



ECONOMIES AND MARKETS 2019

Leonard M. Golub, CFA

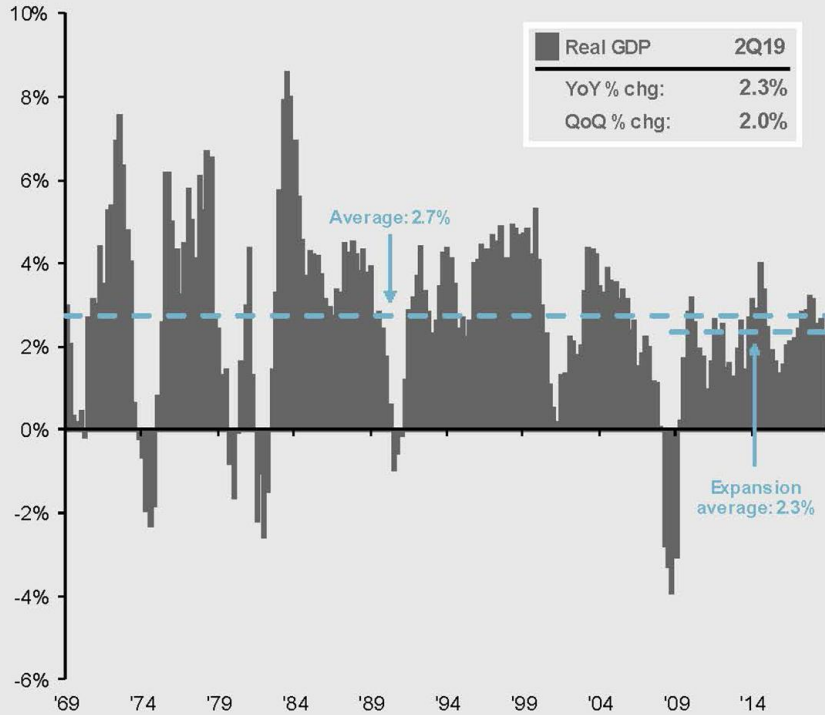


ECONOMIES

US GDP

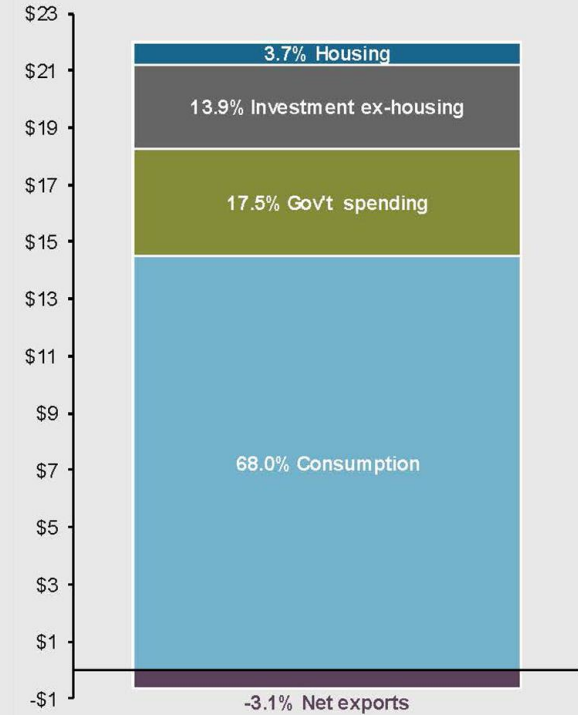
Real GDP

Year-over-year % change



Components of GDP

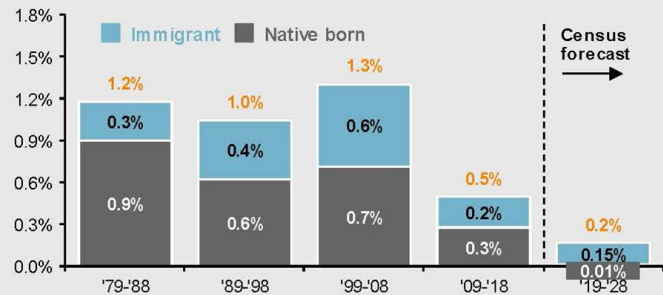
2Q19 nominal GDP, USD trillions



Long-Term Drivers of Growth

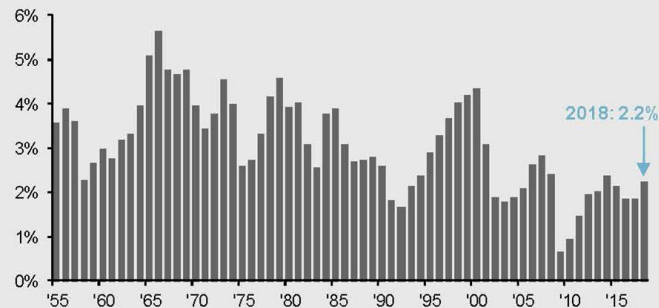
Growth in working-age population

Percent increase in civilian non-institutional population ages 16-64



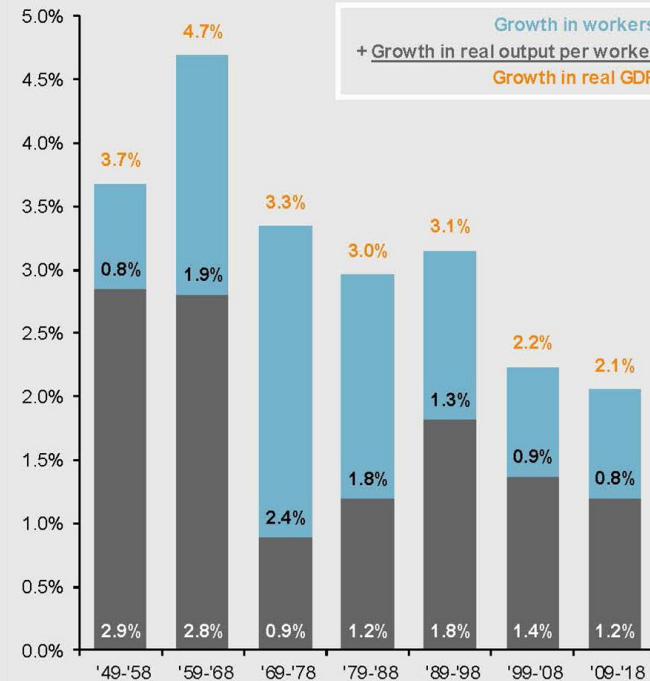
Growth in private non-residential capital stock

Non-residential fixed assets, year-over-year % change



Drivers of GDP growth

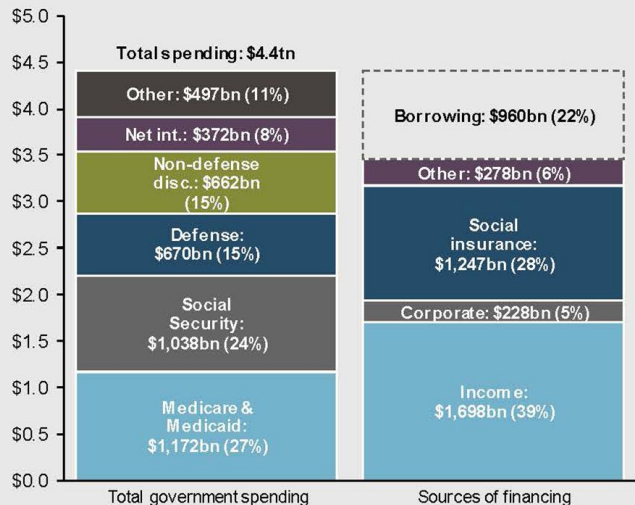
Average year-over-year % change



Federal Finances

The 2019 federal budget

CBO Baseline forecast, USD trillions

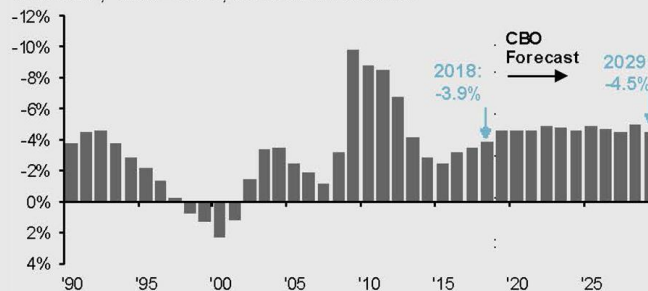


CBO's Baseline economic assumptions

	2019	'20-'21	'22-'23	'24-'29
Real GDP growth	2.7%	2.0%	1.7%	1.8%
10-year Treasury	2.5%	2.3%	2.9%	3.1%
Headline inflation (CPI)	1.9%	2.4%	2.5%	2.3%
Unemployment	3.7%	3.7%	4.3%	4.7%

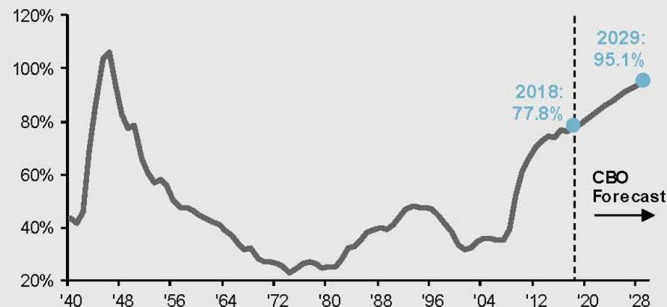
Federal budget surplus/deficit

% of GDP, 1990 – 2029, 2019 CBO Baseline



Federal net debt (accumulated deficits)

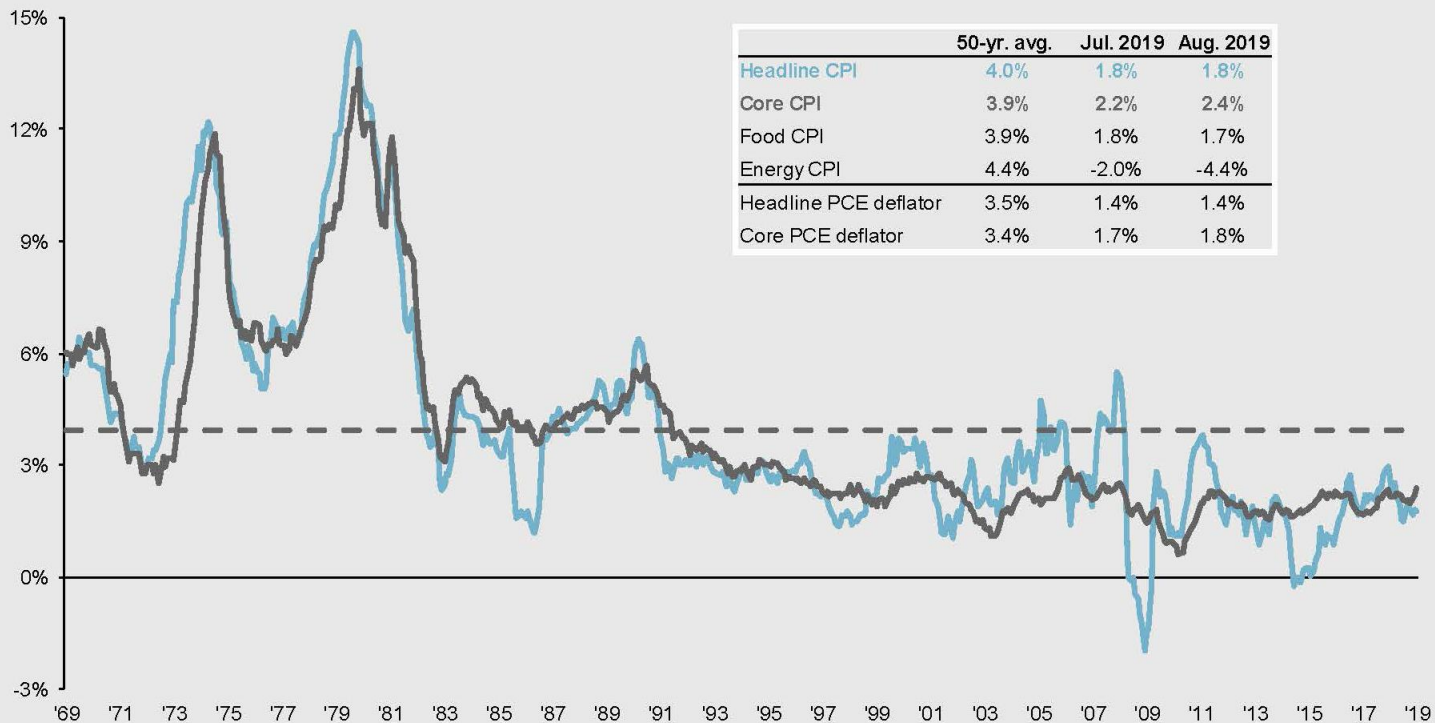
% of GDP, 1940 – 2029, 2019 CBO Baseline, end of fiscal year



Inflation

CPI and core CPI

% change vs. prior year, seasonally adjusted



Global Inflation

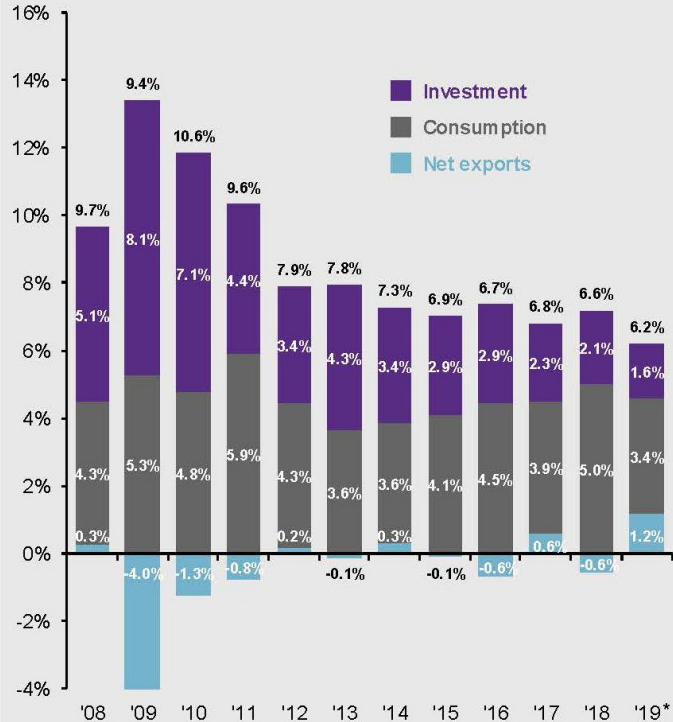
Year-over-year headline inflation by country and region, quarterly



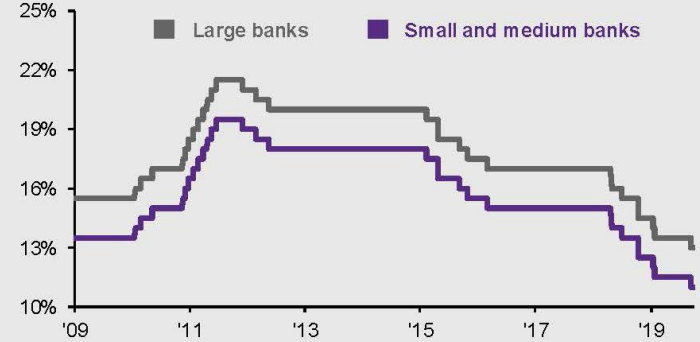
China

China real GDP contribution

Year-over-year % change

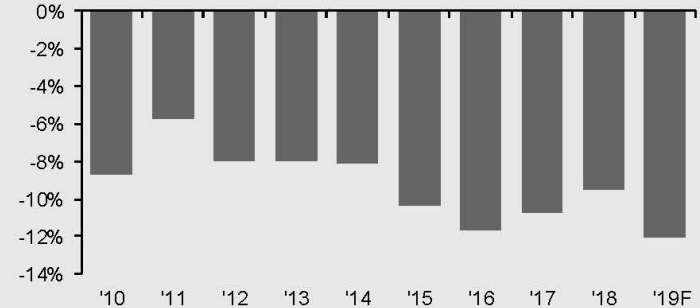


Monetary stimulus: Reserve requirement ratio



Fiscal stimulus: Fiscal deficit**

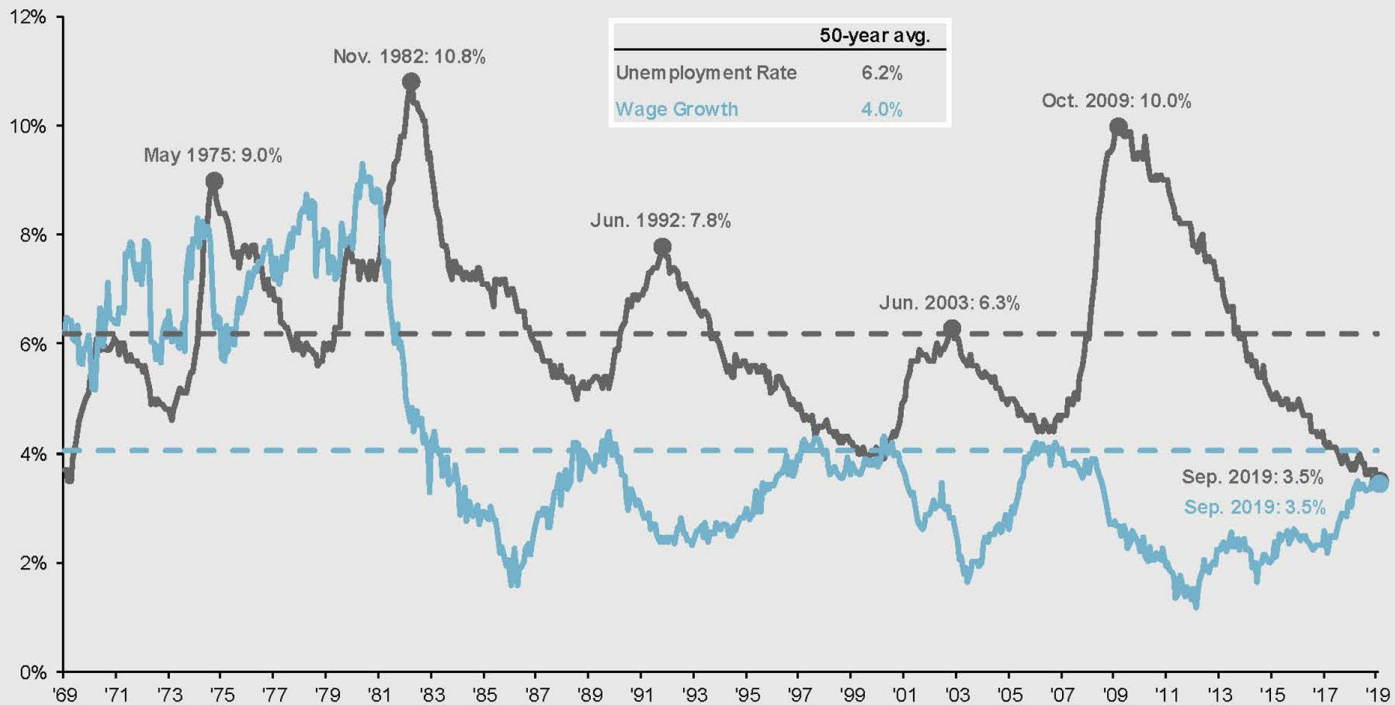
% GDP



Unemployment/Wages

Civilian unemployment rate and year-over-year wage growth for private production and non-supervisory workers

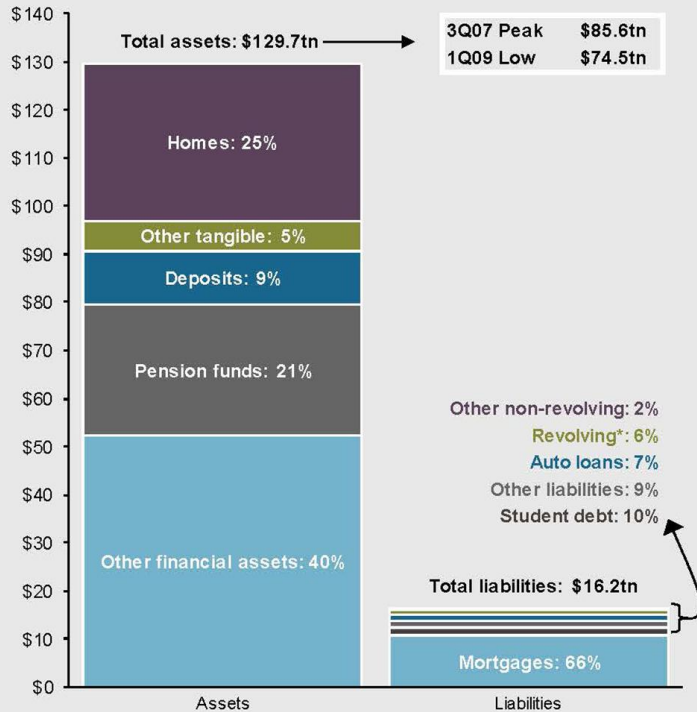
Seasonally adjusted, percent



Consumer Finances

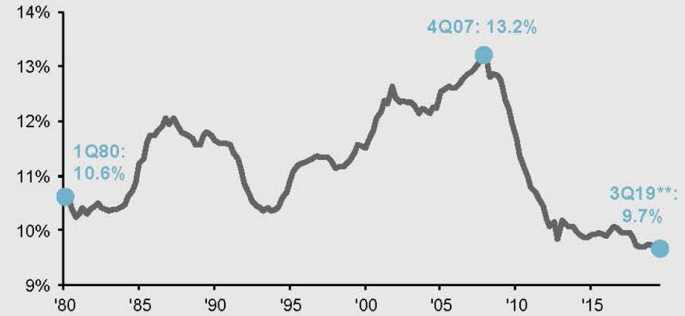
Consumer balance sheet

2Q19, trillions of dollars outstanding, not seasonally adjusted



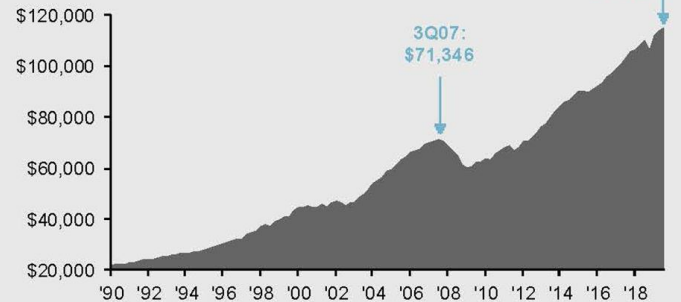
Household debt service ratio

Debt payments as % of disposable personal income, SA



Household net worth

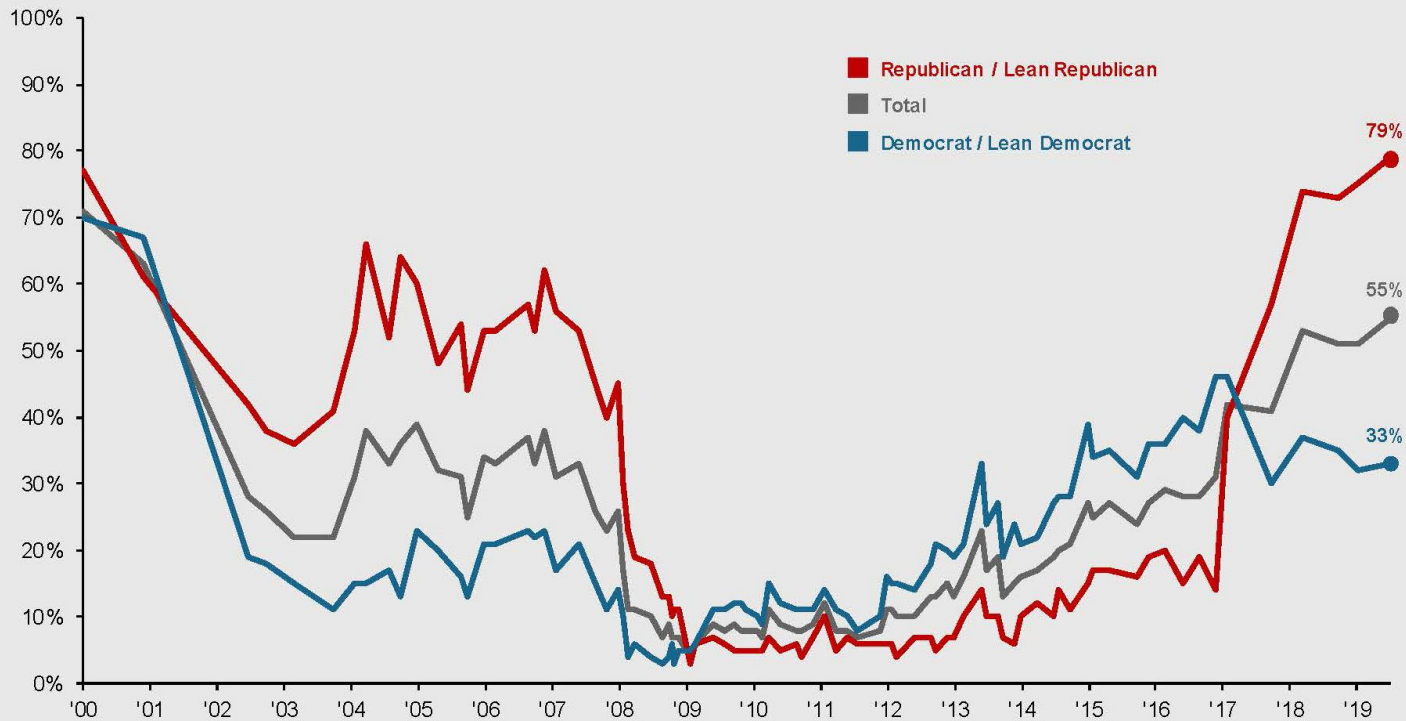
Not seasonally adjusted, USD billions



Political Affiliation

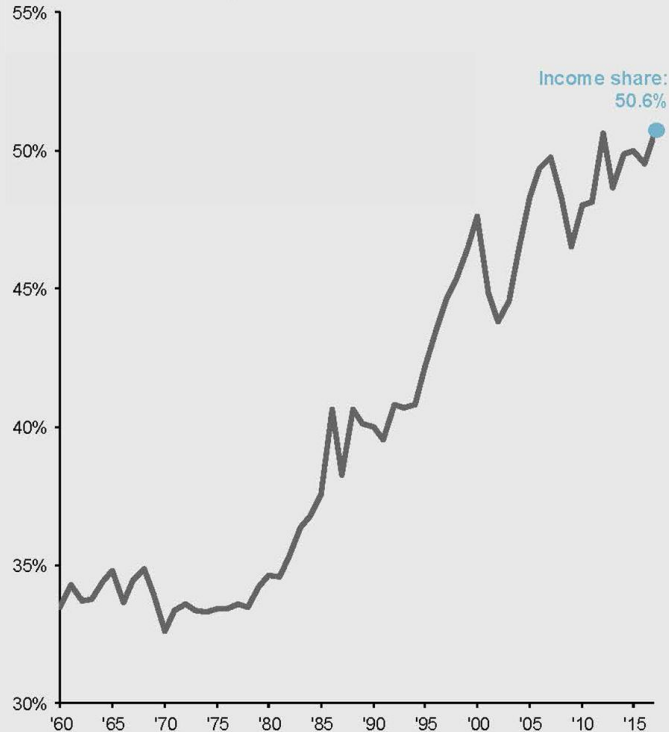
Percentage of Republicans and Democrats who rate national economic conditions as excellent or good

Percent



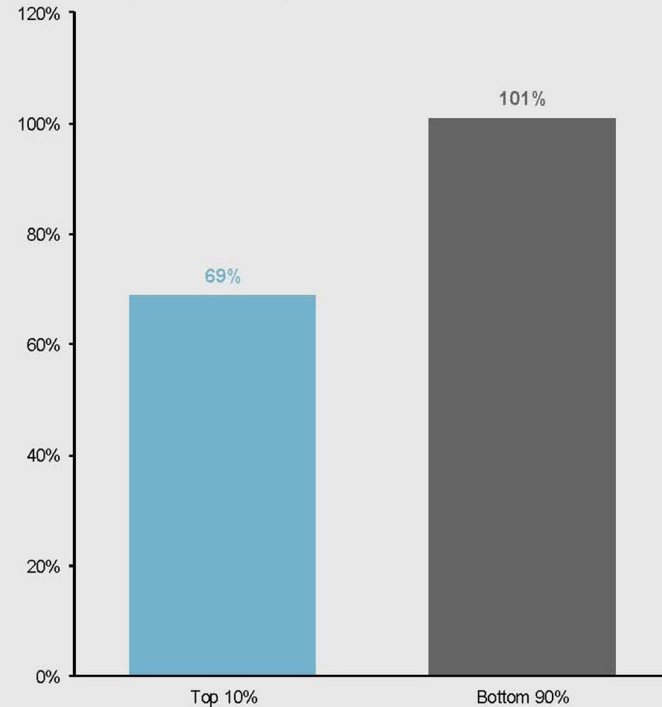
Income Inequality

Top 10% share of pre-tax national income



Spending as a share of income after tax

Consumer expenditure survey, 2018

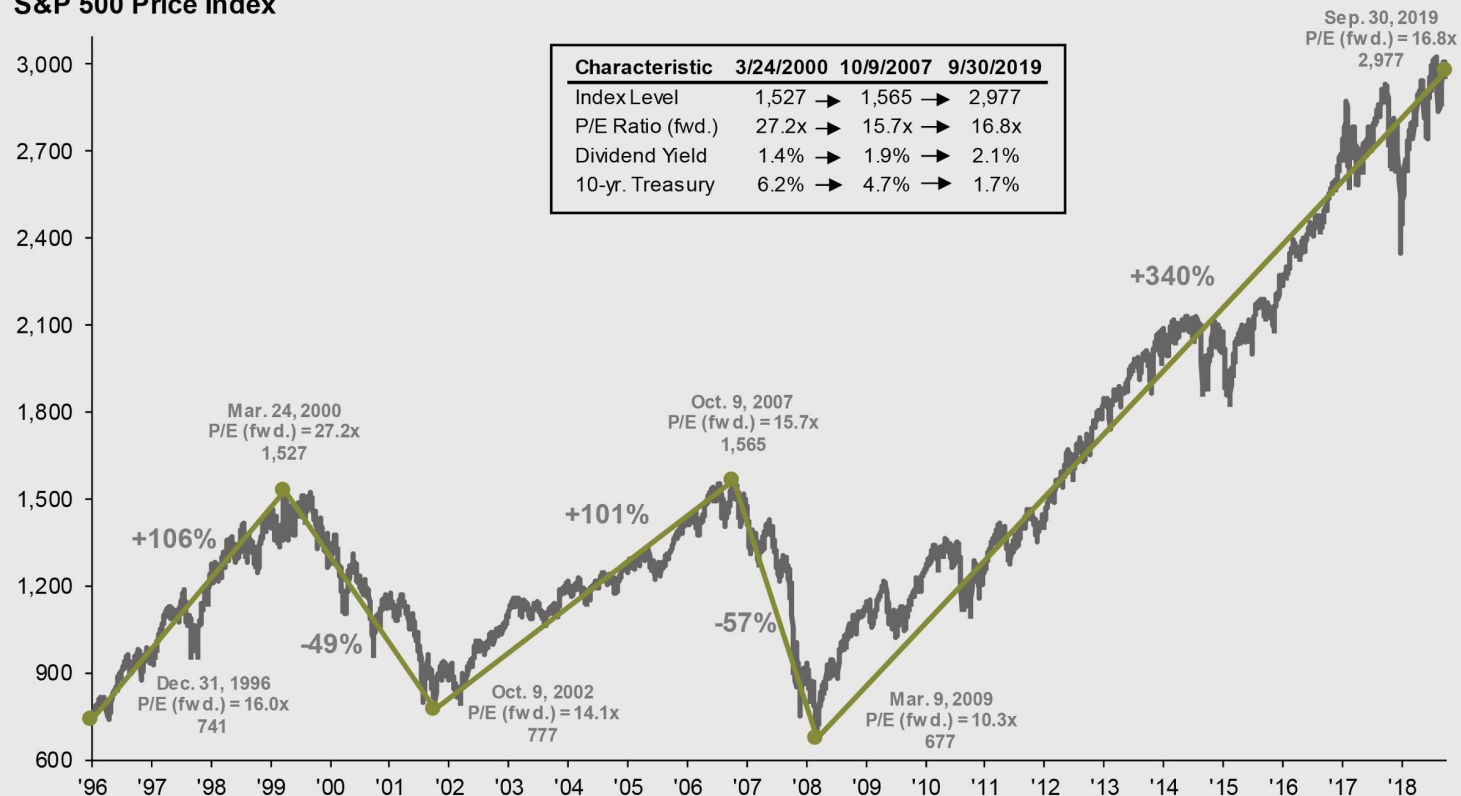




EQUITY MARKETS

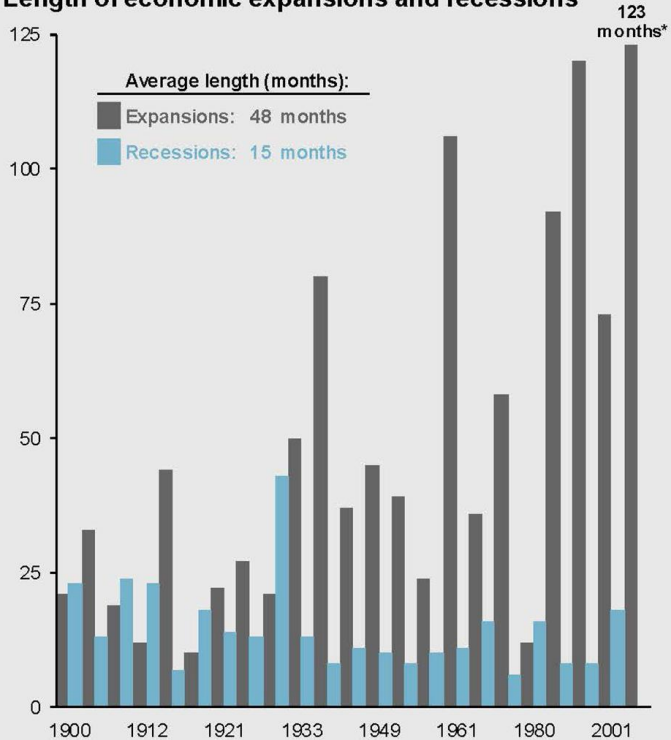
S&P 500 Index at inflection points

S&P 500 Price Index



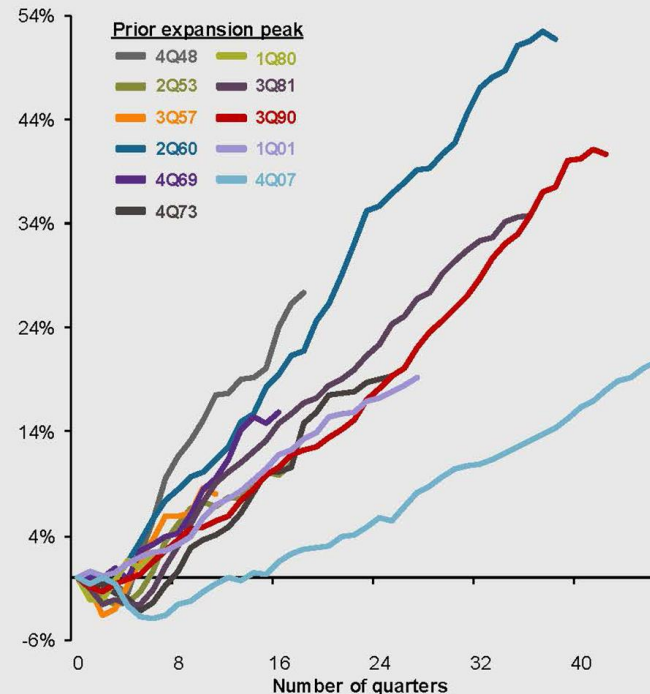
Expansion Length

Length of economic expansions and recessions



Strength of economic expansions

Cumulative real GDP growth since prior peak, percent



S&P 500 Valuation Measures

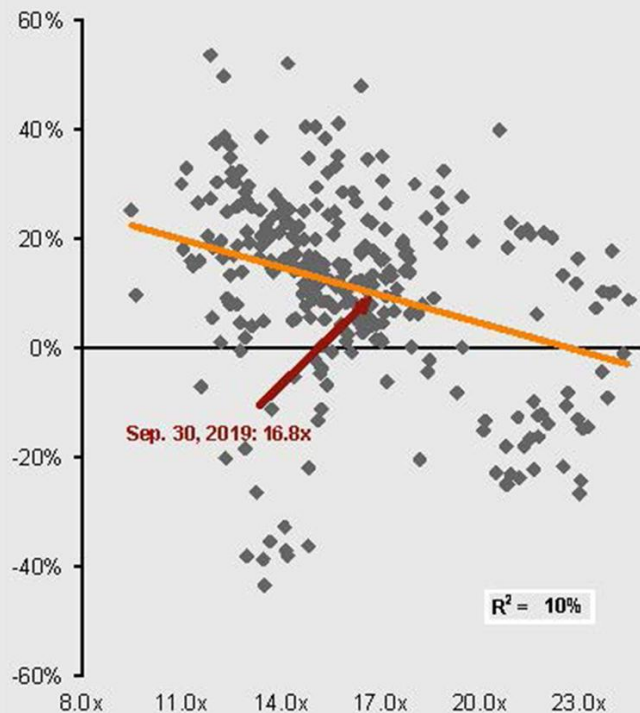
S&P 500 Index: Forward P/E ratio



P/E Ratios and Equity Returns

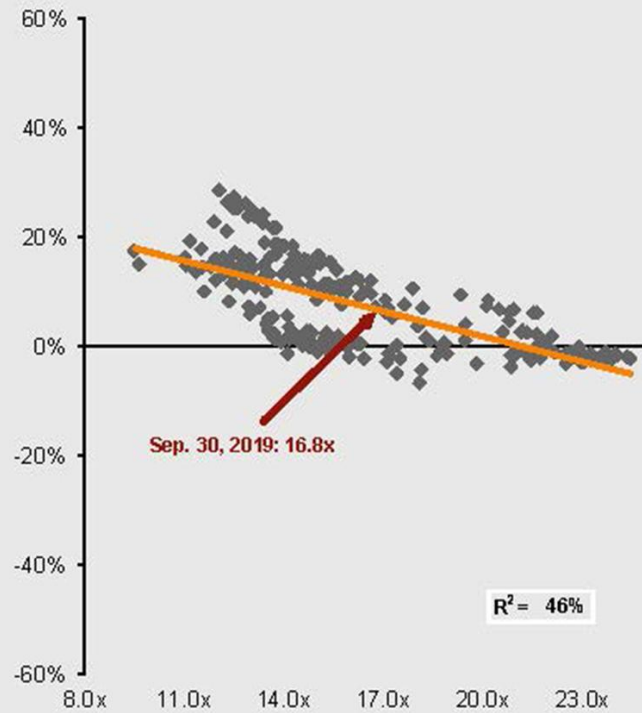
Forward P/E and subsequent 1-yr. returns

S&P 500 Total Return Index



Forward P/E and subsequent 5-yr. annualized returns

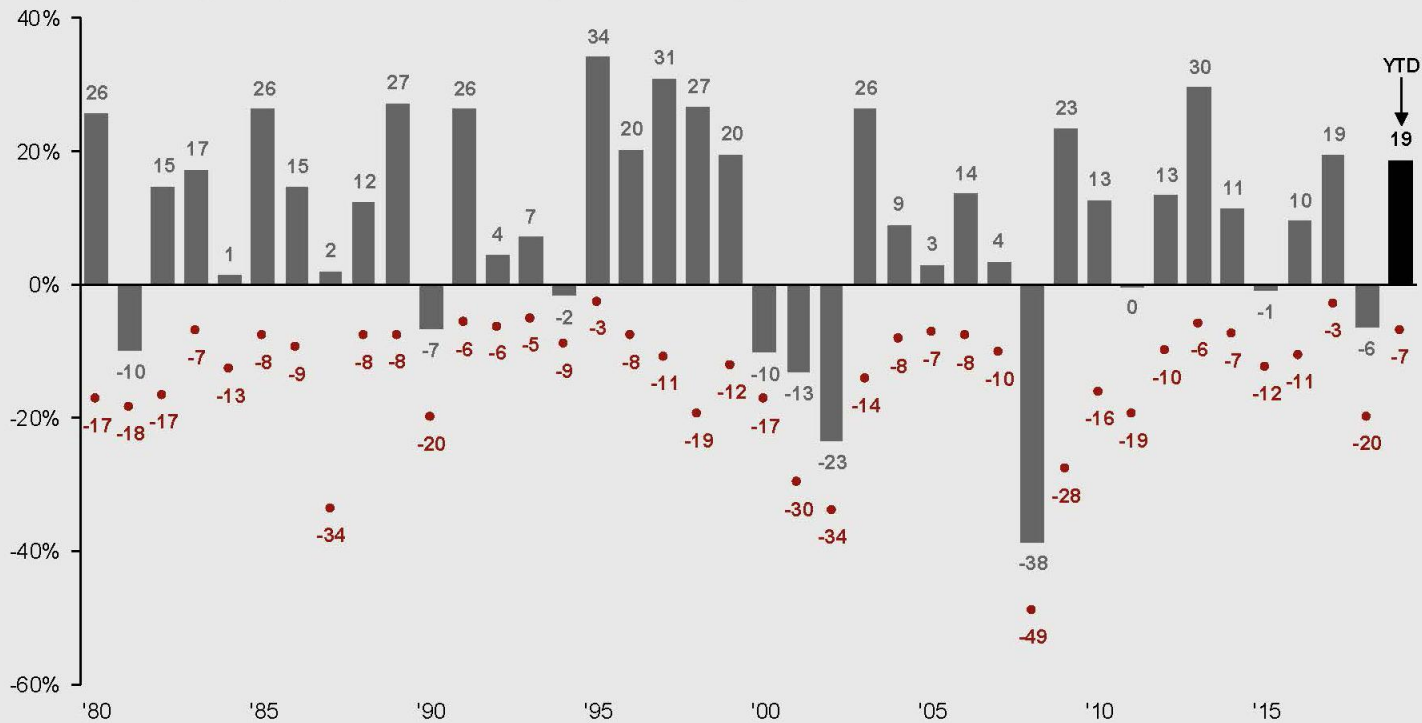
S&P 500 Total Return Index



Declines

S&P 500 intra-year declines vs. calendar year returns

Despite average intra-year drops of 13.9%, annual returns positive in 29 of 39 years



Returns by Factor

3Q 2019

	Value	Blend	Growth
Large	1.4%	1.7%	1.5%
Mid	1.2%	0.5%	-0.7%
Small	-0.6%	-2.4%	-4.2%

YTD

	Value	Blend	Growth
Large	17.8%	20.6%	23.3%
Mid	19.5%	21.9%	25.2%
Small	12.8%	14.2%	15.3%

Since market peak (October 2007)

	Value	Blend	Growth
Large	97.0%	145.5%	204.3%
Mid	128.6%	148.1%	171.4%
Small	91.4%	112.8%	133.8%

Since market low (March 2009)

	Value	Blend	Growth
Large	391.3%	448.7%	520.6%
Mid	483.7%	498.7%	527.4%
Small	373.3%	413.2%	451.8%

Current P/E vs. 20-year avg. P/E

	Value	Blend	Growth
Large	14.1 / 13.6	16.8 / 15.6	21.4 / 19.3
Mid	14.4 / 14.1	17.0 / 16.1	23.7 / 21.0
Small	14.7 / 16.2	21.7 / 20.4	41.1 / 29.5

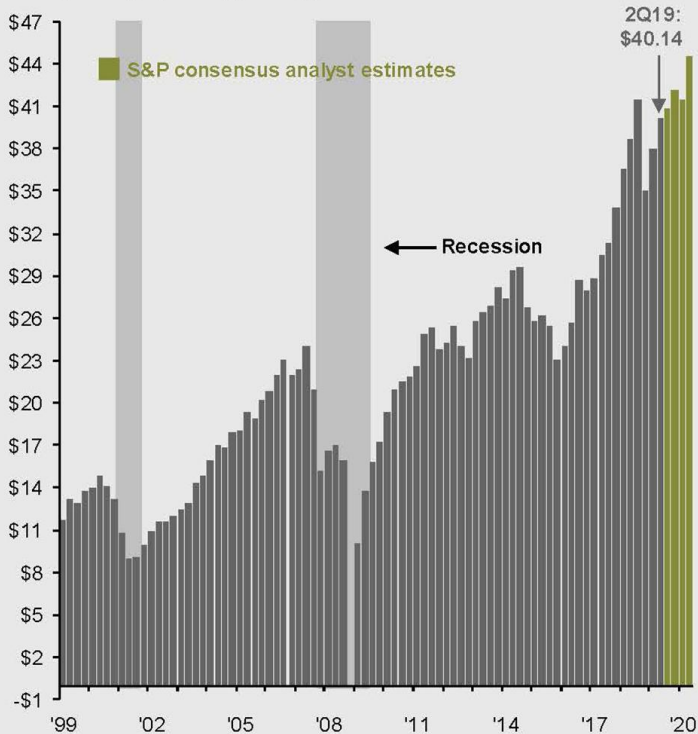
Current P/E as % of 20-year avg. P/E

	Value	Blend	Growth
Large	104.0%	107.9%	111.1%
Mid	101.8%	105.3%	112.9%
Small	90.8%	106.8%	139.2%

Corporate Profits

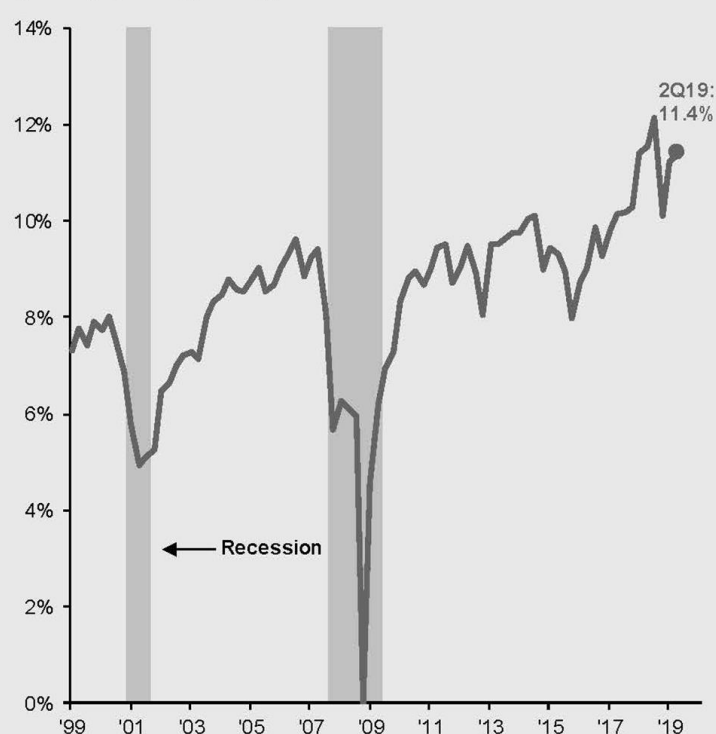
S&P 500 earnings per share

Index quarterly operating earnings



S&P 500 profit margins

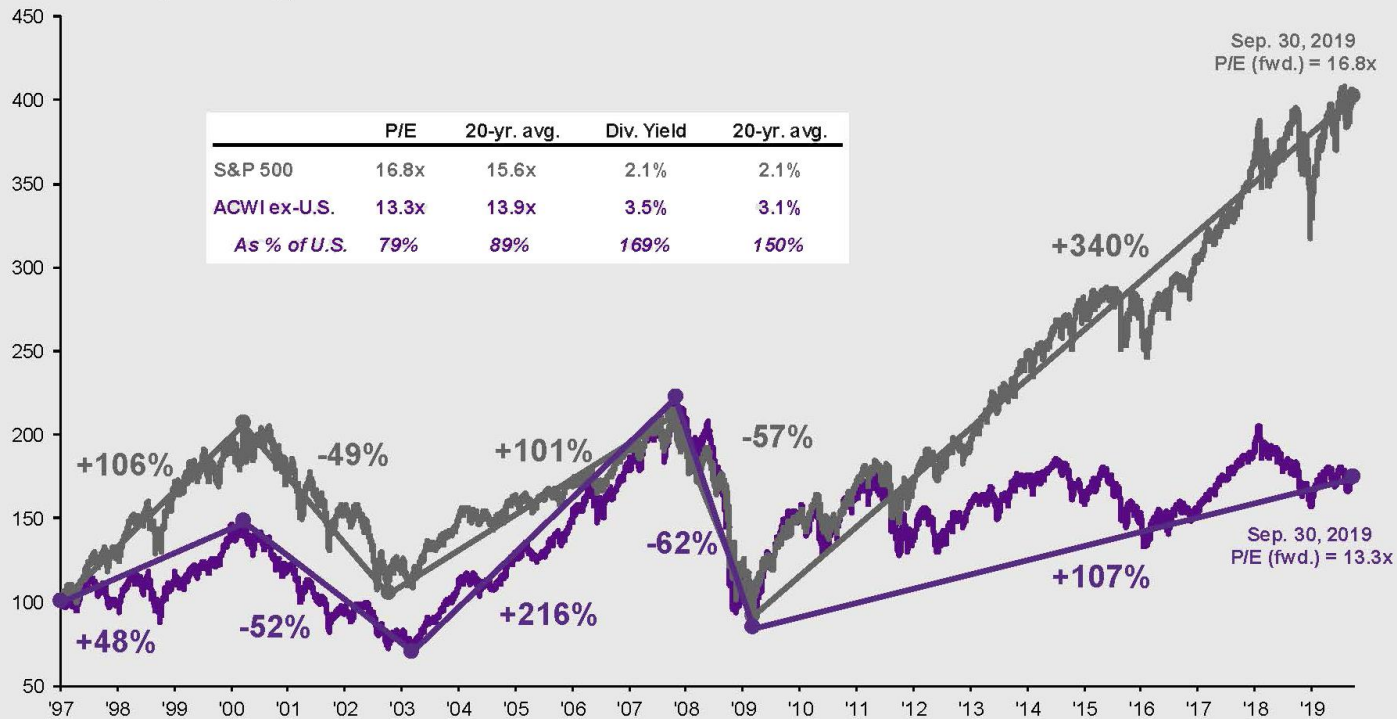
Quarterly operating earnings/sales



Global Equities

MSCI All Country World ex-U.S. and S&P 500 Indices

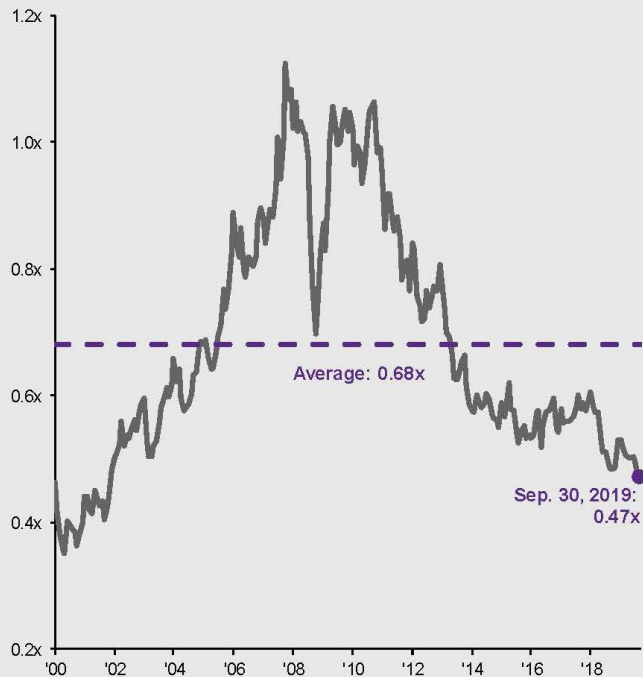
Dec. 1996 = 100, U.S. dollar, price return



Emerging Markets

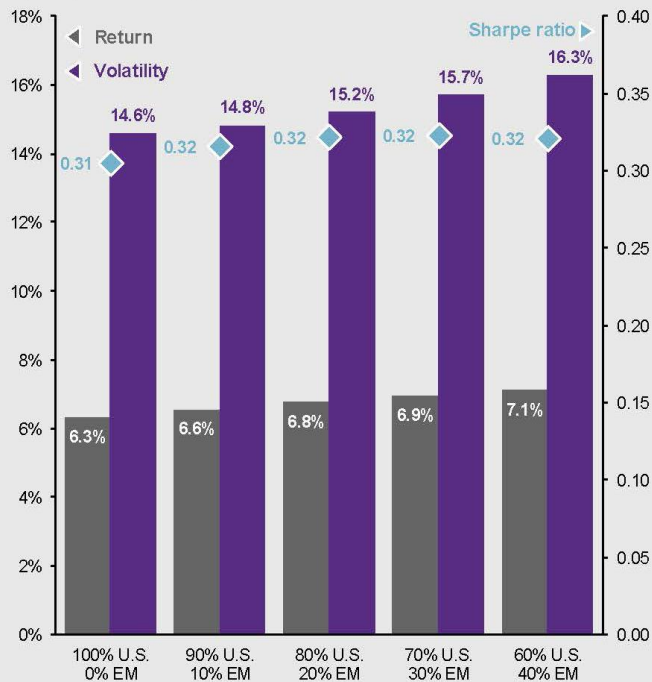
Relative price-to-book ratio

MSCI Emerging Markets vs. S&P 500



Returns vs. volatility*

20 years, total returns, U.S. dollars



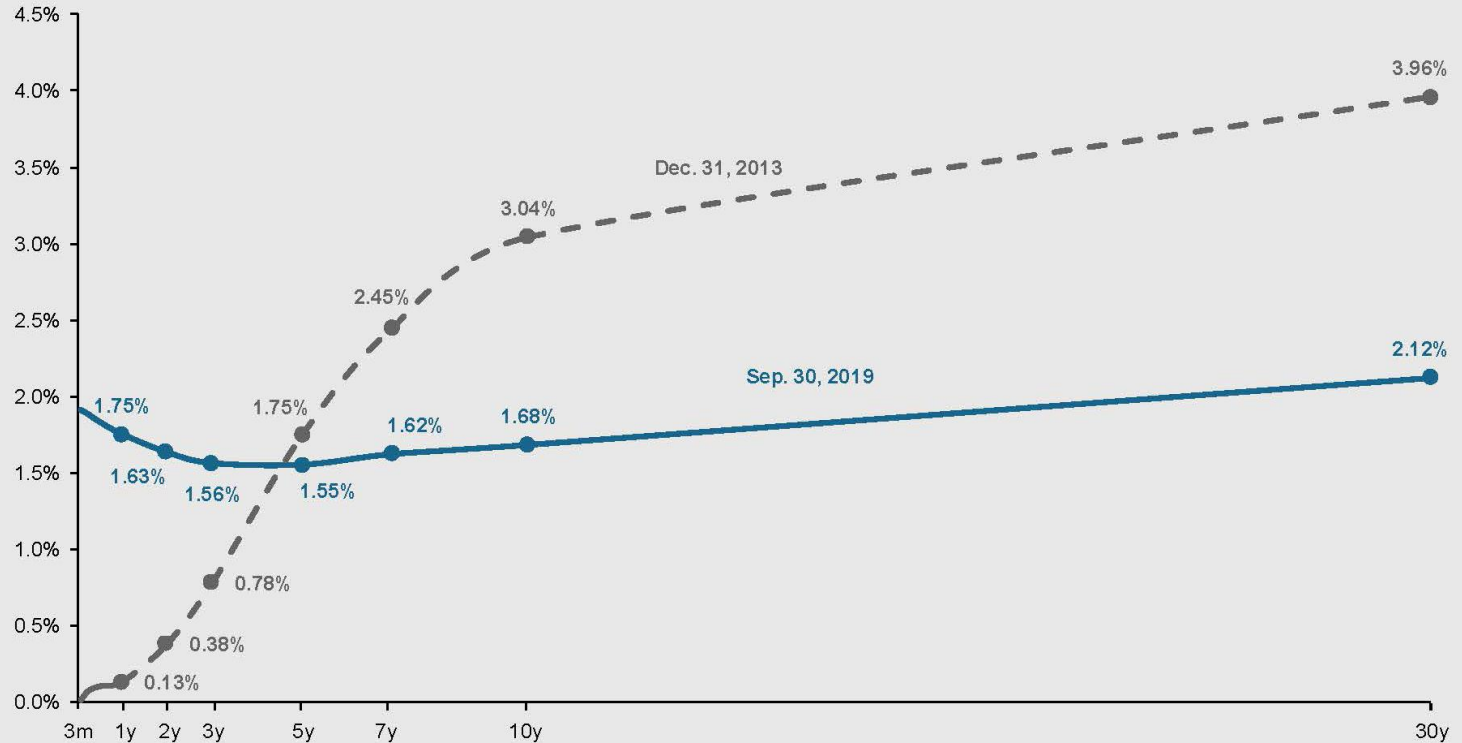


FIXED INCOME (BONDS)

Yield Curve

Yield curve

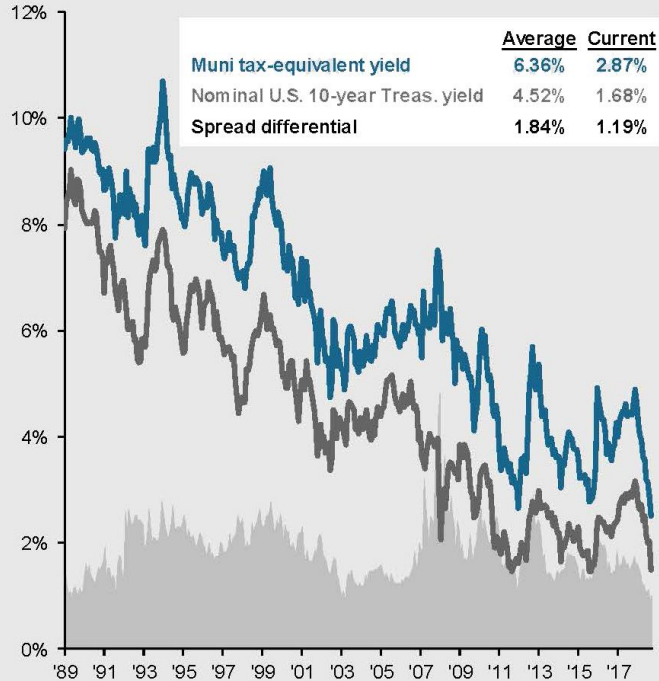
U.S. Treasury yield curve



Municipal Debt

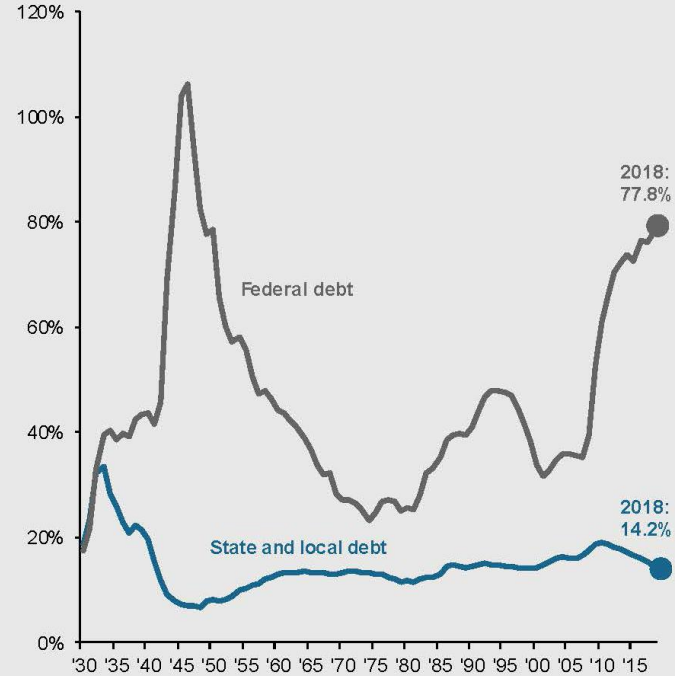
Muni tax-equivalent yield and nominal treasury yields

1990-2019 YTD, adjusted for top income tax bracket



State and local and federal net debt

% of GDP, 1930-2019, end of fiscal year

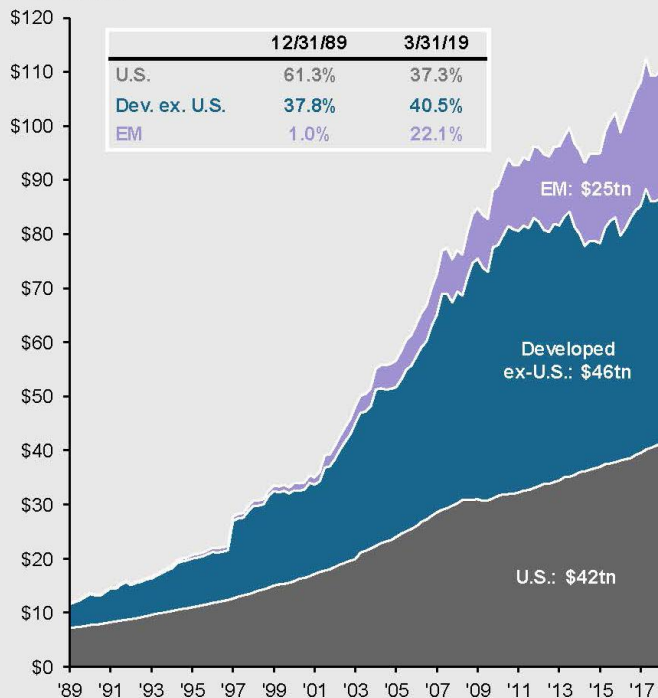


Global Fixed Income

Aggregates	Yield		2019 YTD Return			
	9/30/2019	12/31/2018	Local	USD	Duration	Correl. to 10-year
U.S.	2.26%	3.28%	8.52%	8.52%	5.8 years	0.92
Gbl. ex-U.S.	0.72%	1.26%	-	5.07%	8.1	0.32
Japan	-0.08%	0.18%	2.93%	4.49%	9.7	0.56
Germany	-0.03%	0.62%	6.75%	1.81%	6.9	0.08
UK	1.12%	1.92%	11.46%	7.84%	11.1	0.24
Italy	0.61%	2.00%	13.68%	8.42%	7.0	-0.07
Spain	0.13%	0.98%	10.05%	4.96%	7.5	-0.06
Sector						
Euro Corp.	0.40%	1.30%	6.79%	1.84%	5.3 years	0.26
Euro HY	3.76%	5.33%	9.60%	4.53%	4.1	-0.24
EMD (\$)	5.15%	6.86%	-	12.99%	7.2	0.26
EMD (LCL)	5.21%	6.46%	10.61%	7.86%	5.5	0.03
EM Corp.	4.75%	6.14%	-	10.64%	5.6	0.09

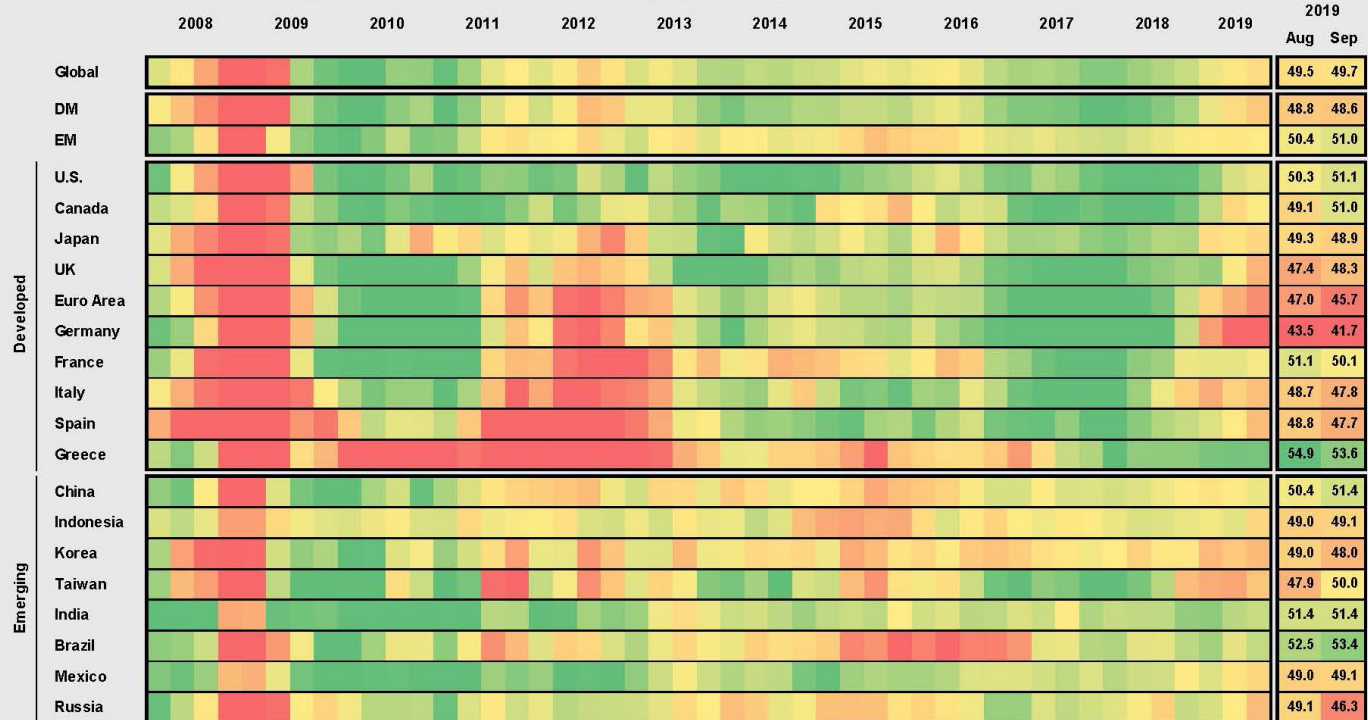
Global bond market

USD trillions



Global Manufacturing

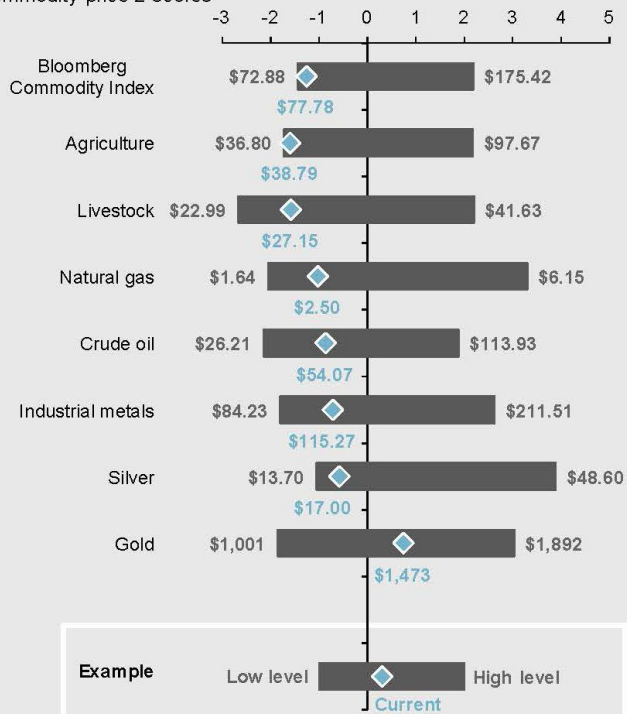
Global Purchasing Managers' Index for manufacturing, quarterly



Commodities

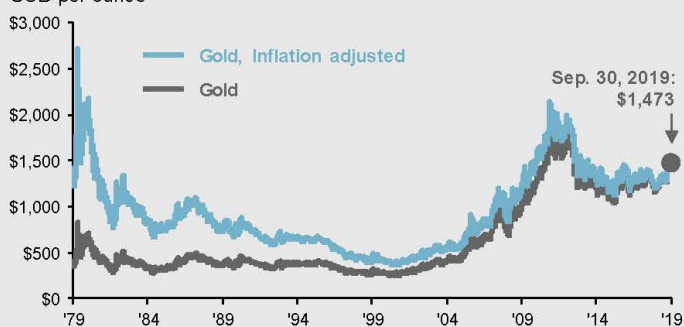
Commodity prices

Commodity price z-scores



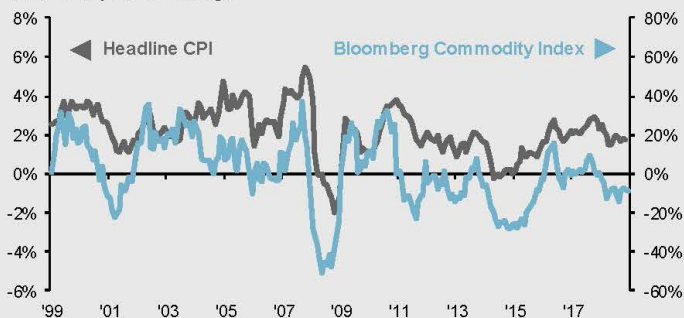
Gold prices

USD per ounce



Commodity prices and inflation

Year-over-year % change





CONCLUSIONS



GROWTH

Infrastructure: Energy, Transportation, Rural (broadband, poverty), Urban (poverty)

Innovation: Vehicles, Energy Storage (batteries)

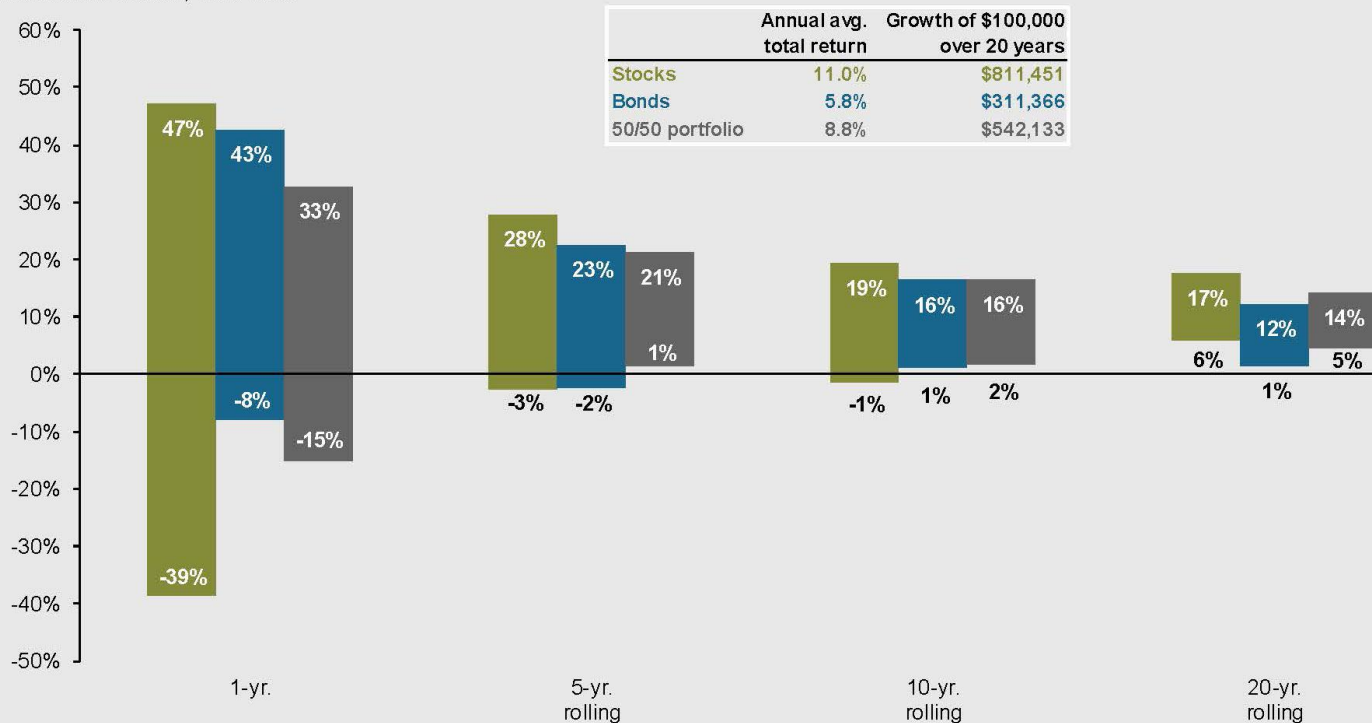
Reform: Healthcare, Tax, Government, Immigration, Constitutional

Trade: Fair (Level playing fields)

Diversification

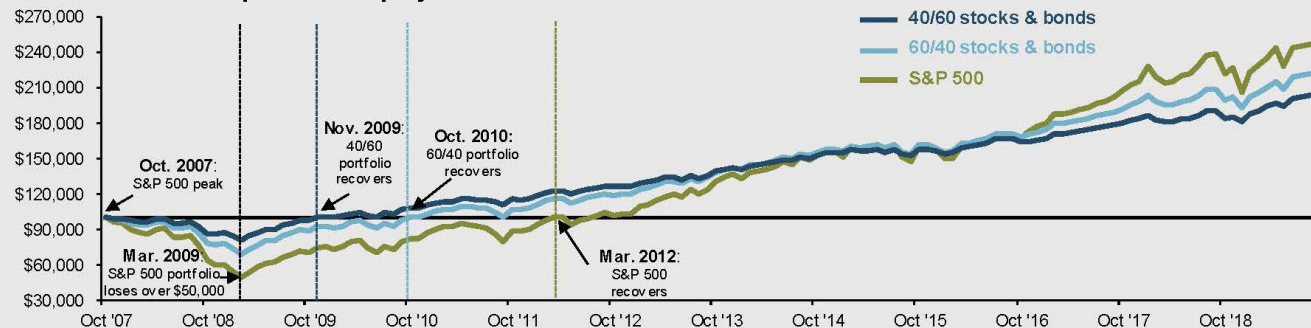
Range of stock, bond and blended total returns

Annual total returns, 1950-2018



Diversification

Portfolio returns: Equities vs. equity and fixed income blend



20-year annualized returns by asset class (1998 – 2018)

