

Yields are Low, Stock Prices are High

How to protect and grow
Family assets into the future



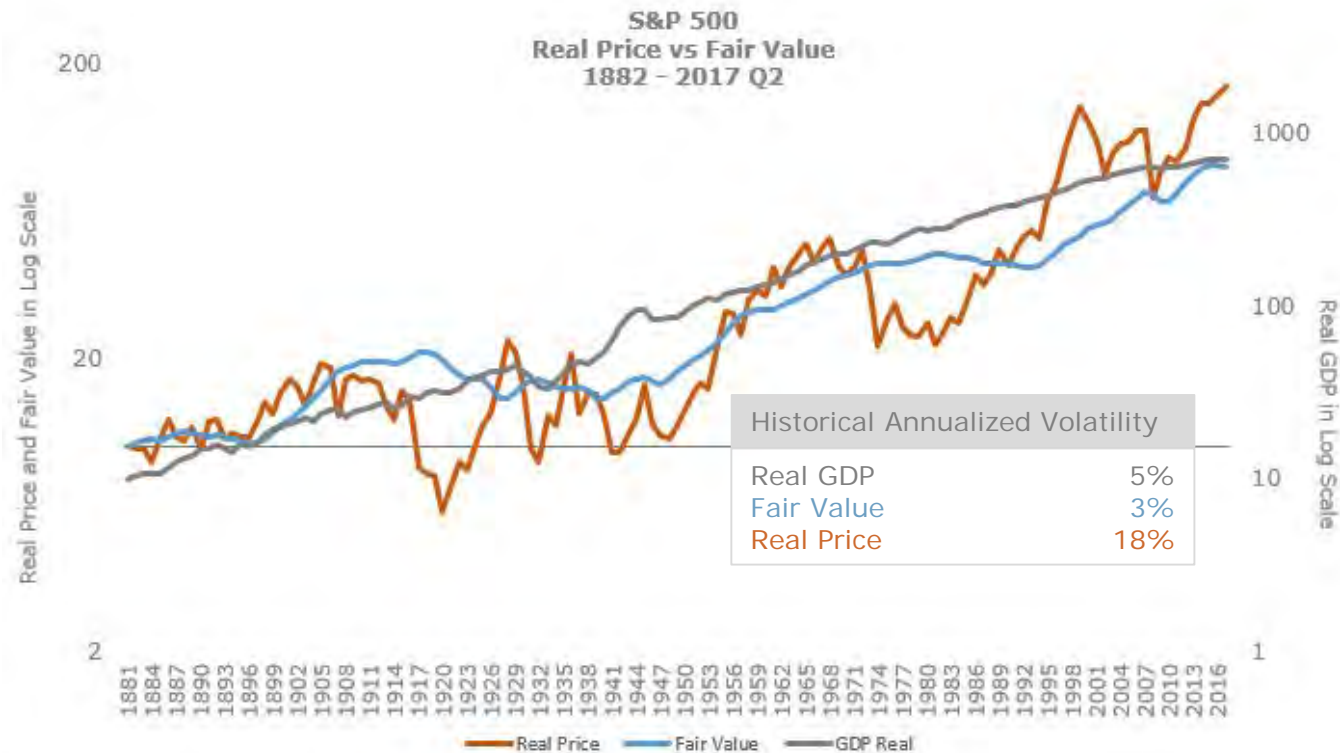
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Topics for Discussion

- Investment Environment
- Framework for Investing
- Expectations of Risk and Returns
- Alternative Approaches and Investments



GDP Growth is Highly Correlated with Fair Value



Source: Global Financial Data, Federal Reserve, Aspiriant. Data as of 6/30/2017.

Fair Value is determined using the Shiller P/E model for the S&P 500. Log Scale is used to display the data since time series data (e.g. financial data) tends to exhibit serial correlation (path dependency) in the error terms associated with a regression analysis performed using ordinary least squares.

Real returns based on converting nominal returns using core, monthly, non-seasonally adjusted Consumer Price Index (CPI) data calculated by Global Financial Data (CPUSAM data series). The Standard and Poor's indices were first calculated in 1918, and the Cowles Commission back-calculated the series to 1871 using the Commercial and Financial Chronicle. The data for all periods used above has been provided by Global Financial Data under license to Aspiriant.

For illustrative purposes only.



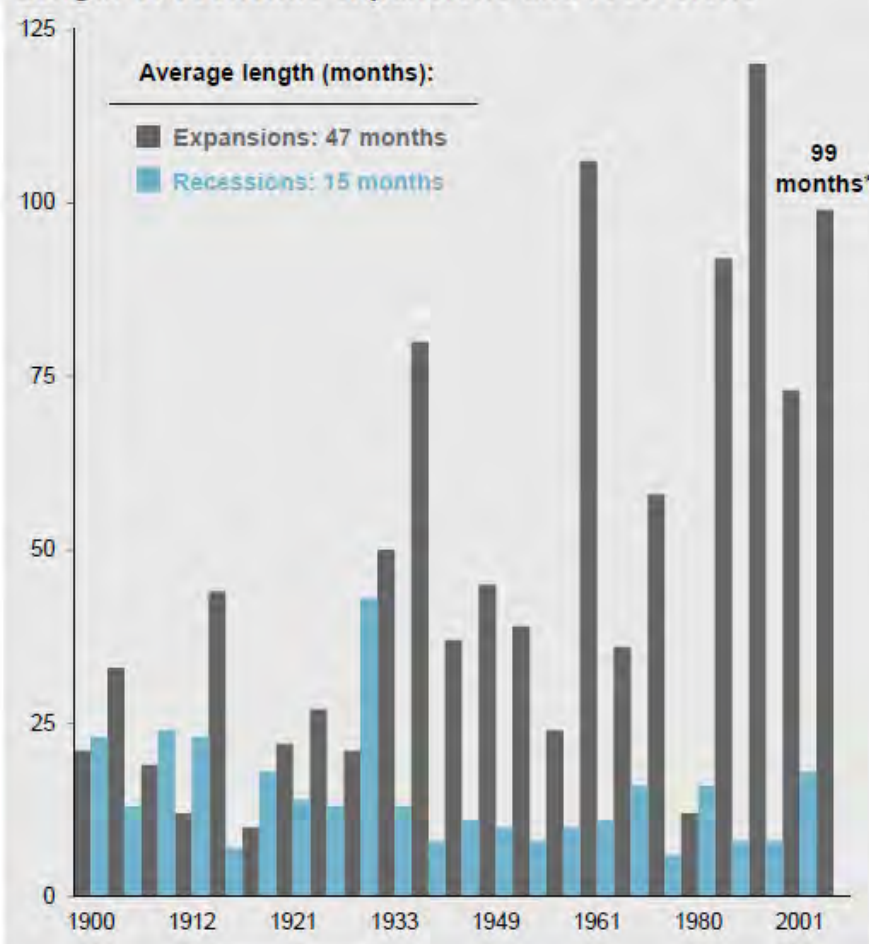
Challenges to Economic Growth

- Demographics - Size & age of workforce
- Declining productivity
- Disproportional wage growth / wealth generation
- Reduction in R&D Spending
- Debt



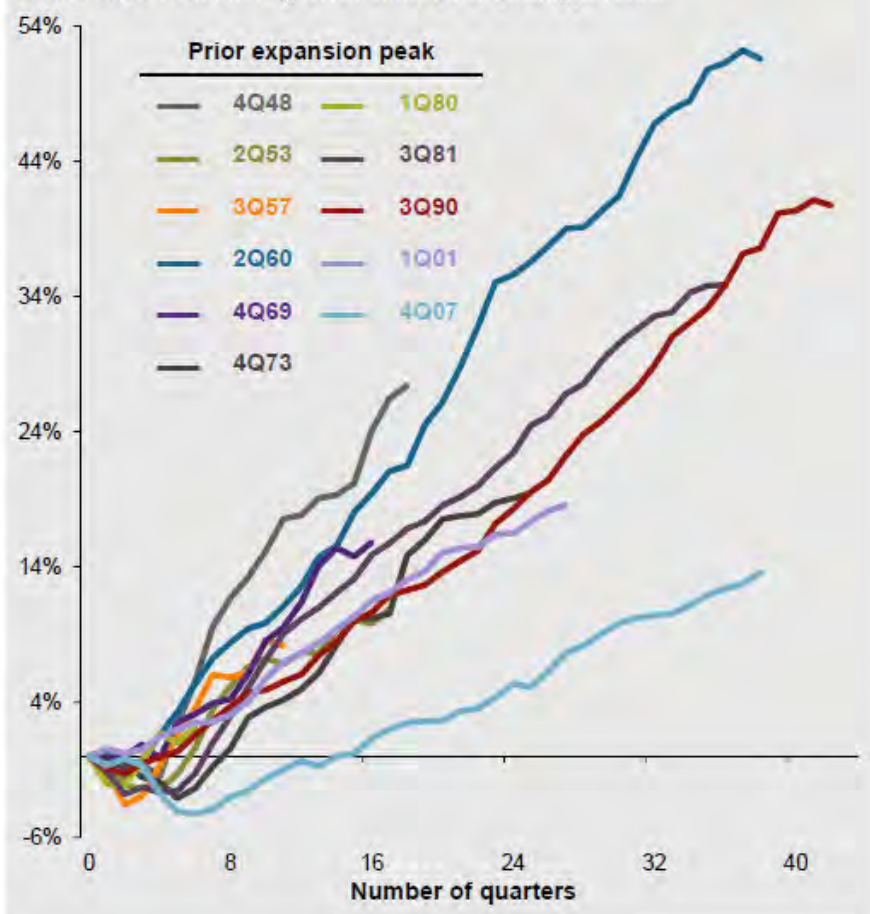
The Length and Strength of Economic Expansions

Length of economic expansions and recessions



Strength of economic expansions

Cumulative real GDP growth since prior peak, percent



Source: BEA, NBER, J.P. Morgan Asset Management. *Chart assumes current expansion started in July 2009 and continued through September 2017, lasting 99 months so far. Data for length of economic expansions and recessions obtained from the National Bureau of Economic Research (NBER). These data can be found at www.nber.org/cycles/ and reflect information through September 2017.

Guide to the Markets – U.S. Data are as of September 30, 2017.



Global Growth Outlook



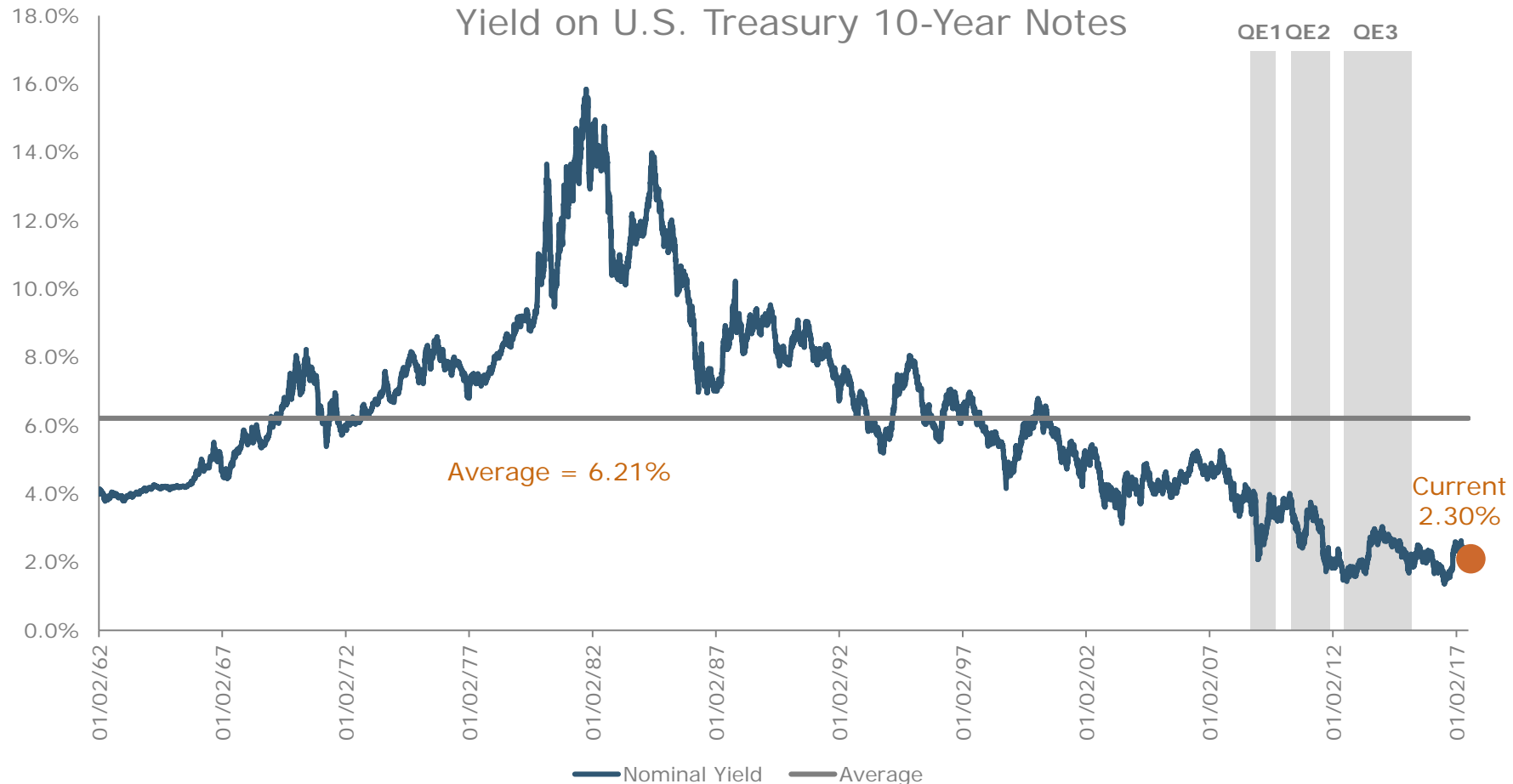
Source: World Bank, Aspiriant.

Data as of 3/31/17.

For illustrative purposes only. There can be no assurance that any strategy will meet its investment objectives. Past performance is not an indication of future results. All investments can lose value.



Low Rates have led to High Returns



Sources: Bloomberg; U.S. Federal Reserve; Aspiriant.
Data as of 6/30/17.

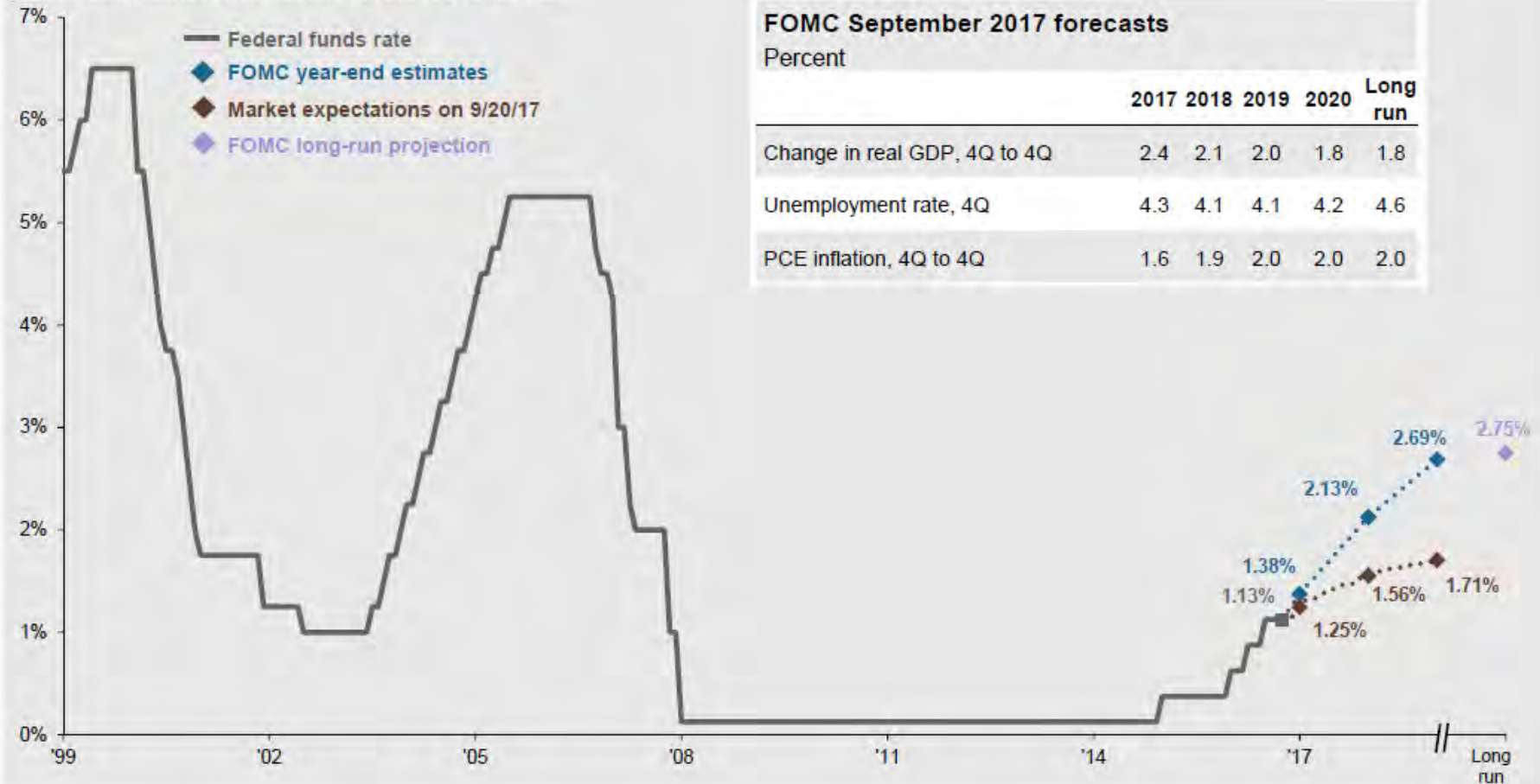
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Rates are Forecast to Remain Low

Federal funds rate expectations

FOMC and market expectations for the fed funds rate



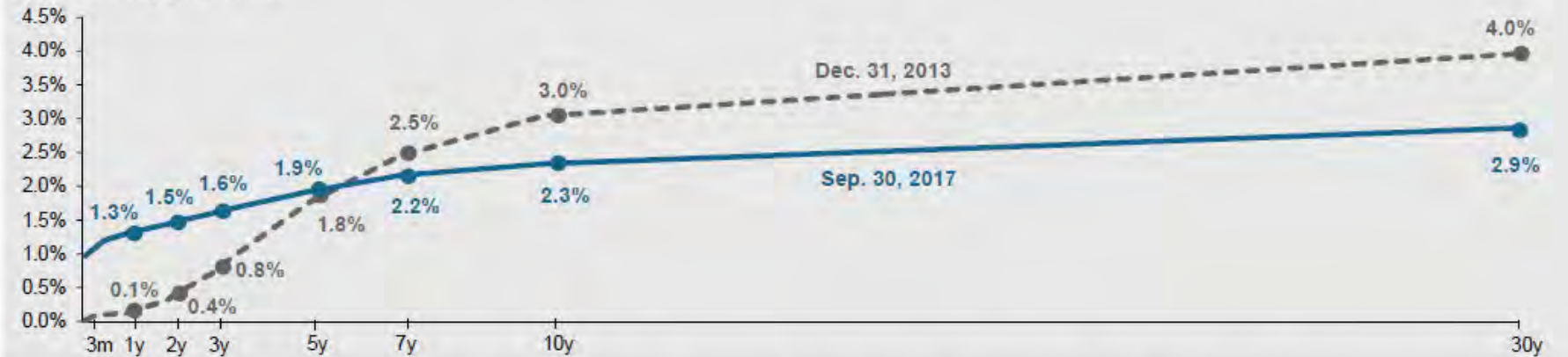
Source: FactSet, Federal Reserve, Bloomberg, J.P. Morgan Asset Management.
 Market expectations are the federal funds rates priced into the fed futures market as of the date of the September 2017 FOMC meeting.
Guide to the Markets – U.S. Data are as of September 30, 2017.



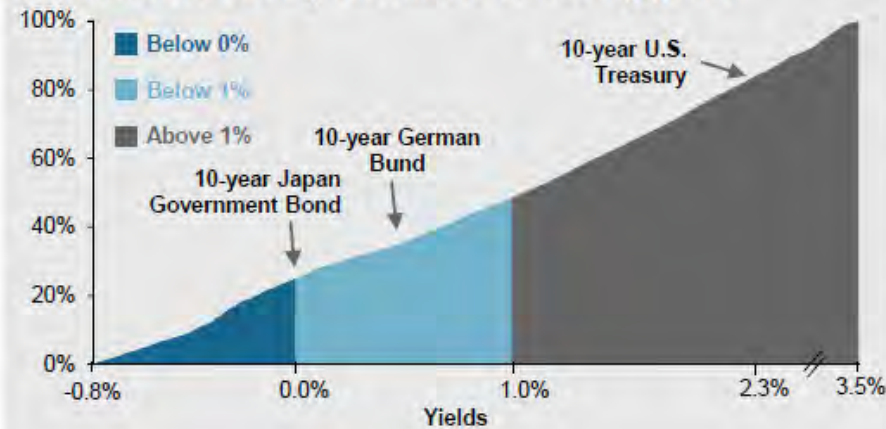
Bond Market Dynamics

Yield curve

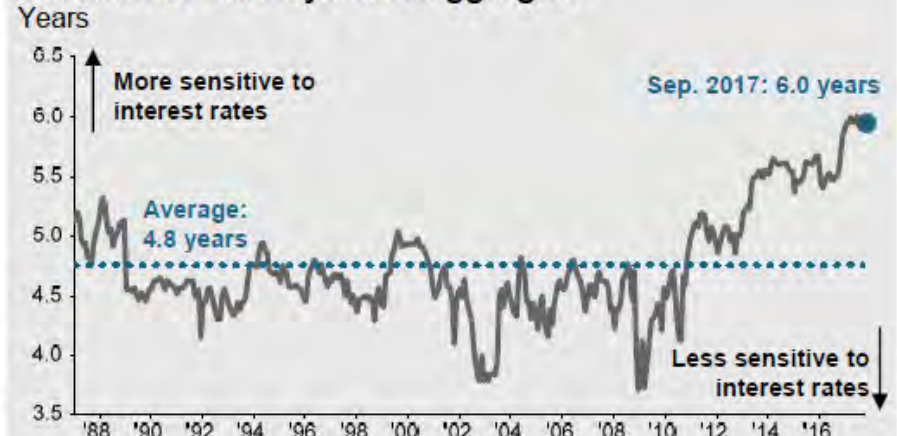
U.S. Treasury yield curve



Breakdown of DM government bonds by yield



Duration of Barclays U.S. Aggregate



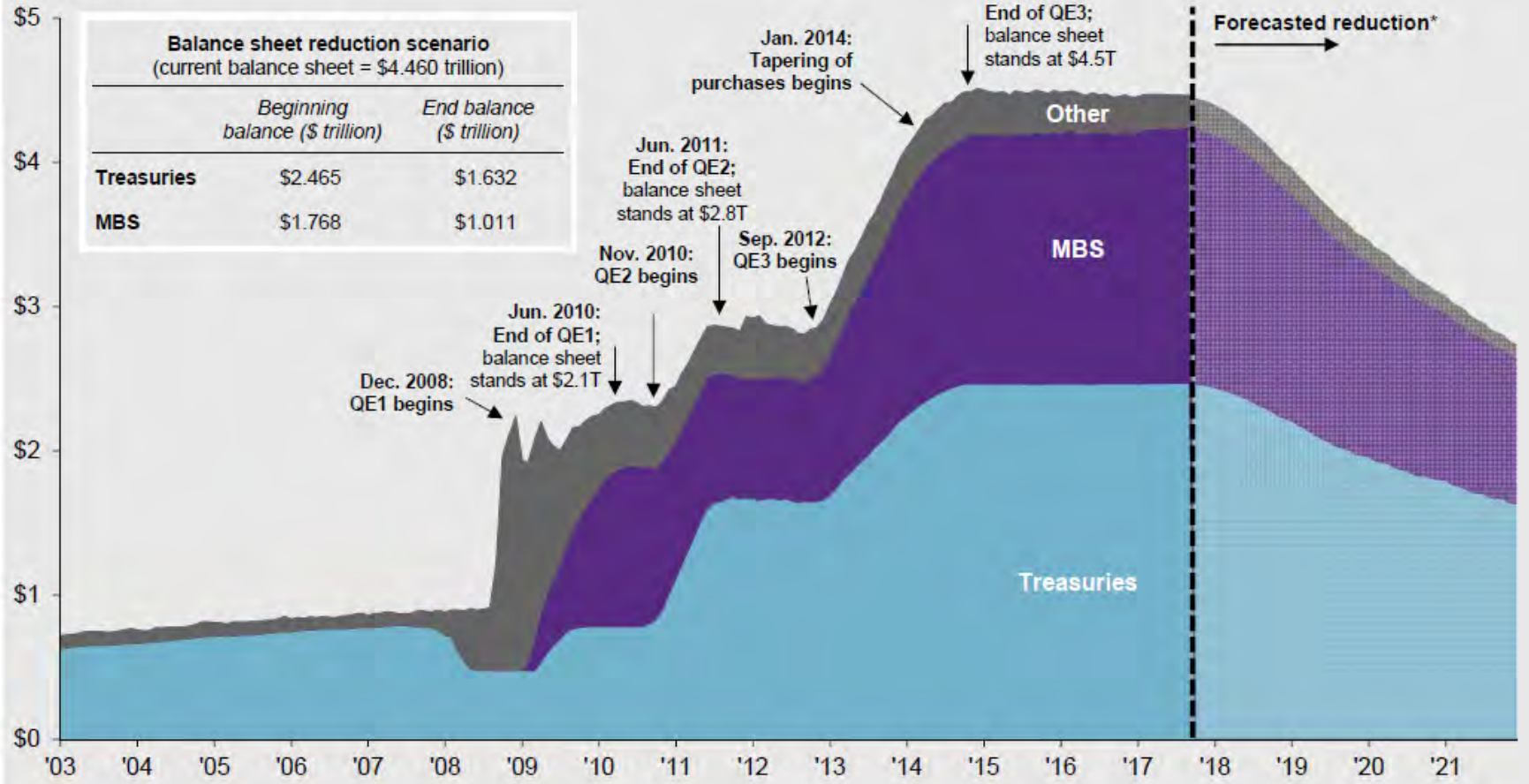
Source: FactSet, J.P. Morgan Asset Management; (Bottom left) Bloomberg, BofA/Merrill Lynch. (Bottom right) Barclays, Bloomberg.
 The Developed Market Government Bond Index is the Bank of America/Merrill Lynch Global Government Index. Duration measures the sensitivity of the price of a bond to a change in interest rates. The higher the duration the greater the sensitivity bond is to movements in the interest rate.
 Guide to the Markets – U.S. Data are as of September 30, 2017.



The Federal Reserve Balance Sheet

The Federal Reserve balance sheet

USD trillions



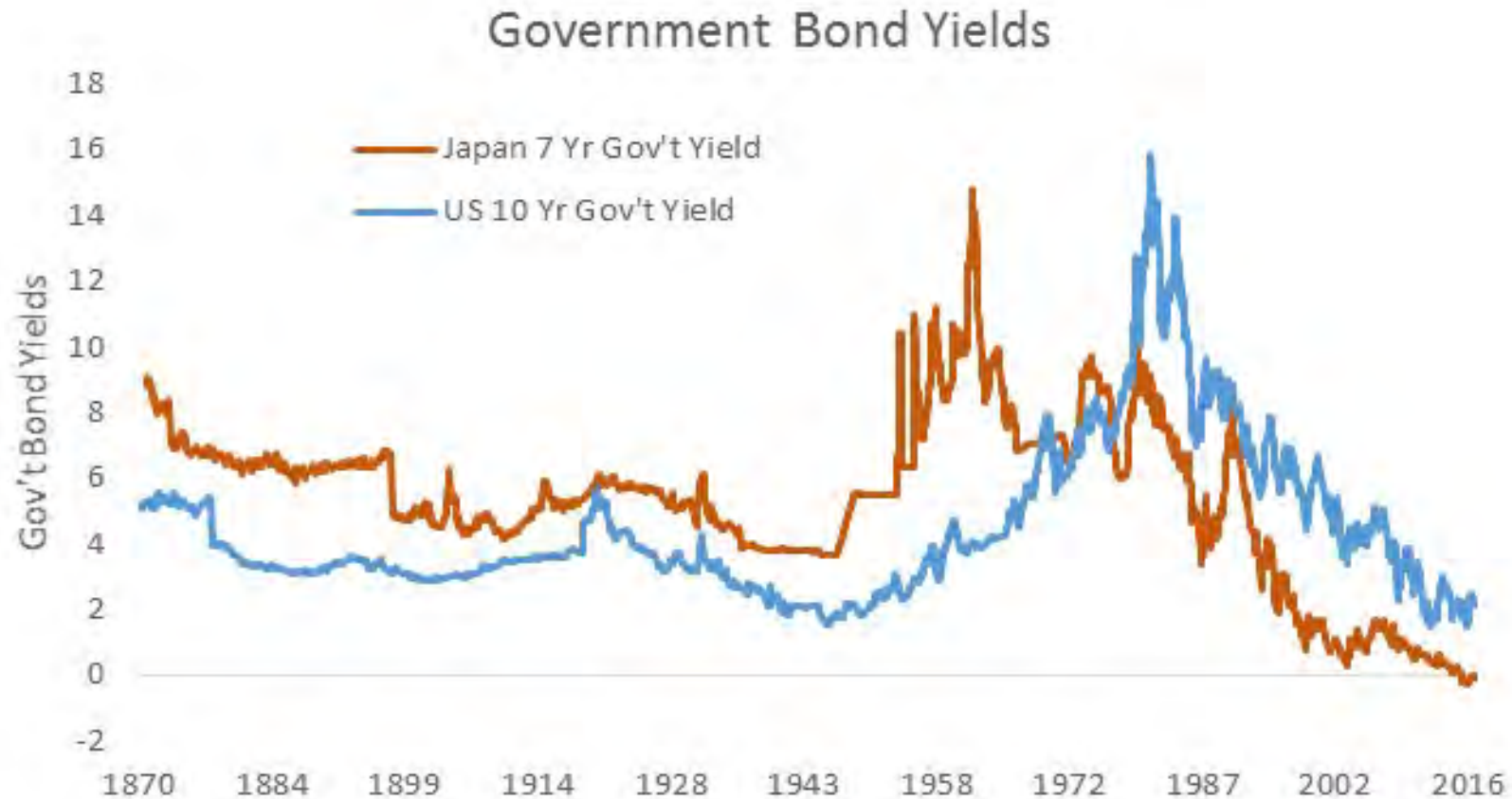
Source: Federal Reserve, FactSet, J.P. Morgan Asset Management.

*Balance sheet reduction assumes reduction from current level, beginning October 2017 until December 2021. Reduction of Treasuries and MBS is per FOMC guidelines from the September 2017 meeting minutes: the cap on Treasury securities will begin at \$6 billion per month initially and reduction rate will increase in steps of \$6 billion at three-month intervals over 12 months until reaching \$30 billion per month; the MBS cap will begin at \$4 billion per month initially and will increase in steps of \$4 billion at three-month intervals over 12 months until reaching \$20 billion per month; Other assets are reduced in proportion. In those months where the amount of maturing assets do not exceed the stated cap then the balance sheet will be reduced by the total amount of maturing assets.

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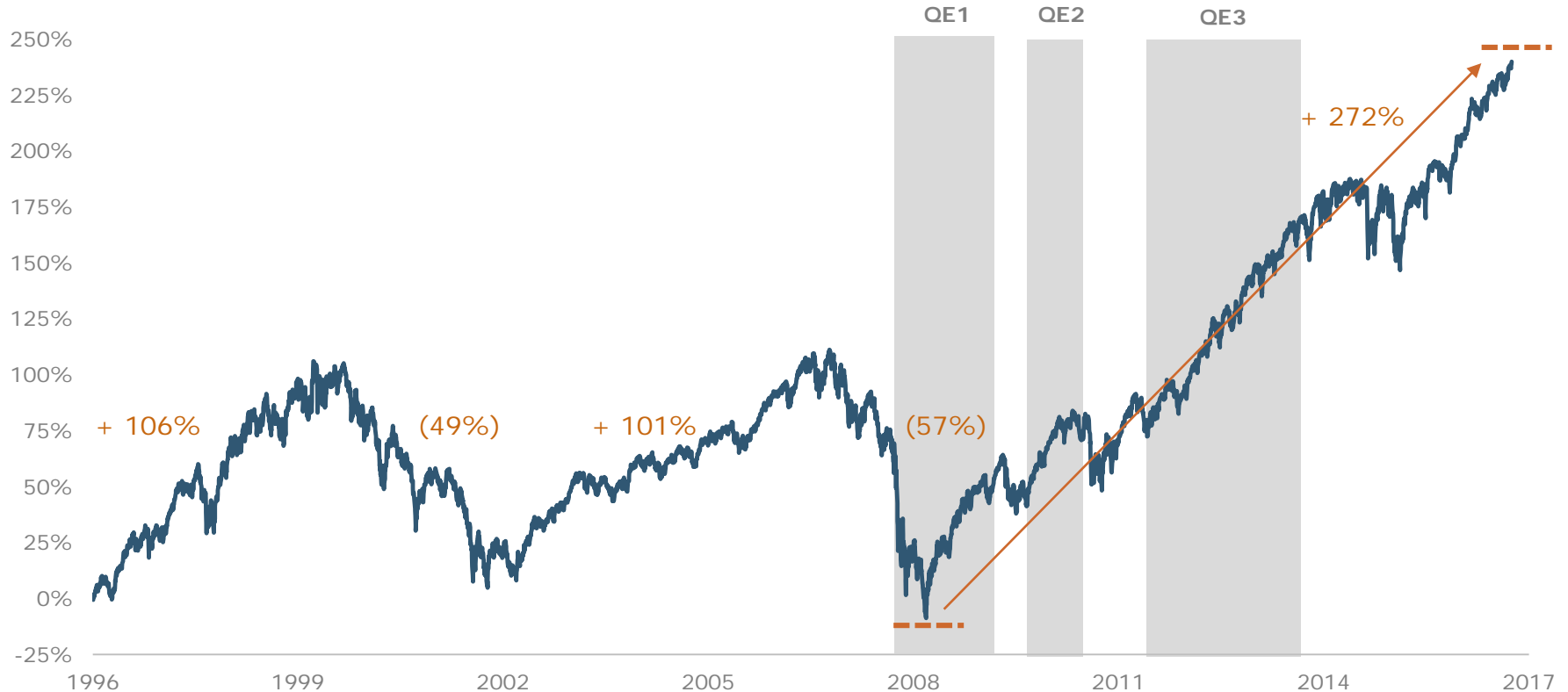
Period of Prolonged Low Rates



Source: GFD



S&P 500

S&P 500 Total Daily
Return

Source: Bloomberg.
Daily Data ending 9/30/17.

For illustrative purposes only. There can be no assurance that any strategy will meet its investment objectives. Past performance is not an indication of future results. All investments can lose value.



S&P 500 Shiller P/E Ratio

Shiller Price-to-Earnings Ratio for the S&P 500



The Shiller P/E estimates the valuation of publicly traded companies by averaging the previous 10 years of earnings, adjusted for inflation. Therefore, it produces a "smoothed" or "normalized" measure of equity valuation across business and market cycles. Source:

www.econ.yale.edu/~shiller/data/ie_data.xls

Source: Professor Robert Shiller of Yale University, Aspiriant. Data as of 6/30/17. Past performance is not indicative of future performance. All investments can lose value. An investment may not be made directly in an index.

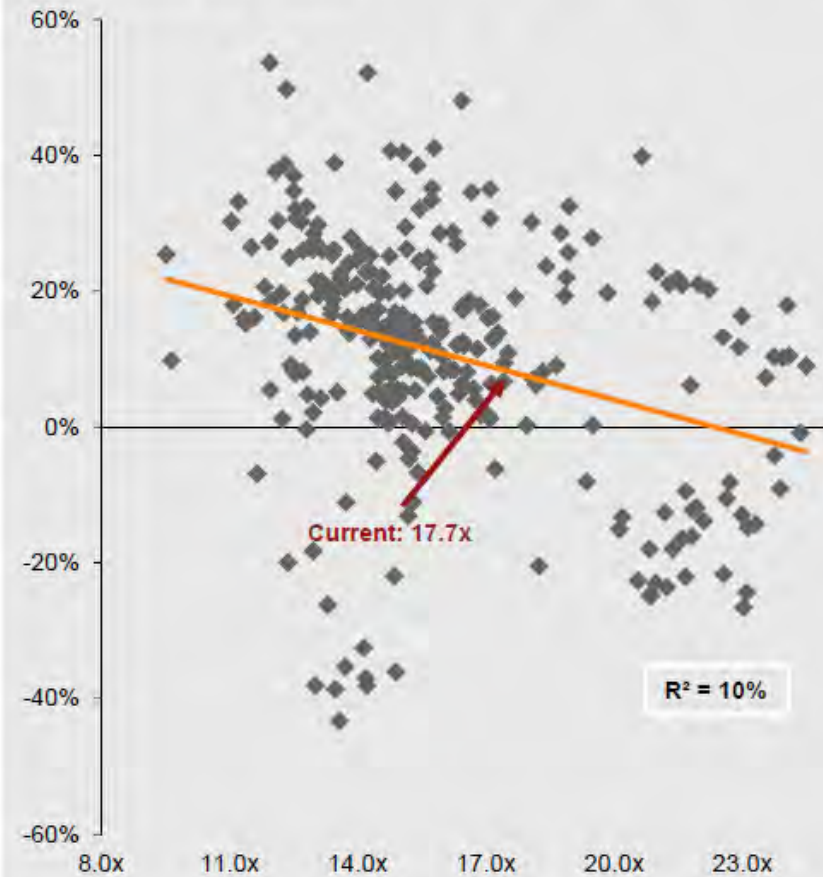


Valuation Perspective

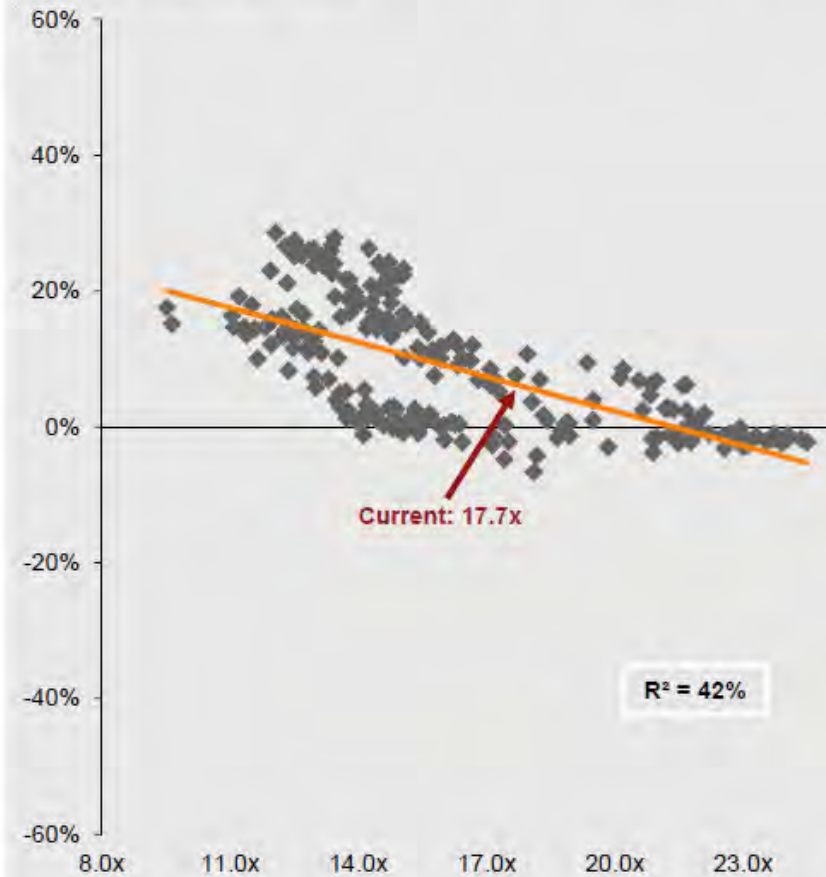
Price Matters!

Investment Environment

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

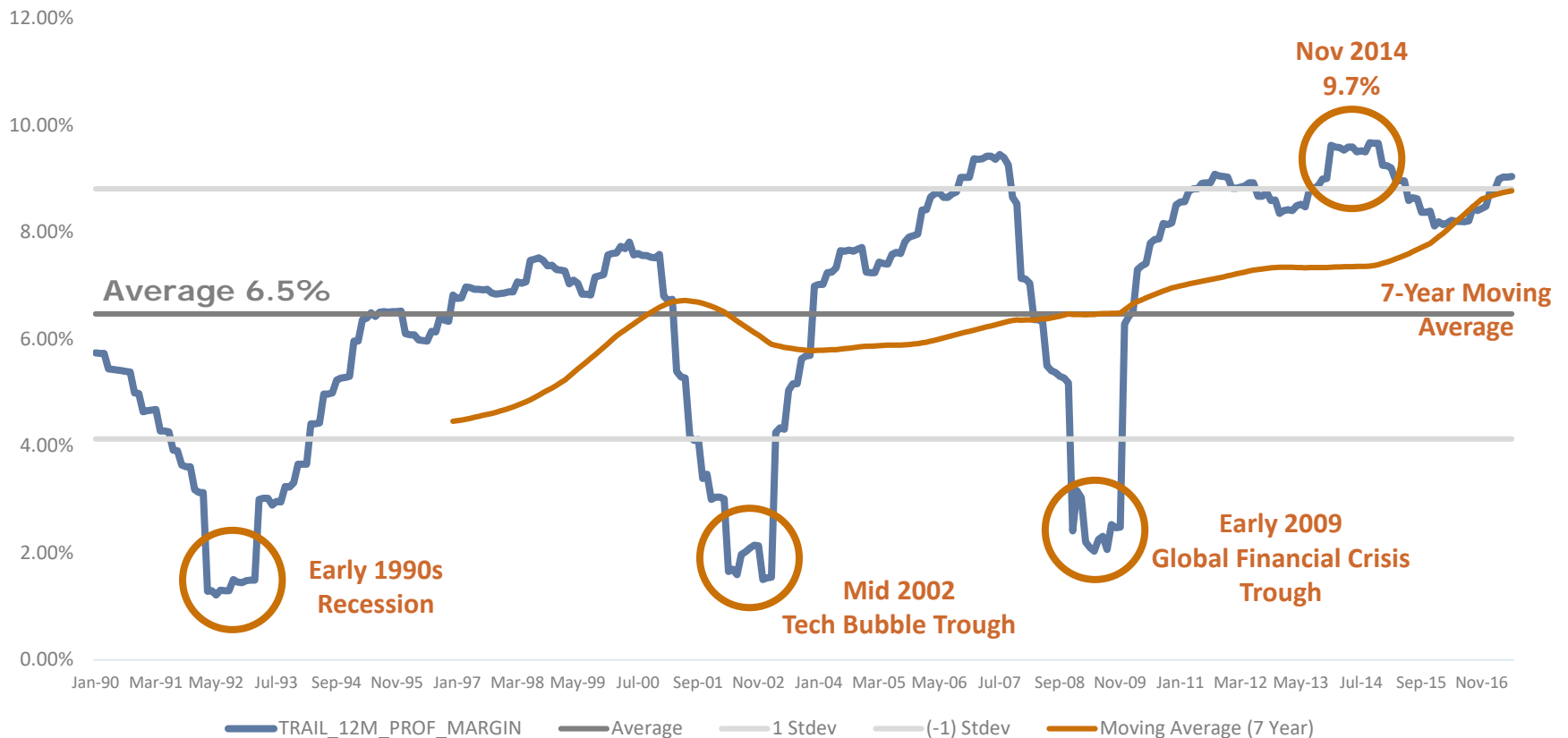


Source: FactSet, Thomson Reuters, Standard & Poor's, J.P. Morgan Asset Management.
Returns are 12-month and 60-month annualized total returns, measured monthly, beginning September 30, 1992. R^2 represents the percent of total variation in total returns that can be explained by forward P/E ratios.
Guide to the Markets – U.S. Data are as of September 30, 2017.



US Large Caps – Consolidated Profitability

Consolidated Operating Profits for the S&P 500

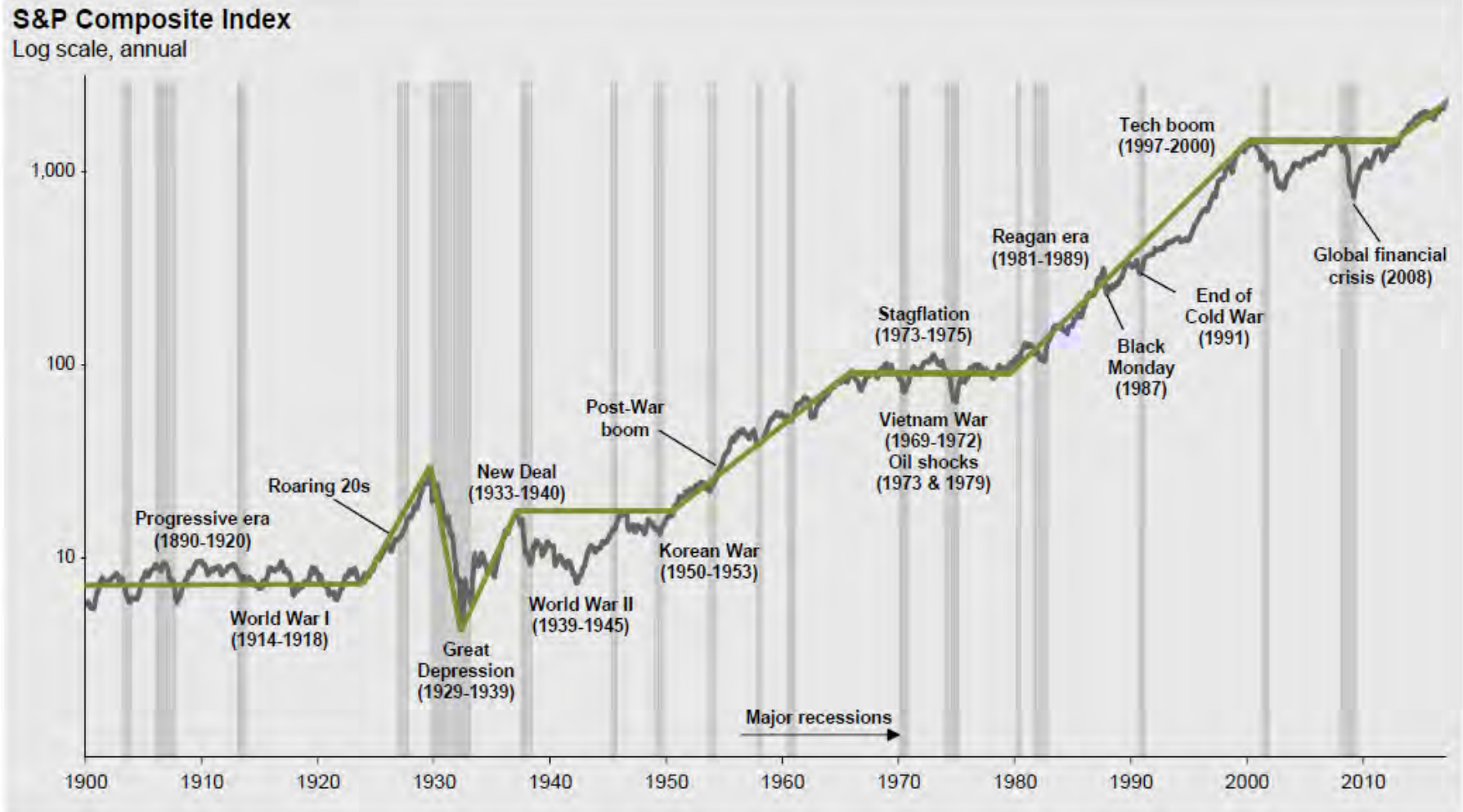


A more recent increase in corporate profitability places margins at historically high levels.

Source: Bloomberg, Aspiriant. Data as of 6/30/17. Past performance is not indicative of future performance. All investments can lose value. An investment may not be made directly in an index.



Secular Stock Market Trends



Source: FactSet, NBER, Robert Shiller, J.P. Morgan Asset Management.
Data shown in log scale to best illustrate long-term index patterns.
Past performance is not indicative of future returns. Chart is for illustrative purposes only.
Guide to the Markets – U.S. Data are as of September 30, 2017.



Balanced Portfolio Performance

Real Return
Shiller P/E
Bond Yields
Annualized Vol

1900–1920

0%
19x → 6x
3.2% → 5.0%
8.5%

1929–1949

1.4%
33x → 10x
3.4% → 2.3%
18.3%

1965–1985

0.1%
23x → 10x
4.2% → 16.7%
10.7%

2000–2017 Q2

3.4%
43x → 30x
6.2% → 2.3%
8.5%



Source: Global Financial Data, Aspiriant.

The portfolio consists of 60% US Equities, 40% US Bonds (US Treasuries) rebalanced monthly, by market capitalization.

The Standard and Poor's indices were first calculated in 1918, and the Cowles Commission back-calculated the series to 1871 using the Commercial and Financial Chronicle. The data for all periods used above has been provided by Global Financial Data under license to Aspiriant.



Signs of a Bubble

- Overconfidence
- Catalyst(s)
- Conflicts of Interest
- Political Interaction



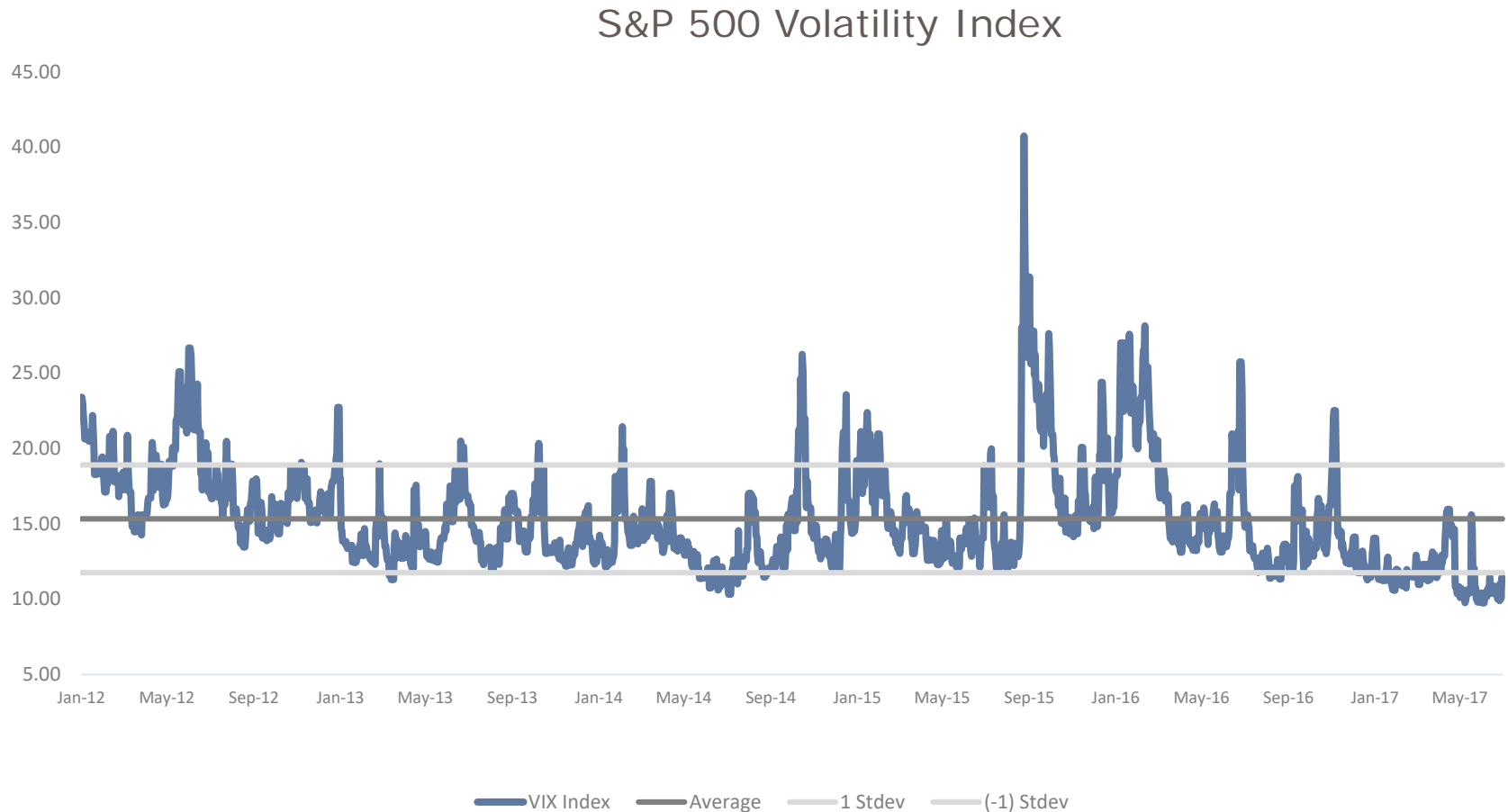
Drawdown Frequency Table

Frequency by Size of S&P 500 Drawdown, Thresholds Analyzed Independently*

Drawdown Threshold	Historical Frequency	Typical # Per Year	Typical Recovery Time
20%	Once per Market Cycle	0	20 Months
10%	Once per Year	1	8 Months
5%	Once per Quarter	4	2 to 3 Months
3%	Once per Month	11	2 to 6 Weeks
2%	Often	18	1 to 4 Weeks

Source: Standard & Poor's, FactSet, J.P. Morgan Asset Management. Returns are based on price index only and do not include dividends. For illustrative purposes only. *Analysis based on each type (size) of drawdown being independent. For example, the market does not Typically see four 5% drawdowns and one 10% drawdown in the same year, but rather those 5% drawdowns may compound into a single 10% drawdown for the year. Data as of 3/31/2014. Past performance is not necessarily indicative of future performance. All investments may lose value over time.

Fear Index: The S&P 500 VIX



Stretched asset valuations and corporate profitability can increase volatility. However, a well-diversified portfolio can cushion the impact on investment returns.



Source: CBOE, Bloomberg, Aspiriant. Data as of 6/30/17.

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Is this Environment Different?

Support for Higher P/E's

1. Fed Put / Threat of Global Contagion
2. Low Interest Rates
3. Lower Equity Risk Premium
4. Share Buybacks
5. Changes in Reported Earnings
6. S&P Aggregation Bias

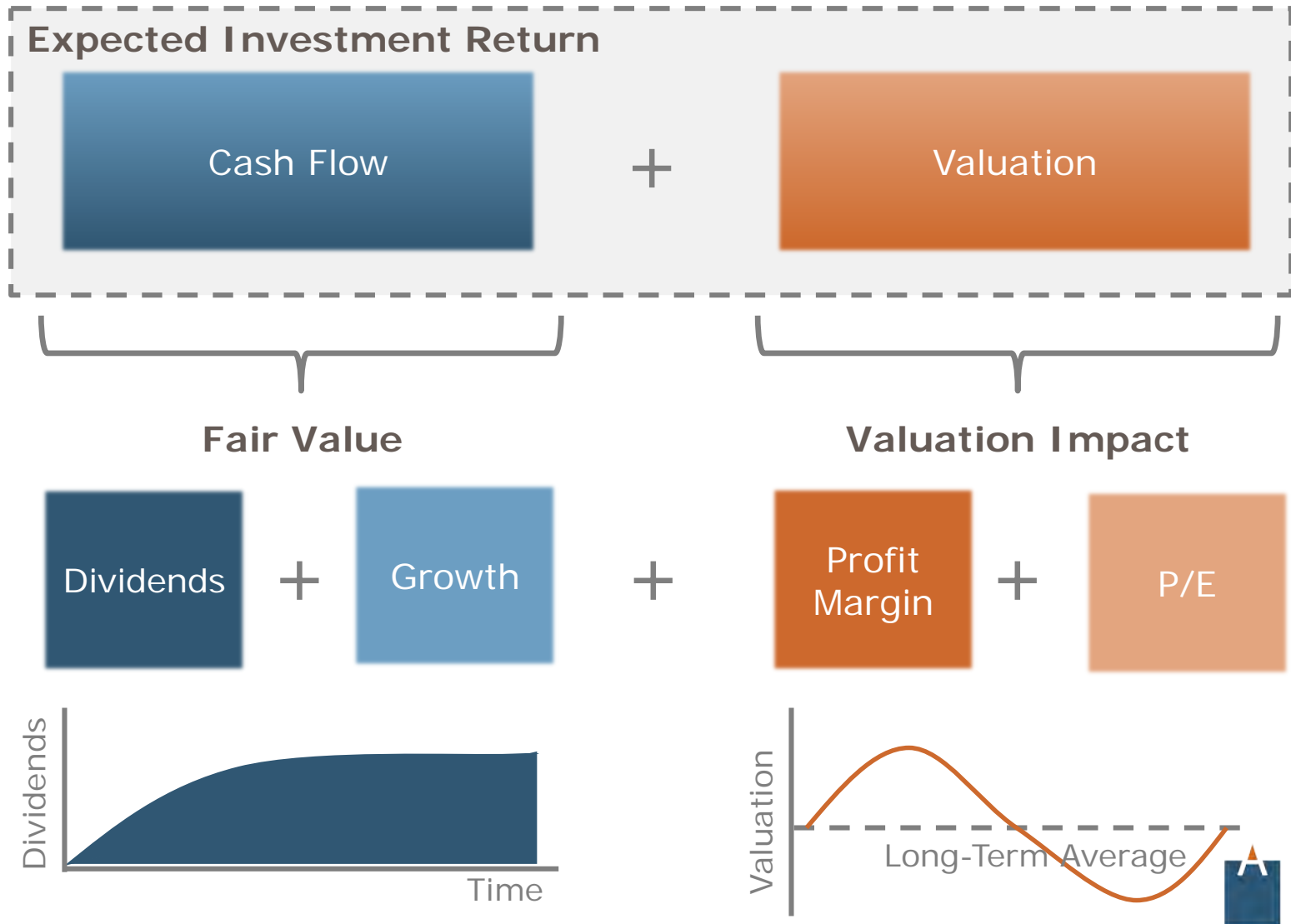


Framework for Investing

- Sound intellectual framework
- Navigation in rough waters

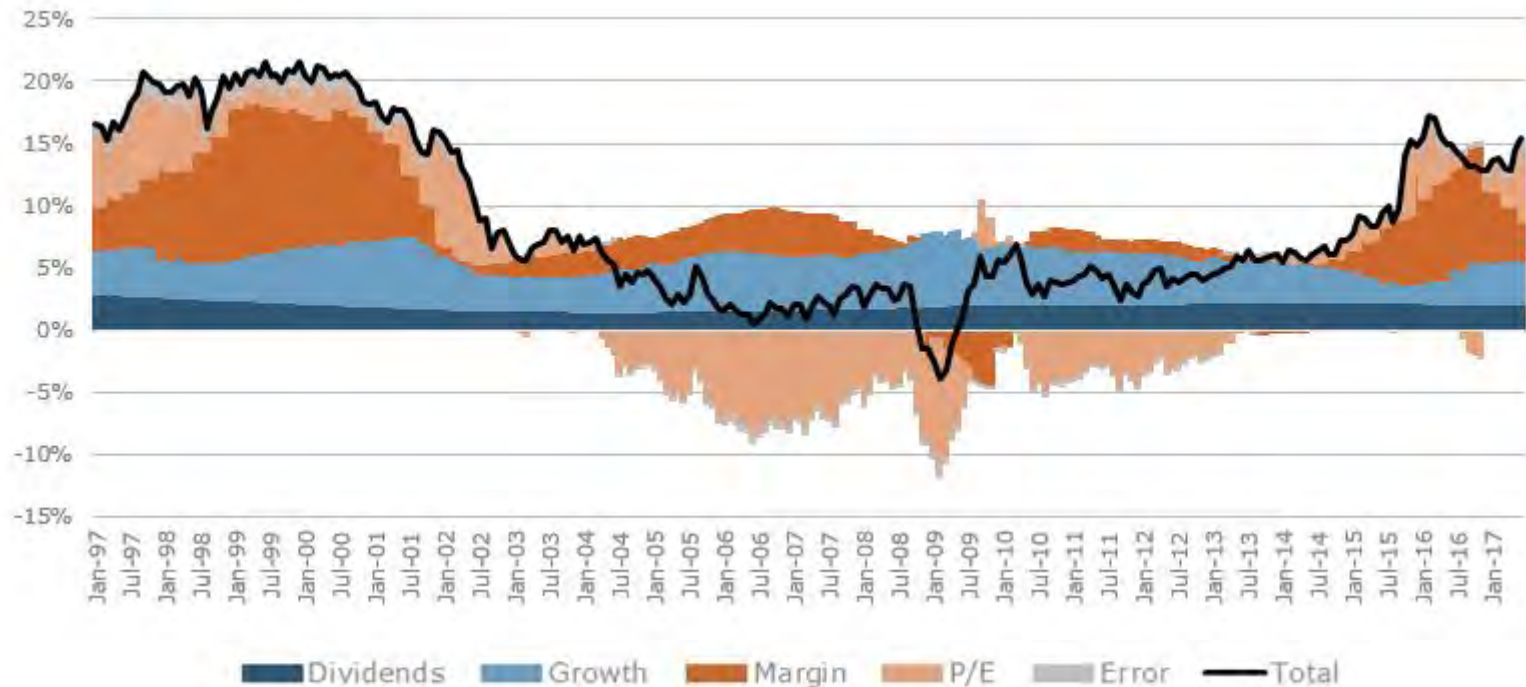


Four Primary Drivers of Investment Returns



The Explanatory Power of Cash Flow and Valuation

Component Analysis of the S&P 500's Historical Returns
Rolling 7-Year Annualized Return
January 1997 – June 2017



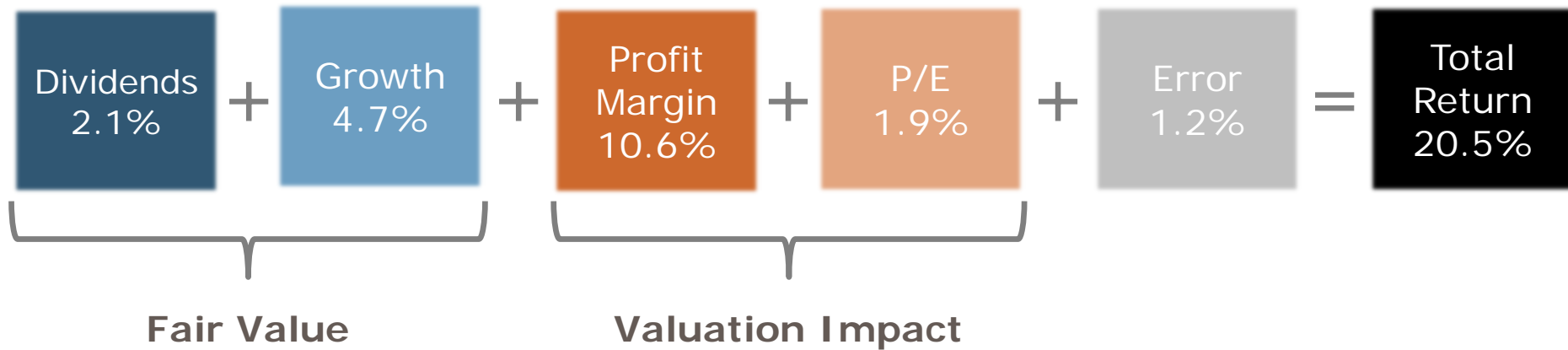
Source: Bloomberg, Aspiriant.

On an historical basis, virtually all of the return of the S&P 500 has been explained by Cash Flow and Valuation Impacts.



Decomposing Total Annualized Return

The total annualized return of the S&P 500 over the seven-year period ending January 2000 was 20.5%!



The four drivers explained virtually all of the investment return during the period, with only 1.2% being unexplained on an annualized basis.



Aspiriant's Capital Market Expectations

Long-Term & Mid-Term CMEs

6/30/2017

	Long-Term CMEs 20+ Years		Mid-Term CMEs 7-10 Years	
ASSET CLASS	Return	Risk	Return	Risk
Fixed Income				
Municipal Core (a)	3.2	3.5	2.2	4.0
Municipal High Yield	5.5	6.0	4.2	8.0
Taxable Core	4.1	4.0	2.1	5.0
Taxable High Yield	6.9	8.0	3.1	10.0
Defensive Strategies				
Defensive Strategies	5.0	7.0	4.0	8.5
Real Assets				
REITs	6.3	16.0	3.4	19.0
MLPs	7.5	24.0	6.9	22.0
Private Real Estate	7.8	16.0	4.9	19.0
Global Equity				
Large Cap Domestic	7.0	15.0	1.9	17.0
Large Cap Developed Overseas	6.3	15.0	2.9	18.0
Small Cap Domestic	7.0	18.0	2.7	23.0
Small Cap Developed Overseas	6.5	16.0	2.1	20.0
Emerging Markets	7.0	24.0	4.1	29.0
Private Equity				
Private Equity	8.5	18.0	4.2	23.0
Passive 60 / 40 Portfolio (b)	5.3	11.1	2.4	11.8
Passive 30 / 70 Portfolio (b)	4.3	7.3	2.3	7.9
Passive 80 / 20 Portfolio (b)	6.0	13.6	2.4	14.4

(a) Barclays 1-15 Year Muni Bond Index.

(b) Passive portfolio consisting of global equities and fixed income.

For illustrative purposes only.

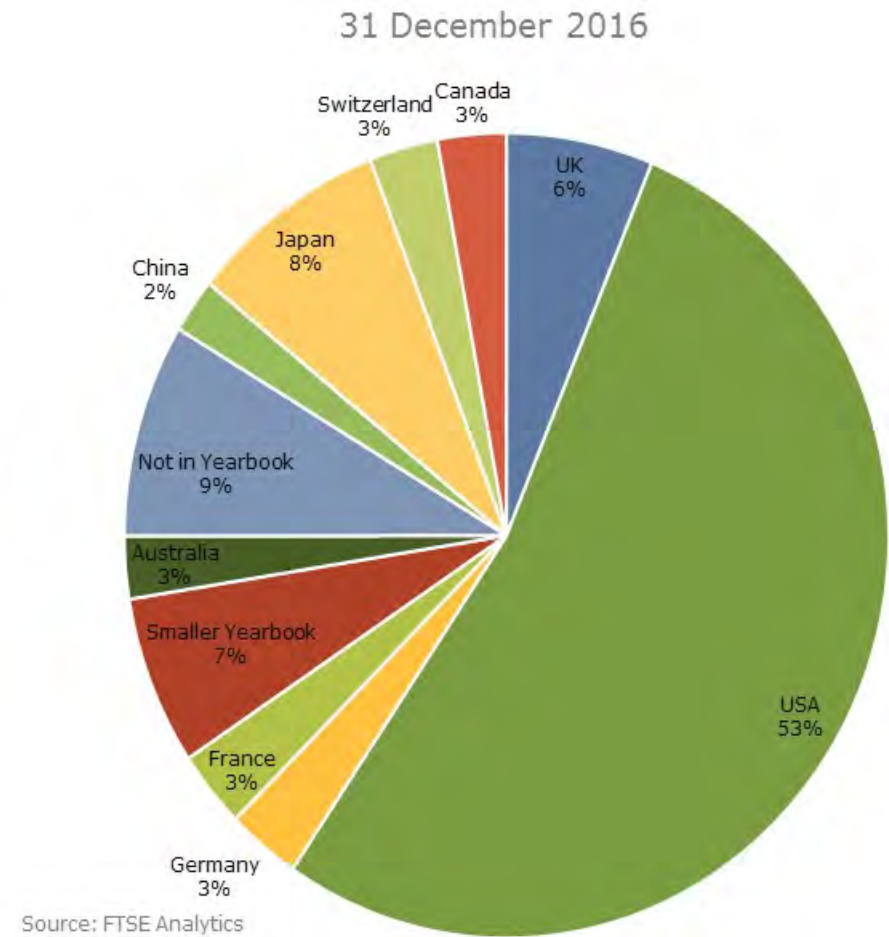
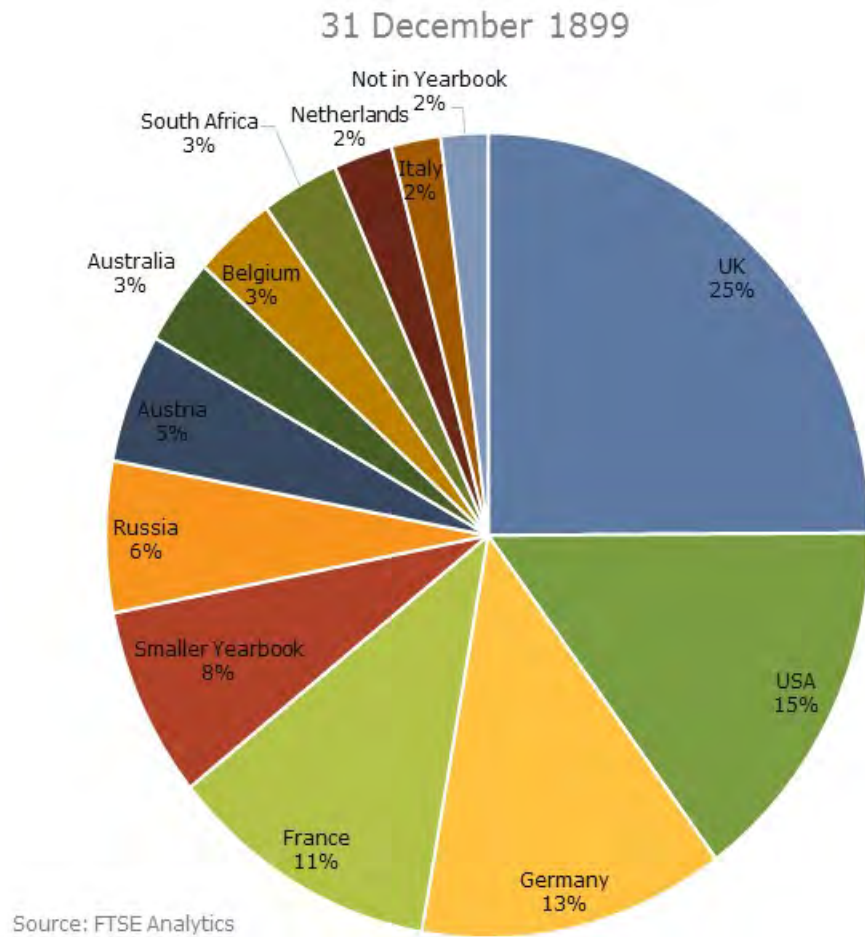


How to Invest?

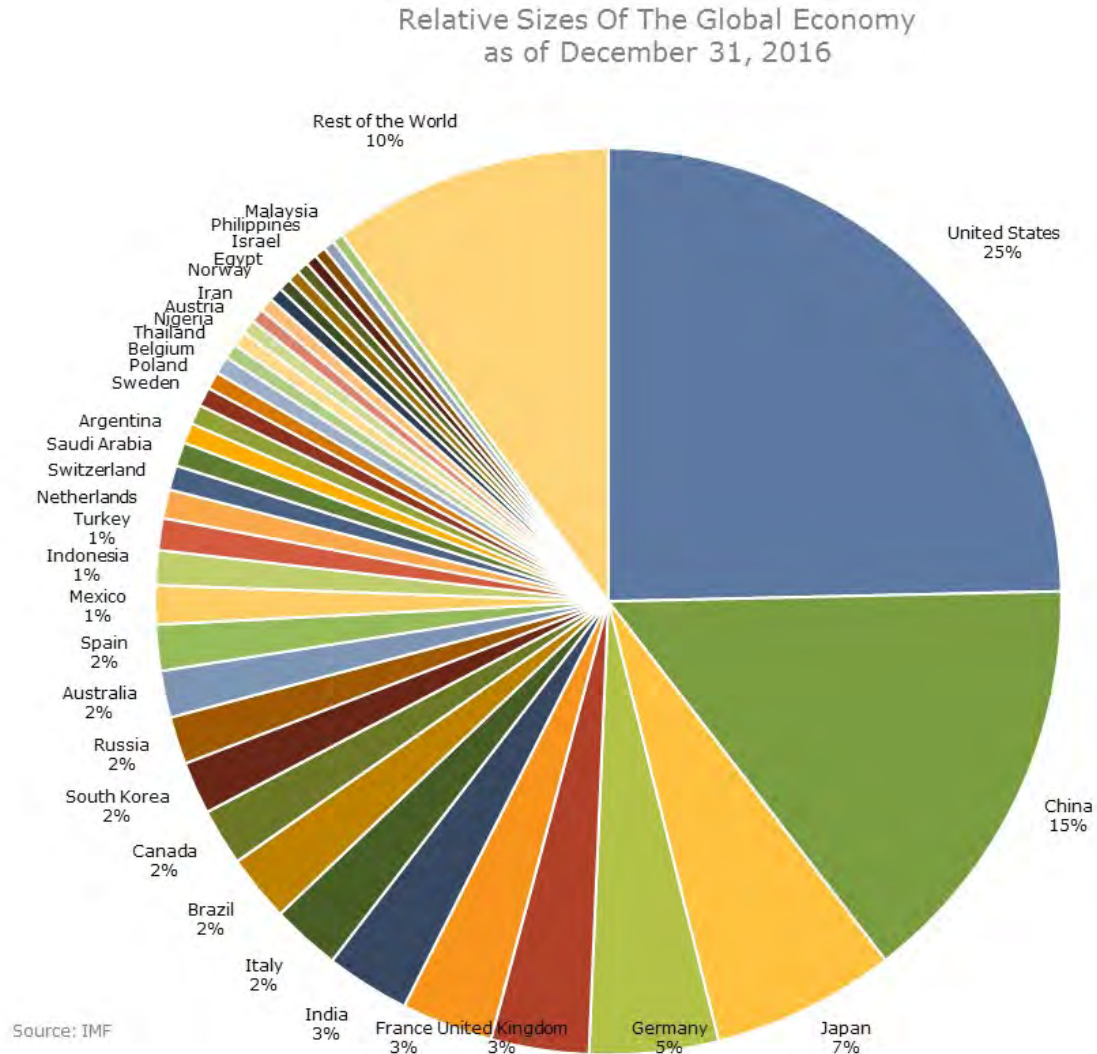
1. Globally
2. Active versus Passive
3. Low Beta
4. Diversifiers or Defensive Strategies



Global Market Cap



Global GDP by Country



Why Not Just the S&P 500?

US Large Cap only had the highest annual return in only 2 out of the 16 years from 2001 through 2016.

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 YTD	Ann. Ret.	Ann. Vol.
US SC 2.49%	EM (6.17%)	Intl SC 61.35%	Intl SC 30.78%	EM 34.00%	EM 32.14%	EM 39.42%	US SC (33.79%)	EM 78.51%	US SC 26.85%	US LC 1.50%	Intl SC 20.00%	US SC 38.82%	US LC 13.24%	Intl SC 9.59%	US SC 21.31%	EM 18.43%	EM 9.54%	EM 22.20%
EM (2.62%)	Intl SC (7.82%)	EM 55.82%	EM 25.55%	Intl SC 26.19%	Intl LC 26.34%	Intl LC 11.17%	US LC (37.60%)	Intl SC 46.78%	Intl SC 22.04%	US SC (4.18%)	EM 18.22%	US LC 33.11%	US SC 4.89%	US LC 0.92%	US LC 12.05%	Intl SC 16.72%	Intl SC 8.76%	Intl SC 18.15%
US LC (12.45%)	Intl LC (15.94%)	US SC 47.25%	Intl LC 20.25%	Intl LC 13.54%	Intl SC 19.31%	US LC 5.77%	Intl LC (43.38%)	Intl LC 31.78%	EM 18.88%	Intl LC (12.14%)	Intl LC 17.32%	Intl SC 29.30%	EM (2.19%)	Intl LC (0.81%)	EM 11.19%	Intl LC 13.81%	US SC 8.17%	US SC 19.14%
Intl SC (12.51%)	US SC (20.48%)	Intl LC 38.59%	US SC 18.33%	US LC 6.27%	US SC 18.37%	Intl SC 1.45%	Intl SC (47.01%)	US LC 28.43%	US LC 16.10%	Intl SC (15.94%)	US LC 16.42%	Intl LC 22.78%	Intl LC (4.90%)	US SC (4.41%)	Intl SC 2.18%	US LC 9.27%	US LC 6.06%	US LC 14.75%
Intl LC (21.44%)	US LC (21.65%)	US LC 29.89%	US LC 11.40%	US SC 4.55%	US LC 15.46%	US SC (1.57%)	EM (53.33%)	US SC 27.17%	Intl LC 7.75%	EM (18.42%)	US SC 16.35%	EM (2.60%)	Intl SC (4.95%)	EM (14.92%)	Intl LC 1.00%	US SC 4.99%	Intl LC 4.08%	Intl LC 16.99%

Sources: Morningstar, Aspiriant.

U.S. Large Cap (US LC) returns represented by the Russell 1000 TR USD Index.

U.S. Small Cap (US SC) returns represented by the Russell 2000 TR USD Index.

International Large Cap (Intl LC) returns represented by the MSCI EAFE NR USD Index.

International Small Cap (Intl SC) returns represented by the MSCI EAFE Small Cap NR USD Index.

Emerging Markets (EM) returns represented by the MSCI EM NR USD Index.

Data as of 6/30/2017.

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Foreign Stocks below Prior Peak

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

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



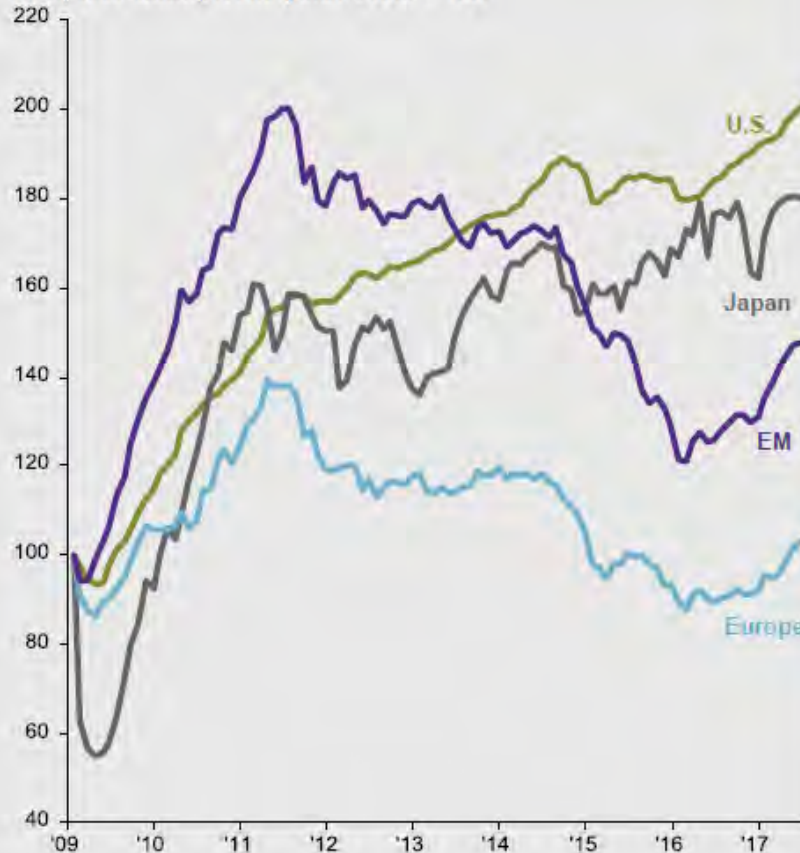
Source: MSCI, Standard & Poor's, FactSet, J.P. Morgan Asset Management. Forward price to earnings ratio is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the next twelve months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns. Dividend yield is calculated as consensus estimates of dividends for the next twelve months, divided by most recent price, as provided by FactSet Market Aggregates. Guide to the Markets – U.S. Data are as of June 30, 2017.



Lower Valuations Internationally

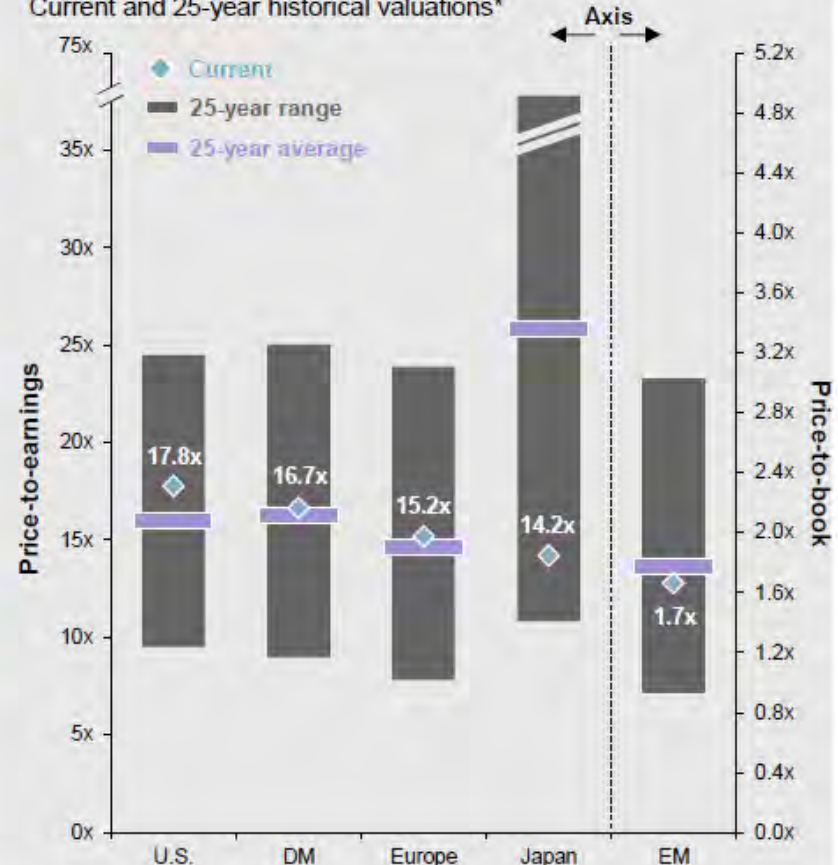
Global earnings

EPS, U.S. dollar, NTMA, Jan. 2009 = 100



Global valuations

Current and 25-year historical valuations*

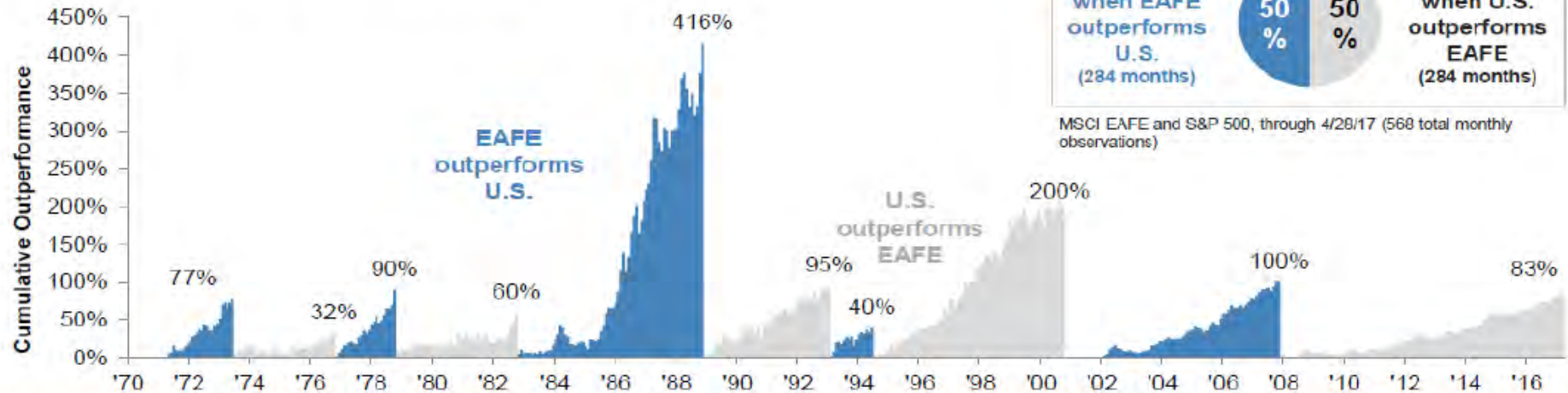


Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. *Valuations refer to NTMA P/E for Europe, U.S., Japan, and Developed Markets and P/B for emerging markets. Valuation and earnings charts use MSCI indices for all regions/countries, except for the U.S., which is the S&P 500. All indices use IBES aggregate earnings estimates, which may differ from earnings estimates used elsewhere. Guide to the Markets – U.S. Data are as of June 30, 2017.



U.S. vs International Performance

Periods of EAFE & U.S. outperformance



U.S. Outperformance

Time Period	Outperformance	Duration
Jul '73 – Oct '76	32.2%	3.3 yrs.
Nov '78 – Oct '82	59.6%	4.0 yrs.
Dec '88 – Jan '93	94.6%	4.2 yrs.
Jul '94 – Oct '00	200.3%	6.3 yrs.
Dec '07 – May '16	83.3%	9.3 yrs.
Average	94.0%	5.4 yrs.

EAFE Outperformance

Time Period	Outperformance	Duration
Feb '71 – Jun '73	77.5%	2.4 yrs.
Nov '76 – Oct '78	89.6%	2.0 yrs.
Nov '82 – Nov '88	416.0%	6.1 yrs.
Feb '93 – Jun '94	40.0%	1.4 yrs.
Feb '02 – Nov '07	100.2%	5.8 yrs.
Average	144.7%	3.6 yrs.

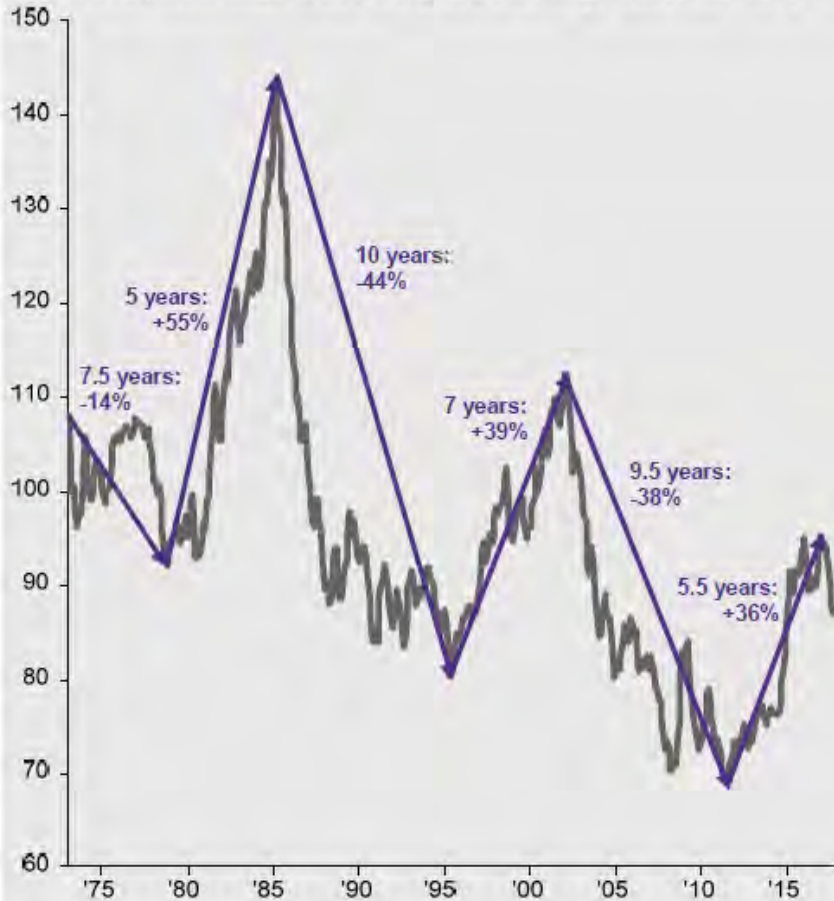
Source: PB CIO Quant Research. Bloomberg, MSCI, as of June 30, 2017. Past performance is no guarantee of future results.



Dollar Weakness is a Tailwind

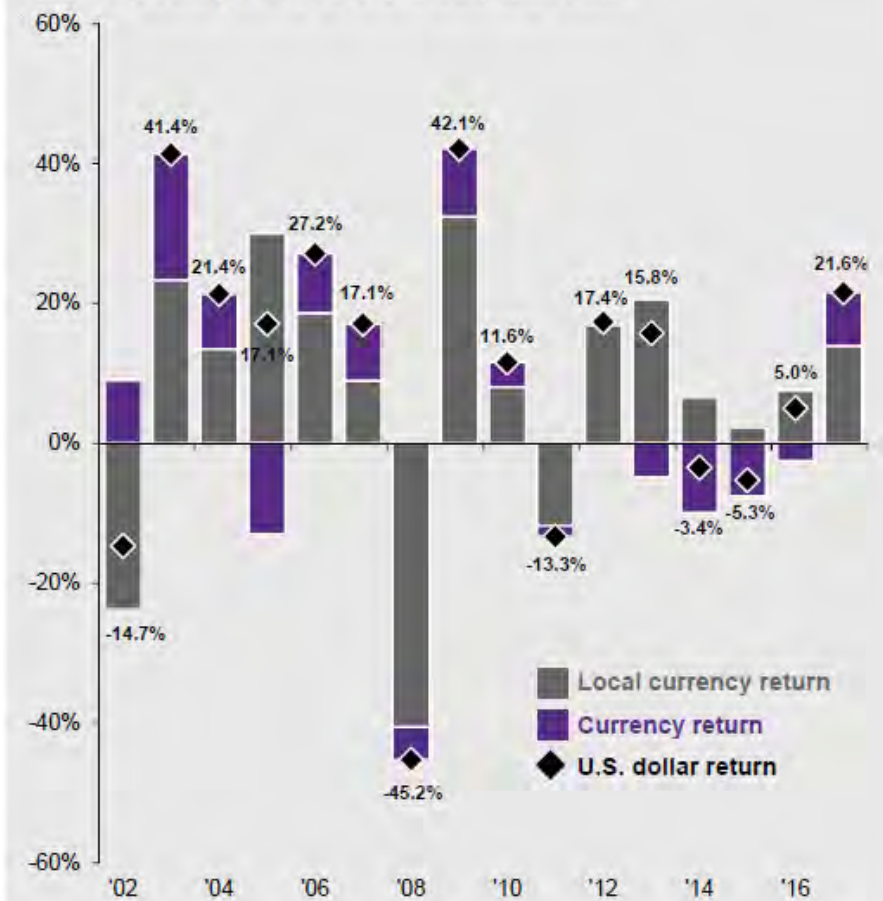
U.S. dollar in historical perspective

Index level, nom. major trade-weighted exchange rate, Mar. 1973=100



Currency impact on international returns

MSCI All Country World ex-U.S. index, total return



Source: FactSet, J.P. Morgan Asset Management; (Left) Federal Reserve; (Right) MSCI.
Currencies in the nominal major trade-weighted U.S. dollar index are: British pound, euro, Swedish kroner, Australian dollar, Canadian dollar, Japanese yen and Swiss franc.

Guide to the Markets – U.S. Data are as of September 30, 2017.



Emerging Equities – Trailing Valuations

EM Market Price-to-Earnings¹



Emerging Markets seem fairly valued which is attractive in today's otherwise expensive equity marketplace and deserving of an overweight position.

(1) EM Price-to-Earnings Ratio excludes any companies with negative earnings, but the metric is consistent over time.

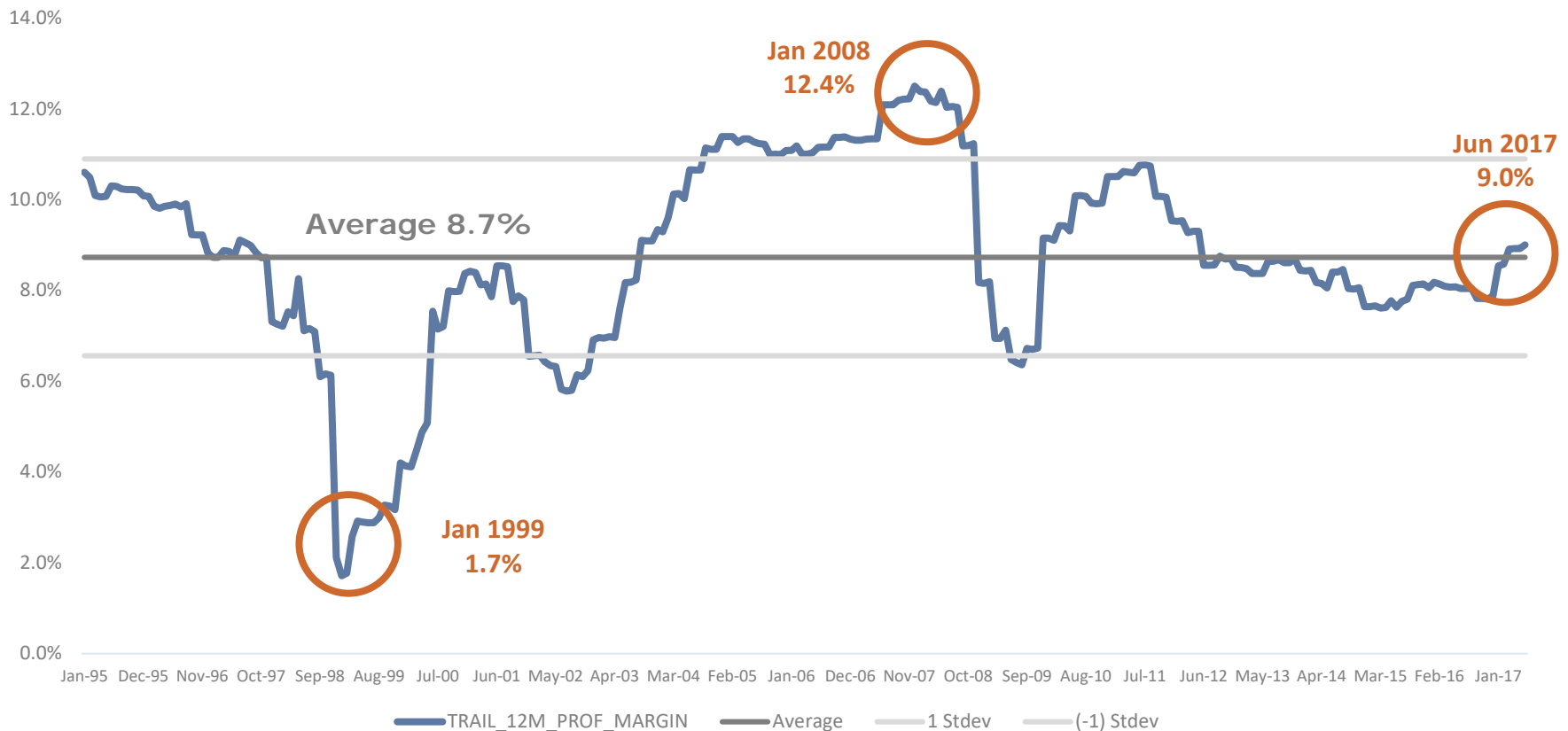
Source: Bloomberg, Aspiriant. Data as of 6/30/17.

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Emerging Equities – Consolidated Profitability

EM Profit Margin Trailing Twelve Months



Any cyclical upturn in global growth should benefit Emerging Markets earnings potential.

Source: Bloomberg, Aspiriant. Data as of 6/30/17.

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Active Versus Passive – Indexing

- Low Cost
- Outperforms actively managed funds
- Overweight most expensive stocks
- Herd mentality



Active Managers Have Trailed

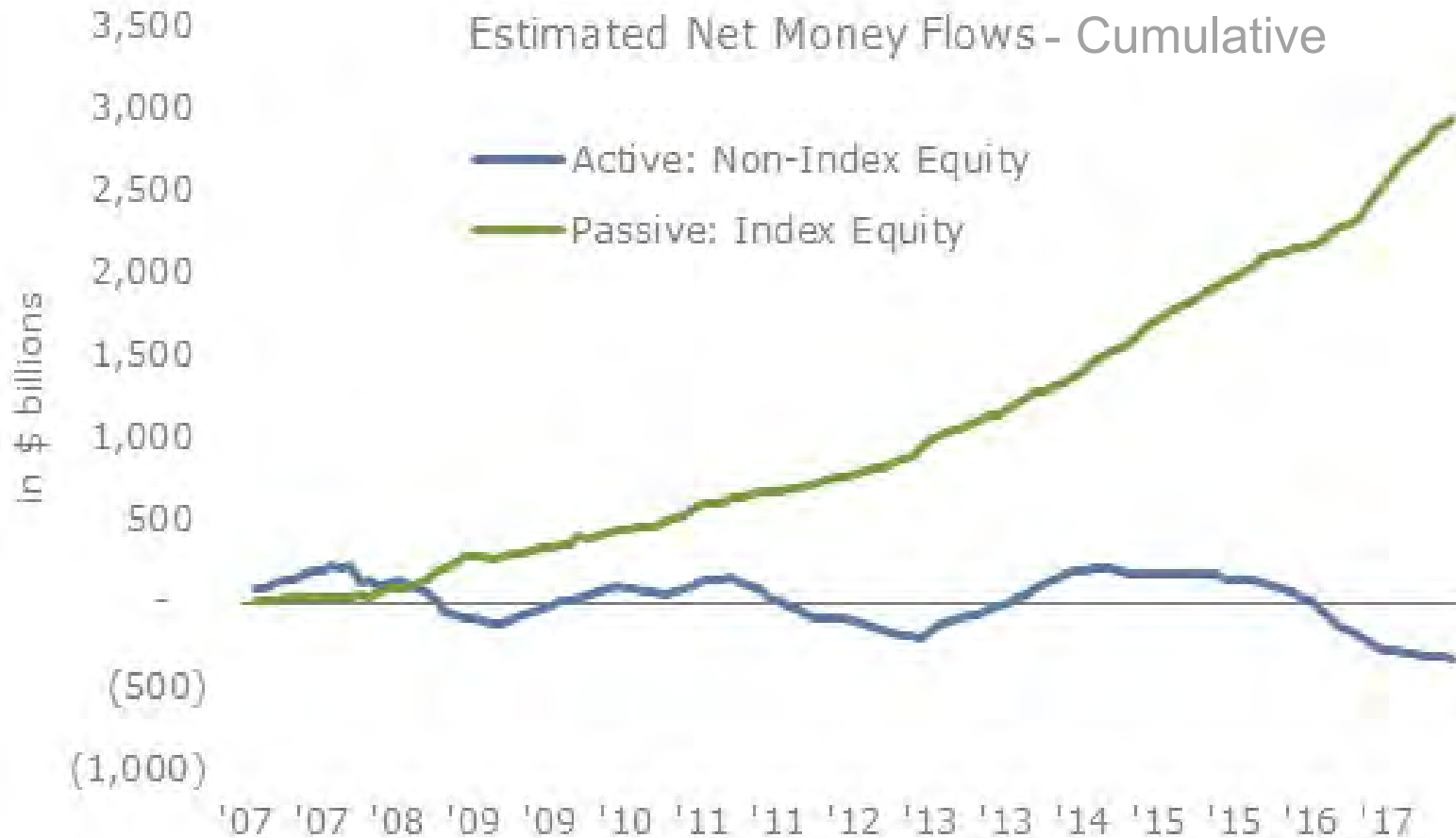
Percent of U.S. Equity funds outperformed by their benchmark

	5-Year	10-Year	15-Year
Large Cap	88%	85%	92%
Mid-Cap	90%	96%	95%
Small-Cap	97%	96%	93%

Source: S&P Down Jones Indices as of December 31, 2016, Wall Street Journal, Dublin



U.S. Equity Funds Cumulative Net Flows



Source: Morningstar Direct



Active vs. Passive Manager Performance



Source: Morningstar Direct



Low Beta

1. Strategies with low market risk
2. Strategies with high active-share investing



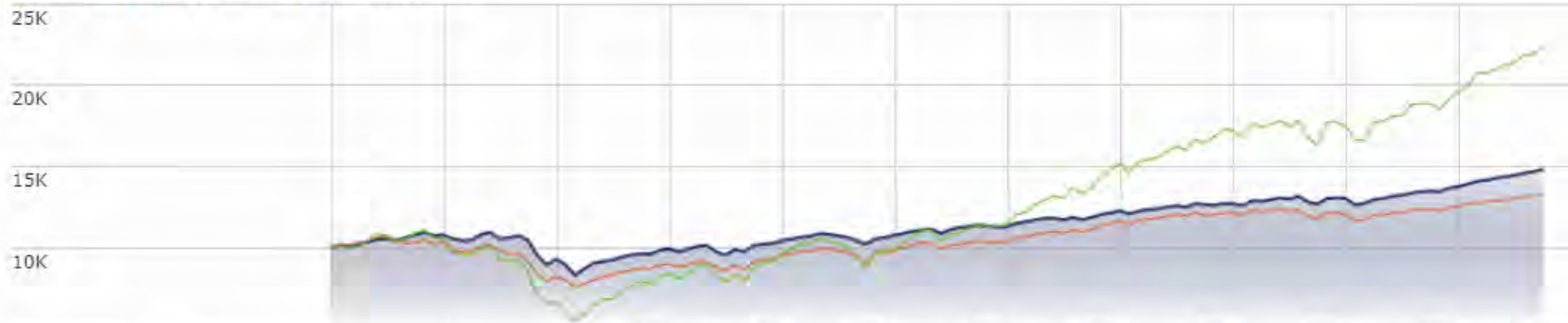
Low Beta

Gateway Fund (GTEYX)–Options collar strategy to reduce volatility

Growth of 10,000

[Customize Interactive Chart >](#)

■ GTEYX ■ Category: XR ■ S&P 500 TR USD



Performance Quartile											
History (09/30/2017)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	YTD
GTEYX	7.94	-13.77	6.83	5.13	3.20	4.76	8.65	3.58	2.59	5.48	7.74
S&P 500 TR USD	5.49	-37.00	26.46	15.06	2.11	16.00	32.39	13.69	1.38	11.96	14.24
Category (XR)	3.69	-27.12	9.89	5.17	3.07	5.34	12.59	4.35	-0.51	5.45	6.52
+/- S&P 500 TR USD	2.44	23.23	-19.64	-9.94	1.09	-11.24	-23.74	-10.10	1.20	-6.48	-6.51
+/- Category (XR)	4.25	13.35	-3.06	-0.04	0.14	-0.58	-3.94	-0.77	3.09	0.04	1.22

Category (XR) = Morningstar Category Option Writing

For illustrative purposes only. There can be no assurance that any strategy will meet its investment objectives. Past performance is not an indication of future results. All investments can lose value.

Diversifiers / Defensive Strategies

Key Characteristics – Diversification, drawdown protection, volatility mitigation, income production, inflation protection, return enhancement

Investments / Strategies

- Global Macro funds
- Managed Futures
- Market Neutral
- Long / Short
- Event Driven
- Arbitrage
- Real Estate
- Master Limited Partnership's
- Commodities
- Timber
- Farmland

Asset Class Comparisons

Global Equity Index and Fixed Income oscillate between highest and lowest returns, with Defensive Strategies and Global Balanced consistently in between.

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 YTD	Ann. Return	Ann. Vol.
Global Eq Index 10.84%	Global Eq Index 20.95%	Global Eq Index 11.66%	Fixed Income 2.48%	Global Eq Index 34.63%	Global Eq Index 12.67%	Fixed Income 8.80%	Global Eq Index 16.13%	Global Eq Index 22.80%	Fixed Income 6.36%	Fixed Income 2.83%	Global Eq Index 7.86%	Global Eq Index 11.48%	Global Eq Index 6.20%	Global Eq Index 15.60%
Defensive Strategies 9.30%	Global Balanced 14.02%	Defensive Strategies 9.96%	Defensive Strategies (19.03%)	Global Balanced 24.50%	Defensive Strategies 10.25%	Global Balanced (0.78%)	Global Balanced 11.69%	Global Balanced 12.75%	Global Balanced 5.13%	Global Balanced (0.08%)	Defensive Strategies 5.48%	Global Balanced 8.11%	Global Balanced 5.63%	Global Balanced 9.49%
Global Balanced 7.41%	Defensive Strategies 12.89%	Global Balanced 8.85%	Global Balanced (26.52%)	Defensive Strategies 19.98%	Global Balanced 9.27%	Defensive Strategies (5.25%)	Defensive Strategies 6.36%	Defensive Strategies 9.13%	Global Eq Index 4.16%	Defensive Strategies (1.12%)	Global Balanced 4.83%	Defensive Strategies 3.66%	Defensive Strategies 4.72%	Defensive Strategies 5.92%
Fixed Income 2.19%	Fixed Income 4.10%	Fixed Income 4.46%	Global Eq Index (42.19%)	Fixed Income 8.88%	Fixed Income 2.97%	Global Eq Index (7.35%)	Fixed Income 4.74%	Fixed Income (1.05%)	Defensive Strategies 2.98%	Global Eq Index (2.36%)	Fixed Income 0.01%	Fixed Income 3.21%	Fixed Income 3.96%	Fixed Income 3.32%

Over the last 12 ½ years ending 6/30/17 Defensive Strategies have captured 84% of a global balanced portfolio with 37% less volatility.

Sources: Morningstar, Bloomberg, Aspiriant.

Global Equity Index returns represented by the MSCI All Country World Index (ACWI) NR USD Index.

Defensive Strategy returns represented by the HFRI Fund Weighted Composite Index.

Global Balanced returns represented by 60% MSCI ACWI NR USD Index and 40% Bloomberg Barclays Municipal 1-15 Yr TR USD Index.

Fixed Income returns represented by the Bloomberg Barclays Municipal 1-15 Yr TR USD Index.

Data as of 6/30/2017.

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Past performance is not an indication of future results. All investments can lose value.

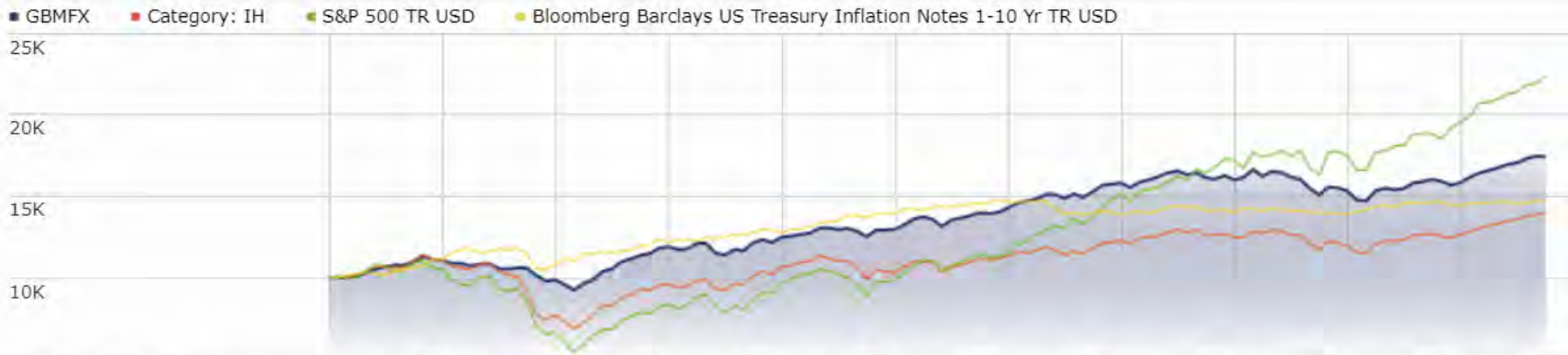
Defensive Managers

- GMO Benchmark-Free Allocation Fund
- FPA Crescent Fund
- iShares Global Allocation
- JP Morgan Global Allocation
- Arbitrage Fund
- Merger Fund
- Vanguard Market Neutral
- AQR Managed Futures
- Natixis ASP Managed Futures

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GMO Benchmark-Free Allocation III (GBMFX)

Growth of 10,000

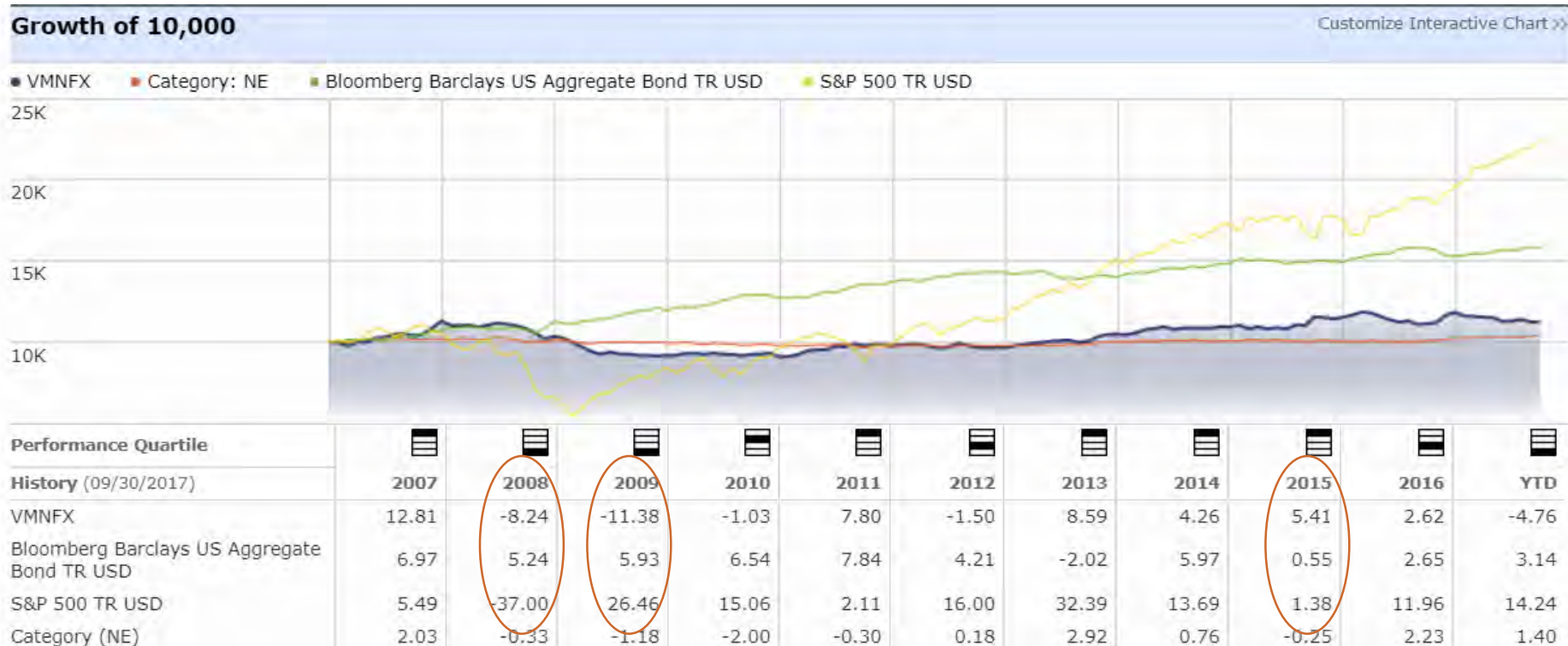


Performance Quartile											
History (09/30/2017)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	YTD
GBMFX	11.28	-11.23	20.65	4.91	3.86	10.01	10.73	1.21	-4.28	3.40	10.03
S&P 500 TR USD	5.49	-37.00	26.46	15.06	2.11	16.00	32.39	13.69	1.38	11.96	14.24
Bloomberg Barclays US Treasury Inflation Notes 1-10 Yr TR USD	11.45	-2.43	12.02	5.22	8.93	5.04	-5.58	0.91	-0.52	4.01	1.36
Category (IH)	11.39	-28.98	24.37	10.58	-3.99	10.74	10.07	1.54	-4.15	6.04	11.01

Category (IH) = Morningstar Category World Allocation

Morningstar. For illustrative purposes only. There can be no assurance that any strategy will meet its investment objectives. Past performance is not an indication of future results. All investments can lose value.

Vanguard Market Neutral (VMNFX)



Category (NE) = Morningstar Category Market Neutral

Morningstar. For illustrative purposes only. There can be no assurance that any strategy will meet its investment objectives. Past performance is not an indication of future results. All investments can lose value.

3 Takeaways

1. Invest strategically and consistently
2. Expect lower returns and higher volatility
3. Consider alternative solutions





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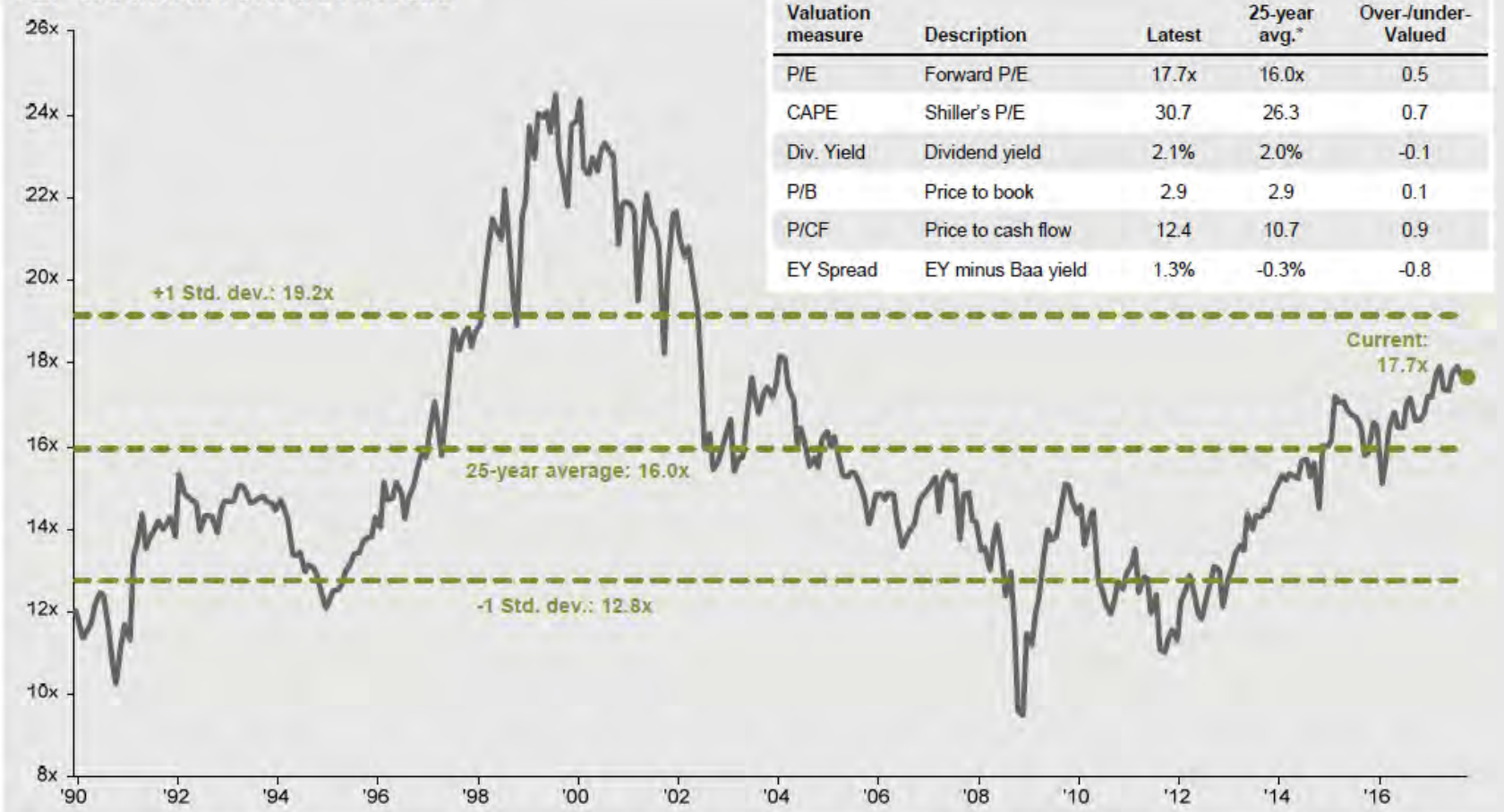
Achieve more.

Questions



S&P 500 – Forward P/E Ratio

S&P 500 Index: Forward P/E ratio



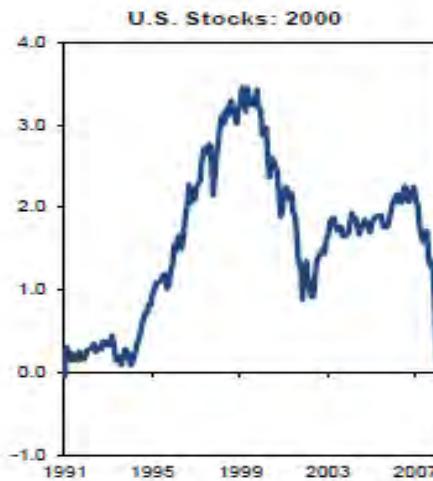
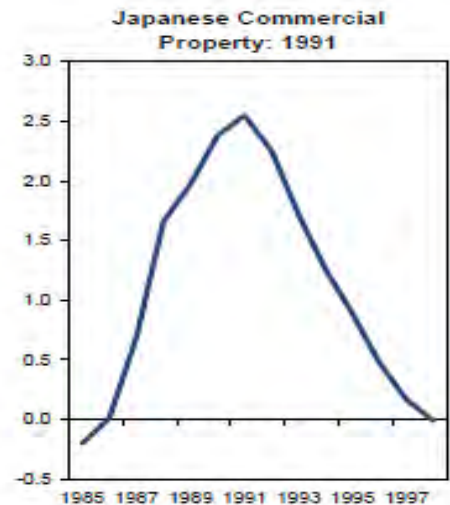
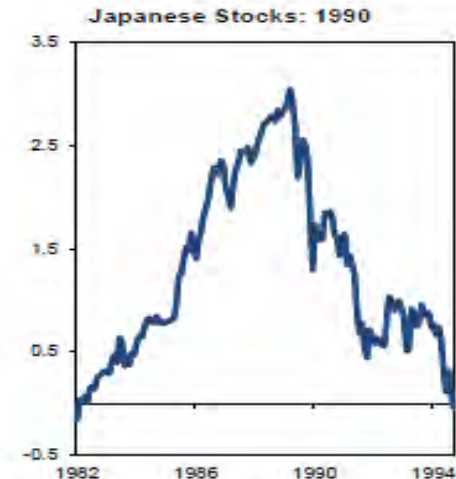
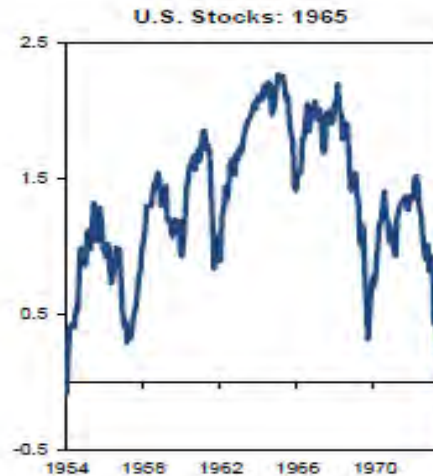
Source: FactSet, FRB, Thomson Reuters, Robert Shiller, Standard & Poor's, J.P. Morgan Asset Management.

Price to earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since December 1989, and FactSet for September 30, 2017. Average P/E and standard deviations are calculated using 25 years of FactSet history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price. Price to book ratio is the price divided by book value per share. Price to cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow data availability.

Guide to the Markets – U.S. Data are as of September 30, 2017.



6 Most Important Bubbles in Modern Times



Source: GMO, Global Financial Data

Aspiriant's Capital Market Expectations

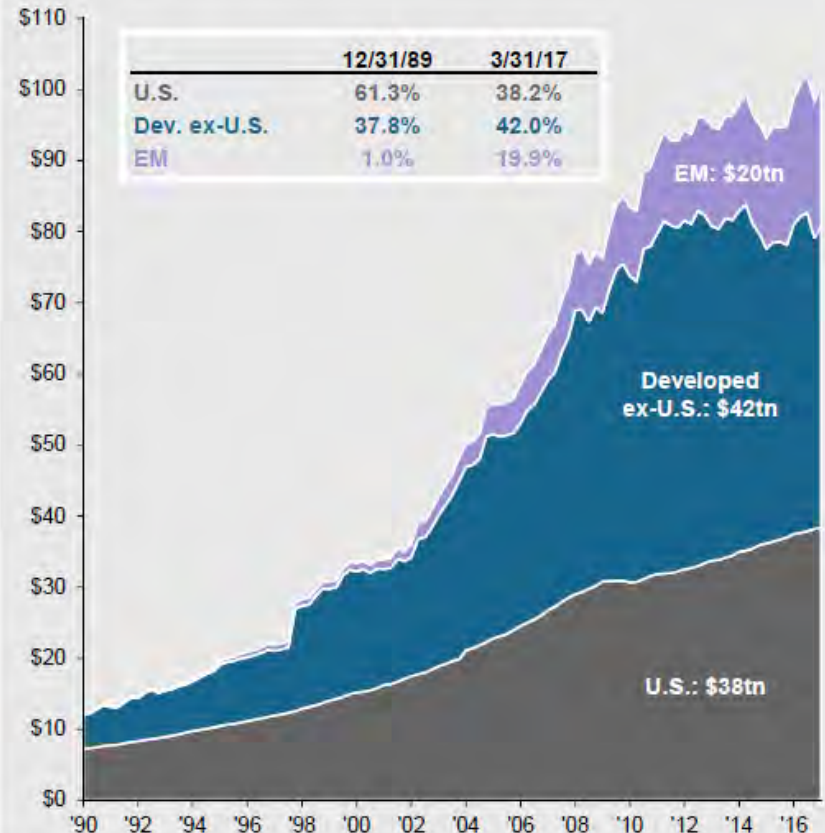
Expect modest investment returns.
Expect higher risk.



Global Bond Market

Aggregates	Yield		2017 YTD Return		Duration	Correl to 10-year
	9/30/2017	6/30/2017	Local	USD		
U.S.	2.55%	2.55%	3.14%	3.14%	6.0 years	0.86
Gbl. ex-U.S.	1.05%	1.06%	-	8.20%	7.6	0.39
Japan	0.21%	0.22%	-0.16%	3.45%	9.1	0.52
Germany	0.42%	0.49%	-1.58%	10.32%	6.2	0.25
UK	1.59%	1.52%	0.33%	8.93%	10.1	0.17
Italy	1.27%	1.34%	0.03%	12.12%	6.6	0.09
Spain	0.89%	0.90%	0.78%	12.95%	6.6	0.12
Sector						
Euro Corp.	0.78%	0.93%	1.76%	14.05%	5.3 years	0.16
Euro HY	3.28%	3.45%	5.58%	18.34%	4.3	-0.37
EMD (\$)	5.19%	5.79%	-	8.99%	6.8	0.22
EMD (LCL)	5.99%	6.79%	8.02%	14.28%	5.1	0.11
EM Corp.	4.43%	5.05%	-	7.23%	5.8	-0.21

Global bond market
USD trillions



Source: J.P. Morgan Asset Management; (Left) FactSet, Barclays, Bloomberg; (Right) BIS.
Fixed income sectors shown above are provided by Barclays and are represented by the global aggregate for each country except where noted. EMD sectors are represented by the J.P. Morgan EMBIG Diversified Index (USD), the J.P. Morgan GBI EM Global Diversified Index (LCL) and the J.P. Morgan CEMBI Broad Diversified Index (Corp). European Corporates are represented by the Barclays Euro Aggregate Corporate Index and the Barclays Pan-European High Yield index. Sector yields reflect yield to worst. Duration is modified duration. Correlations are based on 10 years of monthly returns for all sectors. Past performance is not indicative of future results. Global bond market regional breakdown may not sum to 100% due to rounding.

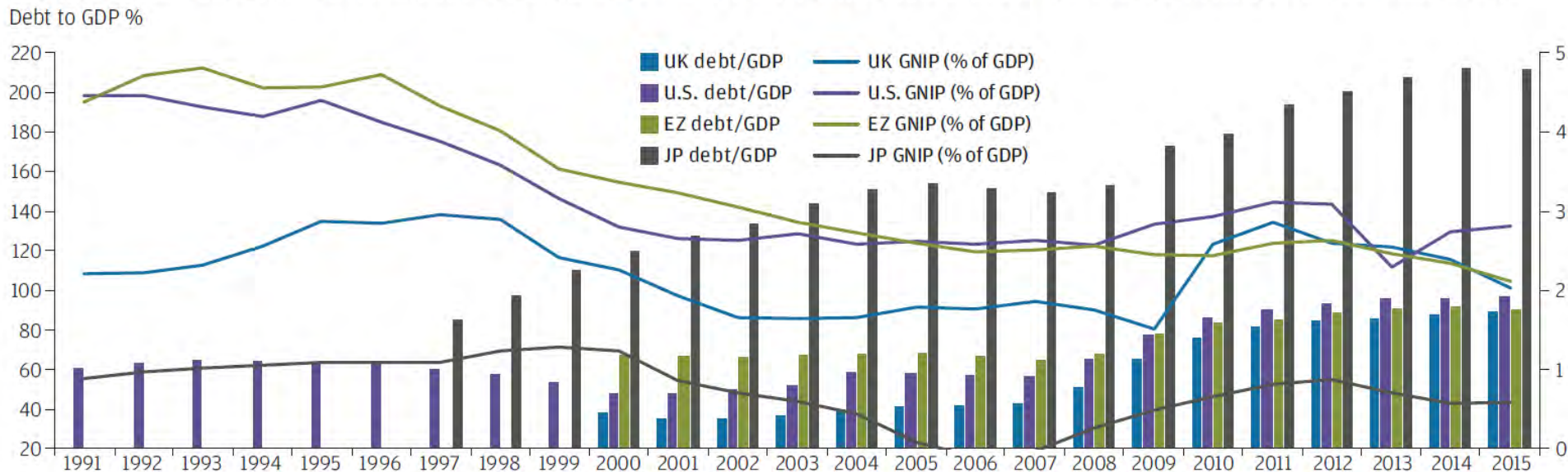
Guide to the Markets – U.S. Data are as of September 30, 2017.

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Debt-to-GDP

EXHIBIT 3: U.S., EUROZONE, UK AND JAPAN SOVEREIGN DEBT-TO-GDP RATIOS AND GOVERNMENT NET INTEREST PAYMENTS (GNIP) (% OF GDP)



Source: Bank for International Settlements, OECD, J.P. Morgan Asset Management Multi-Asset Solutions; data as of August 5, 2016.

