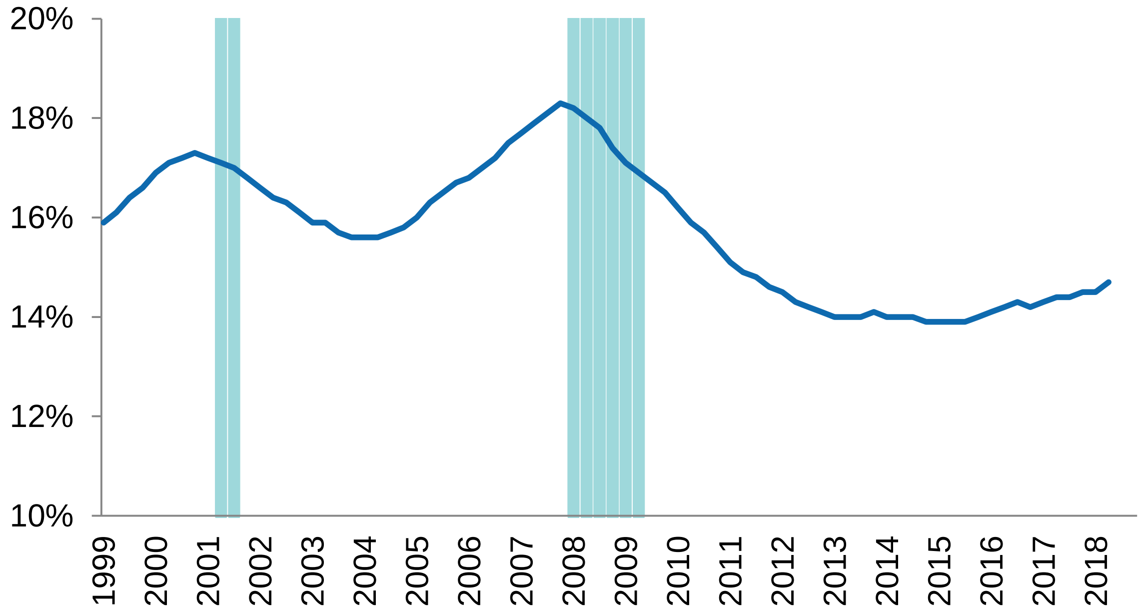
Source: FactSet, Conference Board. EPS estimates based on next 12-months consensus.

Fundamentals

U.S. Debt Service Is Historically Low

- Despite higher levels of debt as a % of GDP, the U.S. non-financial private sector debt service ratio is much lower than in the past two recessions
  - – Because more than 80% of U.S. consumer and business debt is fixed, higher interest rates should not have a dramatic impact on service costs

U.S. Debt Service Ratio



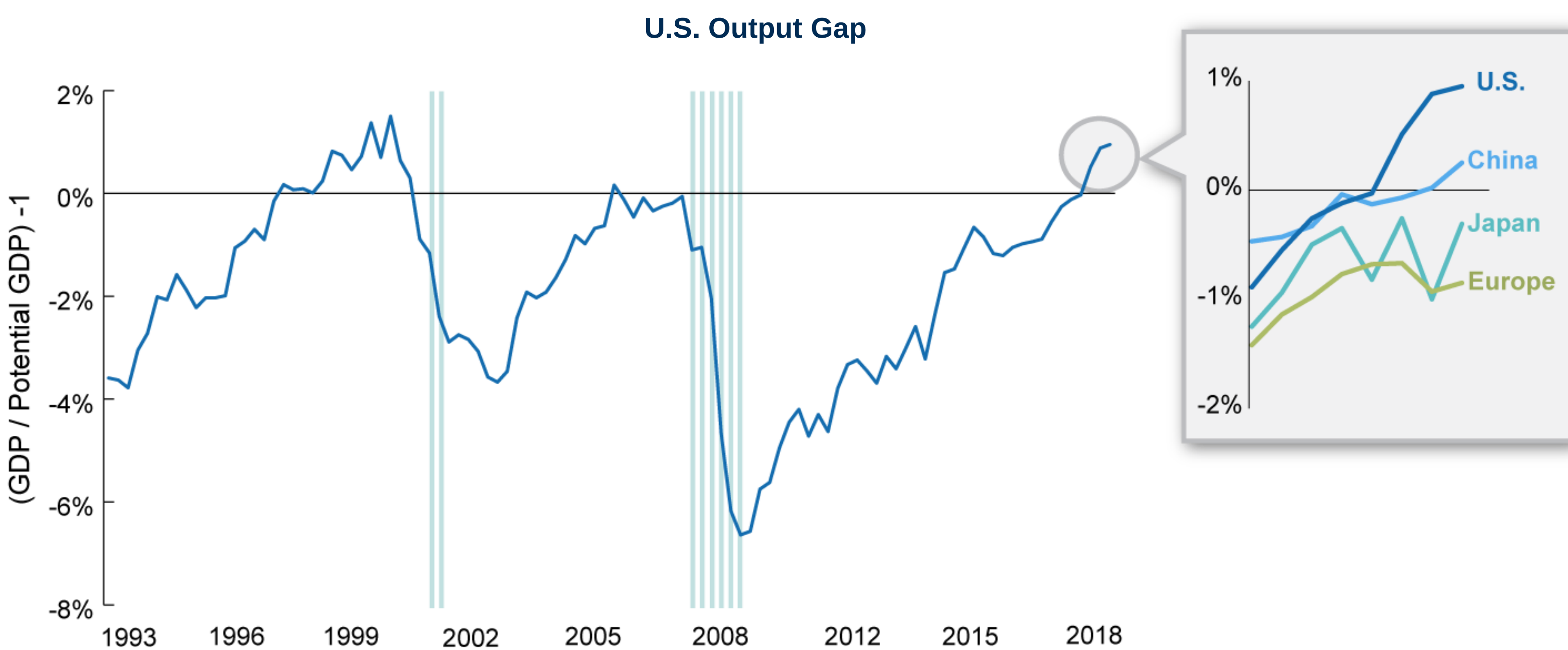
Debt service ratio indicates households and corporations are not burdened by debt payments

Source: Bank for International Settlements, December 2018. Debt Service Ratio is the share of income used for interest payments and amortizations in the non-financial private sector. Shaded regions indicate recessions.

Fundamentals

Better to Be Behind?

- The output gap measures economic output relative to potential, with a lower output gap indicating more growth left in the cycle
- While most major regions are at or near potential output, some, such as Japan and Europe, are further behind the U.S.

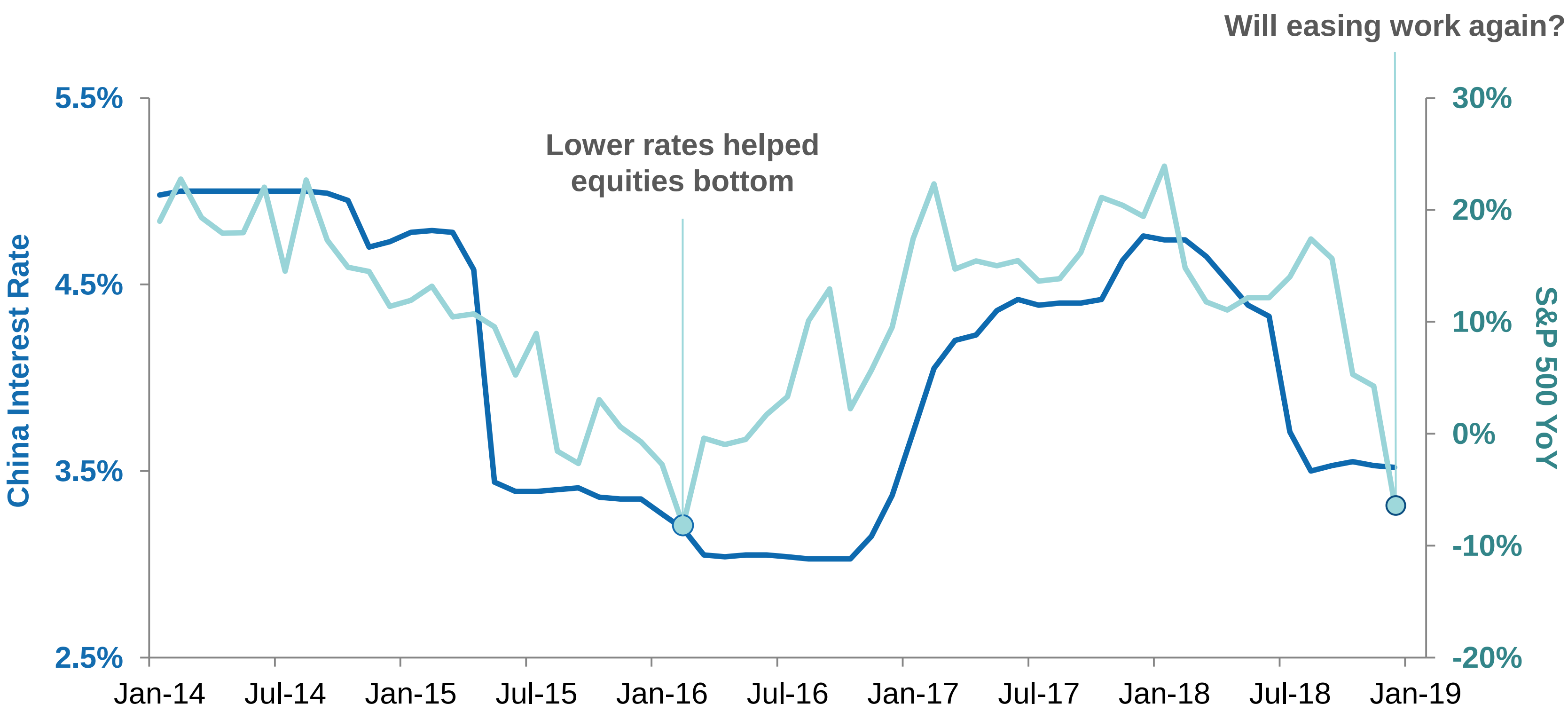


Source: FactSet and Oxford Economics. Shaded regions indicate U.S. recessions.

Fundamentals

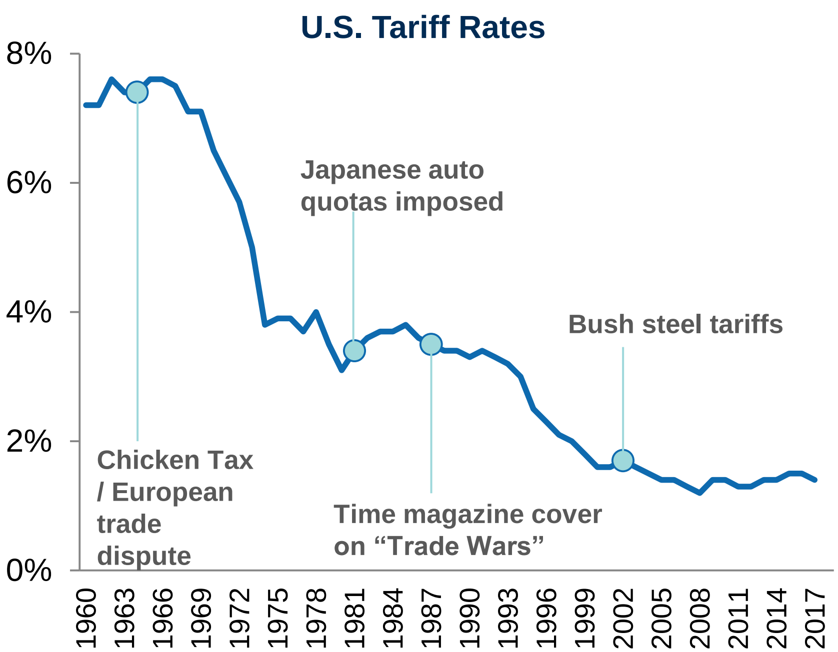
China Is Stimulating

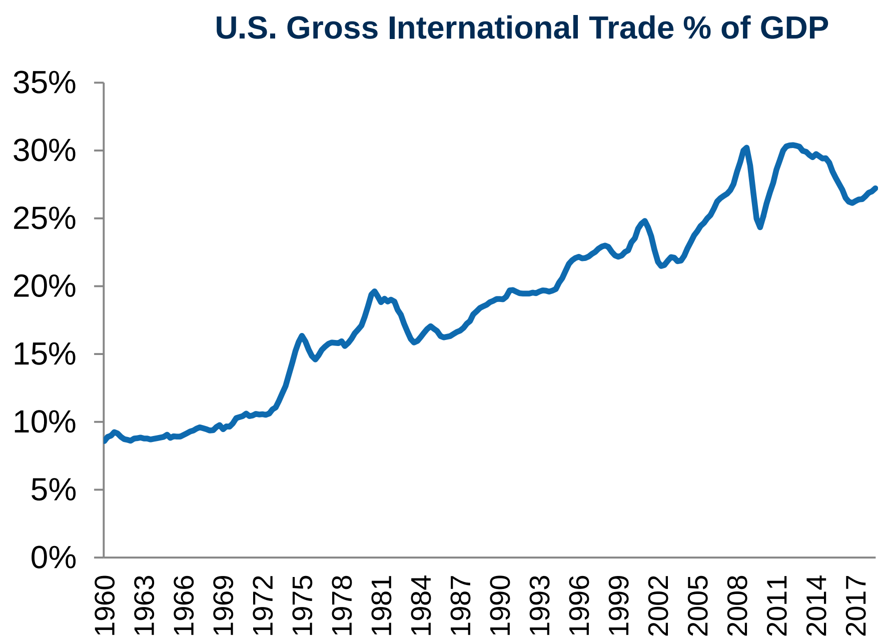
- Chinese growth has been a key driver in volatility of global equities
- A trade deal would go a long way to help the decelerating Chinese economy but monetary policy may pick up some of the burden until then



Source: FactSet. China interest rate is SHIBOR one year rate.

- There have been various periods in history marked by fears of "trade wars" but ultimately countries have acted rationally and reduced trade barriers
- While there may be more pain to come, we believe the powerful trend toward lower tariffs and more trade will prevail
- In the meantime, opportunities will likely arise for active management

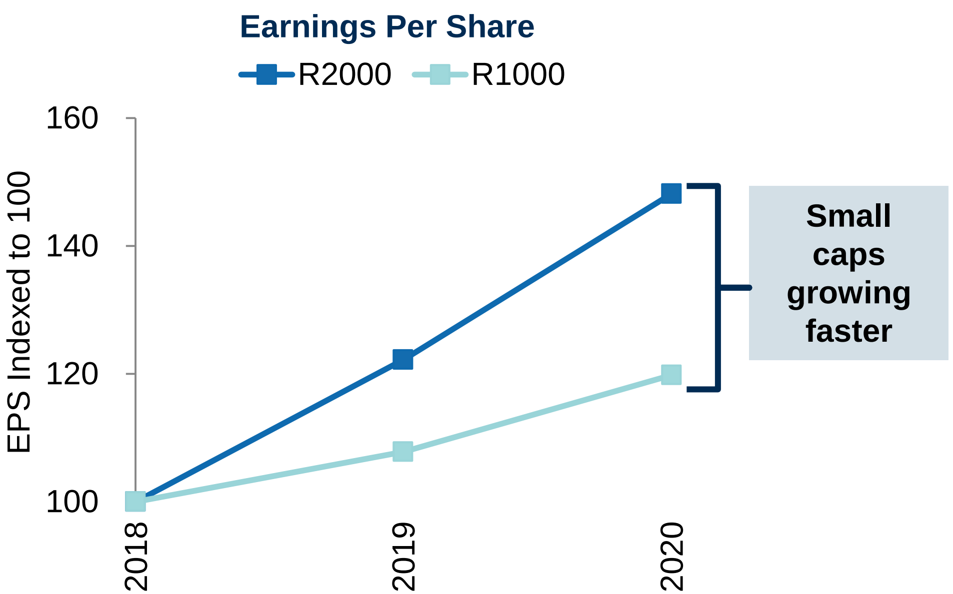


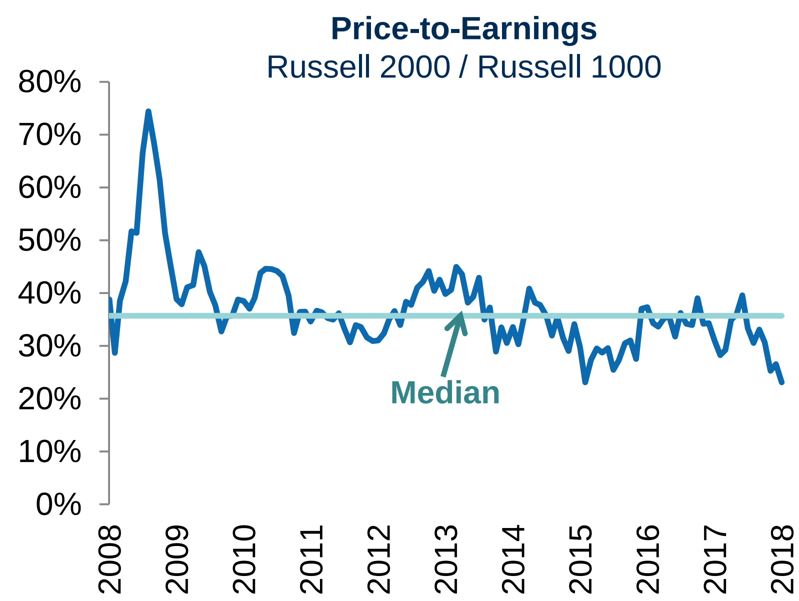


Source: U.S. International Trade Commission, U.S. Bureau of Economic Analysis, and Alger. Tariffs are calculated as duties collected divided by total imports.

Smaller Capitalization Stocks Poised to Outperform

- **Compelling valuation**: Small cap P/E multiple premium is the lowest in a decade
- **Stronger fundamentals**: Estimated small cap EPS growth for ‘19 & ‘20 is double that of large cap
- **More levered to domestic economy**: U.S. small caps have less exposure to international economies
- **Rising interest rates**: Small caps have historically outperformed large caps in rising rate environments

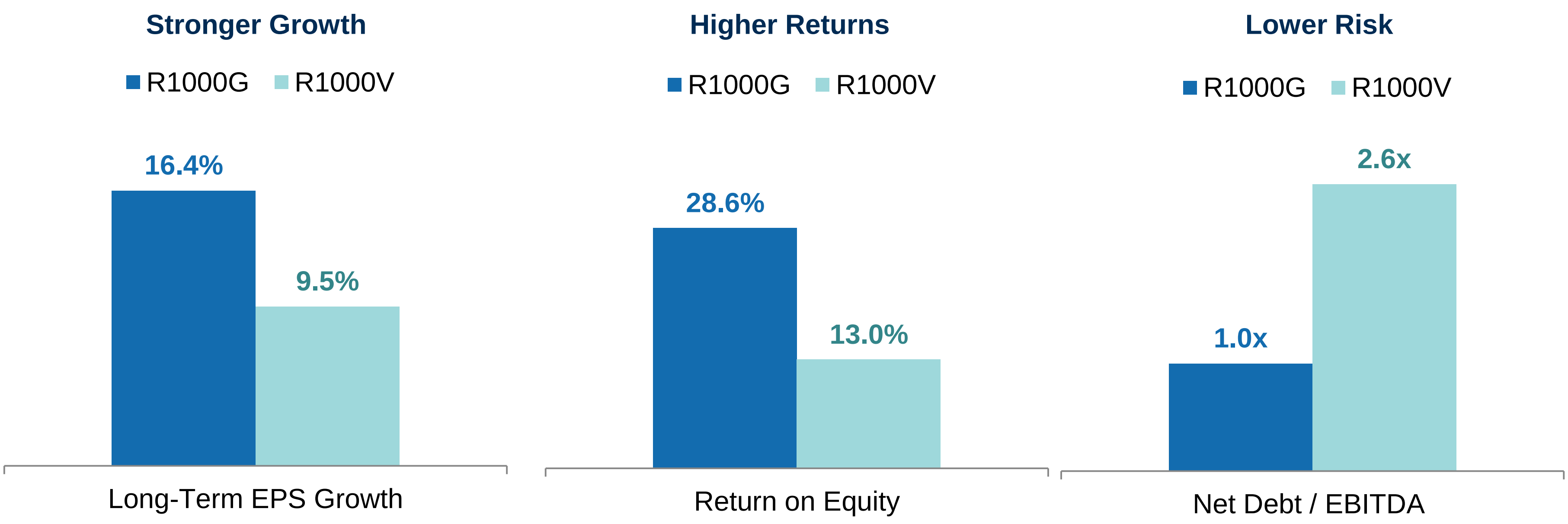




Source: FactSet as of December 2018 . EPS for 2019-2020 are consensus estimates and actual earnings per share might be materially different than shown.

Fundamentals
The Growth Advantage

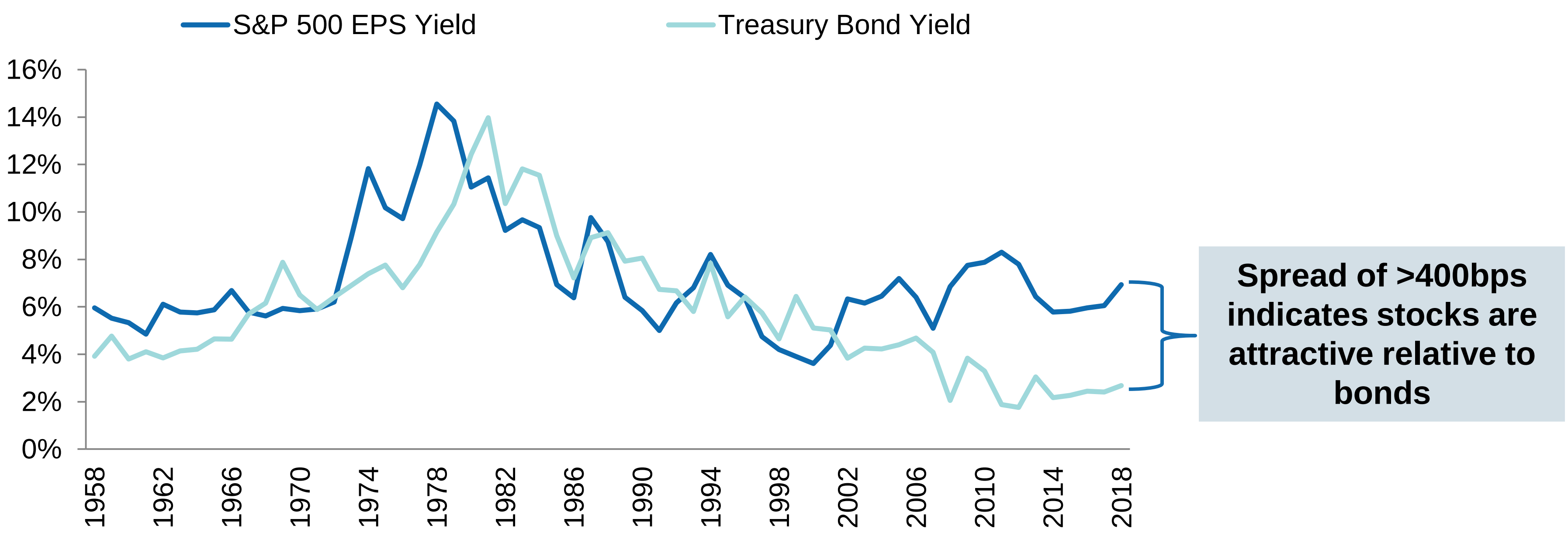
- Three variables drive P/E multiples: growth, return on capital, and risk
- As compared to the Russell 1000 Value Index, the Russell 1000 Growth Index has higher expected EPS growth, higher return on equity, and lower risk in the form of better balance sheets



Source: FactSet as of 12/31/18. Growth represents consensus long-term analyst estimates and actual future EPS growth rates might be materially different than the forecasts shown.

Stocks Are Cheap Relative to Bonds

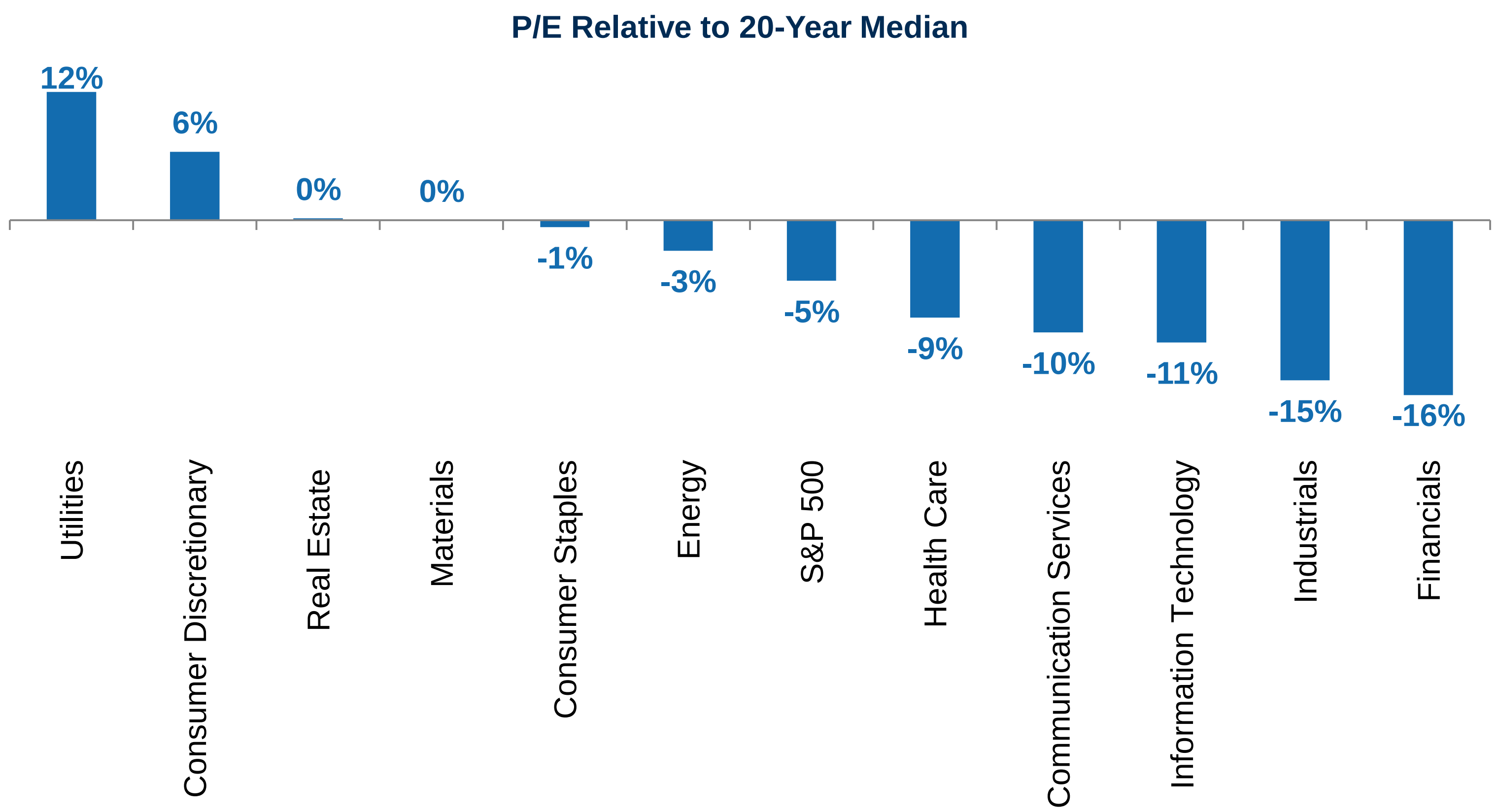
- Historically, the "earnings yield" of equities (inverse of the P/E) has been just modestly above 10-year Treasury yields
- Since the Global Financial Crisis, however, that spread has widened out and has yet to normalize, making equities attractive relative to bonds



Source: FactSet, Federal Reserve, and S&P, as of 12/31/18.

Valuation
Bargains Abound

- Sector valuation varies with most trading at discounts to their historical median



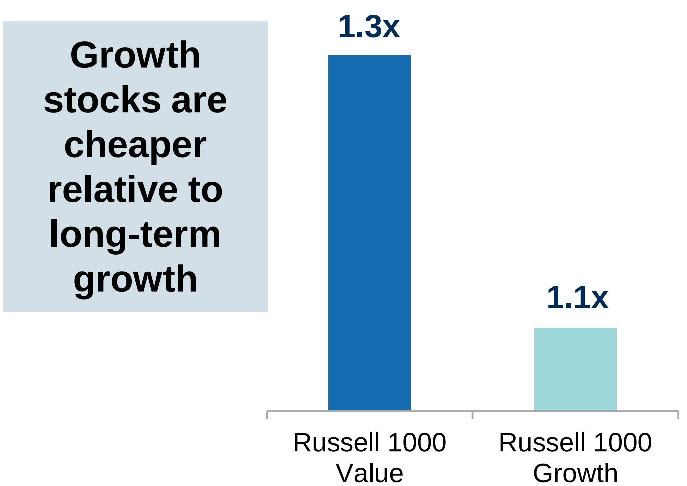
Source: FactSet and UBS, based on S&P 500 Index as of 12/31/18. The Communication Services, Consumer Discretionary, and Technology sectors' historical data have been restated to reflect September 2018 changes to the GICS sector classifications. Note that Consumer Discretionary ex-Internet Retail is an 11% discount to its 20-year median.

Valuation

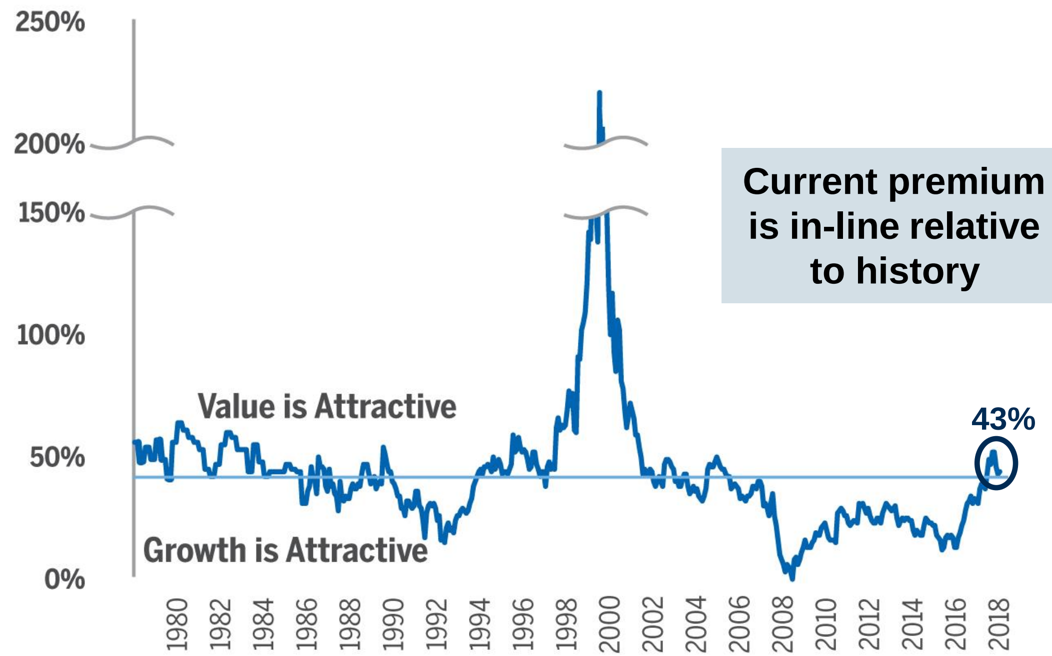
Growth and Value Near Equilibrium

- Despite their outperformance over the past several years, Growth stocks are not very expensive compared to their Value equity counterparts relative to expected growth rates or history

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



Russell 1000 Growth Relative to Russell 1000 Value P/E

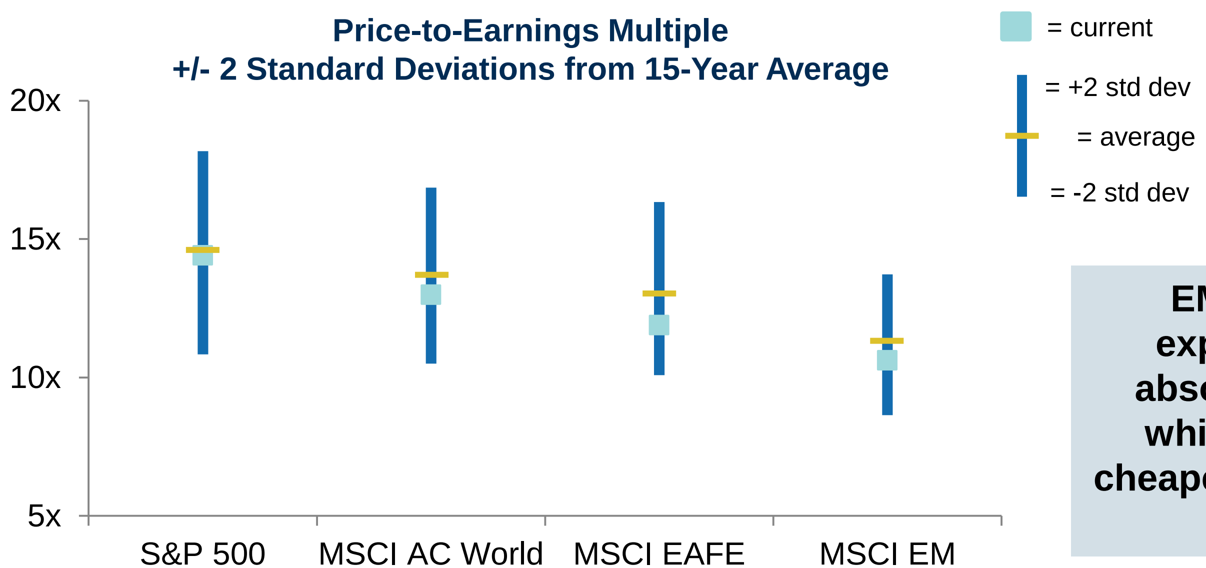


Source: FactSet, Bank of America as of 12/31/18.

Valuation

Global Equity Multiples Inexpensive

- Price-to-earnings multiples around the world are below their historical average, despite very low global interest rates



Z-Score (Standard Deviations Above/Below Mean)			
(0.1)	(0.4)	(0.8)	(0.4)

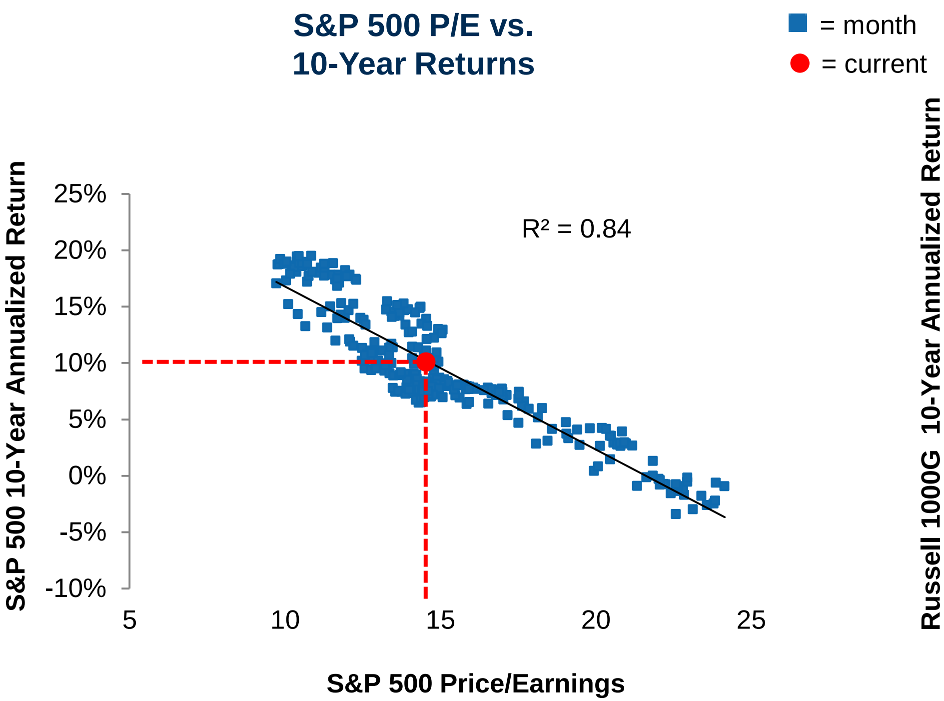
EM is least expensive in absolute terms while EAFE is cheapest relative to history

Source: FactSet. Monthly estimates over past 15 years ending 12/31/18. MSCI AC World represents developed and emerging markets globally. MSCI EAFE represents developed countries in Europe, Australasia and the Far East. MSCI EM represents emerging markets globally. A Z-Score is the number of standard deviations a data point is from the mean. A z-score equal to zero, it is on the mean. If a z-score is equal to +1, it is 1 standard deviation above the mean. Standard deviation measures how much the data has deviated from its average. If data has a high standard deviation, there is large deviation from its mean, and vice versa. Standard deviation is generally used to compare the relative volatility of data sets.

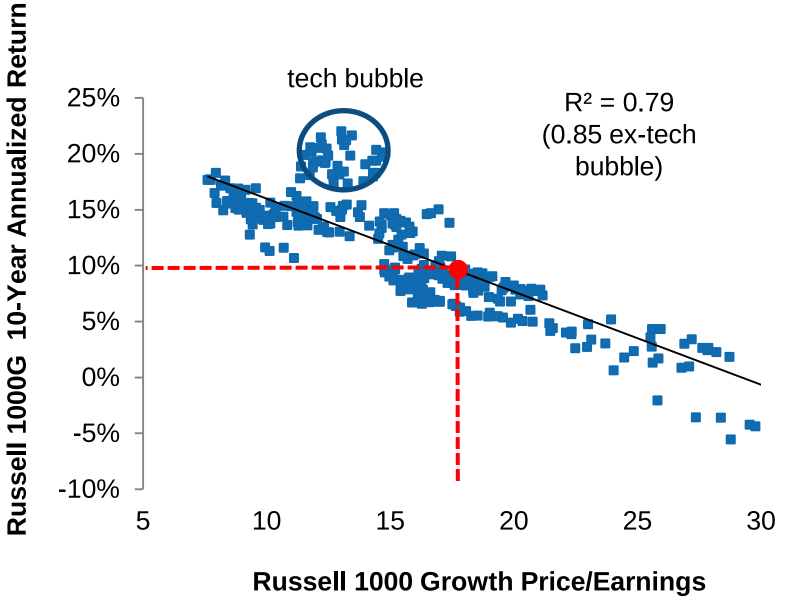
Valuation
Framework for Forecasting Returns

- There is a strong relationship between starting valuations and ensuing 10-year returns
- Current valuations suggest equities may post strong returns over the coming decade, beating other asset classes such as fixed income

S&P 500 P/E vs. 10-Year Returns



Russell 1000 Growth P/E vs. 10-Year Returns



Source: FactSet. Each dot represents the P/E during that month and the returns generated over the subsequent 10 years. The starting P/E ratio is the price divided by the next 12-month earnings per share estimate at the start of each 10-year period measured. Monthly data through December 2018 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.

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