4Q 2018 Update

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Conclusion

- Be careful, risk has risen
- Hopeful for recession over next couple years
  - Recessions remove excesses which are building
  - Absent a recession, leverage may continue to rise which may lead to a more severe recession later on

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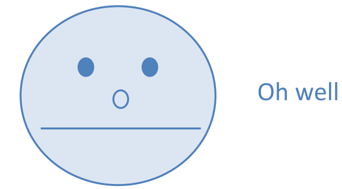
Three end game scenarios

1. Until the last couple months, market was ignoring risk of recession in 2020
   - All normal signs that it is coming…
     - Economy is late cycle and slowing
     - Debt levels have risen
     - Cap ex and M&A have risen
     - Financial markets are optimistic
   - Best scenario as excesses are dealt with and expectations reset to reality
   - De-risking portfolio may be a good idea



2. No recession until 2022
   - Slowing reduces pace of Fed Funds rate increases
   - How?
     - New infrastructure spending package gets people excited again
     - Resolution of trade war makes people less nervous
     - Markets rise, good times continue
     - Government and businesses continue leveraging up, and consumer and banks leverage up
   - End of cycle recession is perhaps quite bad as debt levels and excesses are much worse
   - Stay long, but do not ignore risks

3. No recession for a long time
   - Productivity rises substantially
     - Less regulation gets people excited
     - AI, autonomous cars, biotechnology, big data analytics, etc. fuel 1990s-like productivity growth
   - We can afford rising debt levels since economic growth rises with it
   - Great returns for a long time

Market Overview

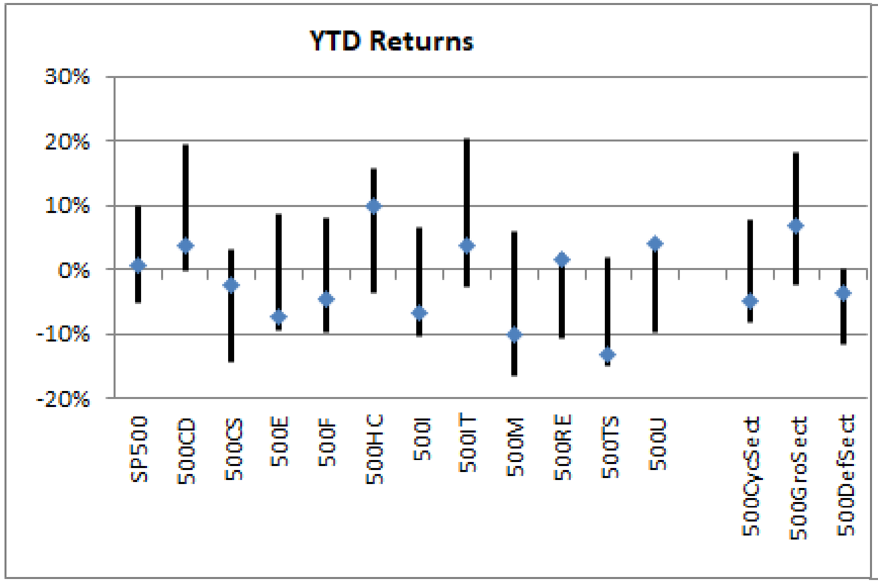
Technology normally outperforms in rising markets, but defensives lead in declines

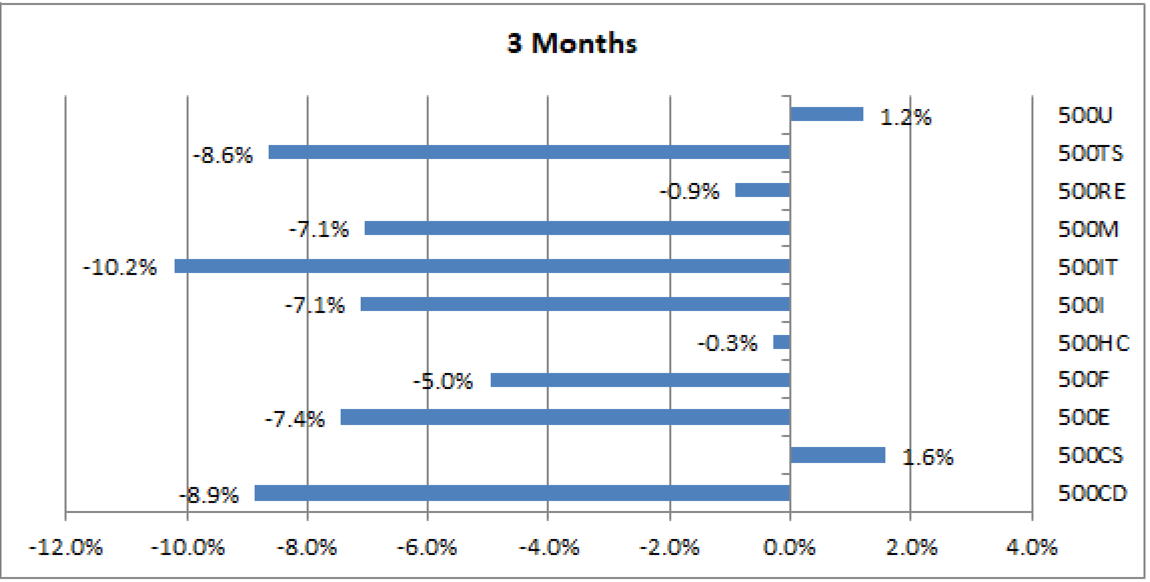
Tech normally outperforms in rising markets, and consumer staples and utilities normally lag

	CD	CS	E	F	HC	I	IT	M	TS	U
% Annual Outperformance	62%	44%	51%	48%	53%	51%	63%	54%	35%	43%
% Outperformance if S&P 500 Up	60%	24%	43%	47%	41%	54%	70%	52%	36%	38%
% Outperformance if S&P 500 Down	66%	95%	72%	52%	83%	45%	45%	58%	33%	56%
Difference	-5.3%	-71.5%	-28.6%	-4.6%	-42.0%	8.3%	24.8%	-5.4%	3.2%	-17.8%
	S&P 500									
% Annual Periods Up	72%									

Source: Spellman, FactSet; last 19 years, annual returns measured monthly.

So recent defensive (staples, utilities, health care) outperformance is not surprising

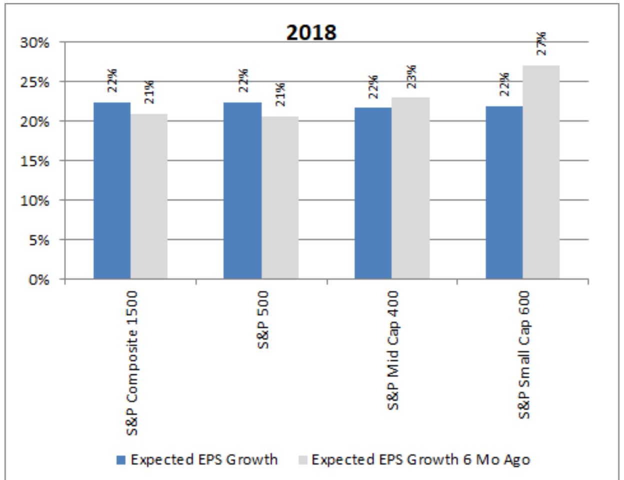


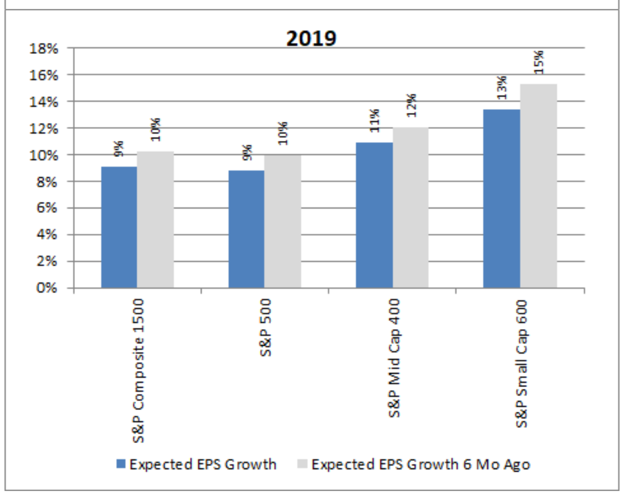


Source: Spellman, FactSet, chart data through 11/19/2018, CD = Consumer Discretionary, CS = Consumer Staples, E = Energy, F = Financials, I = Industrials, IT = Information Technology, M = Materials, RE = Real Estate, TS = Telecommunication Services, U = Utilities, table data is for last 19 years through October 2018 with annual returns measured monthly, data is for S&P 500 sectors.

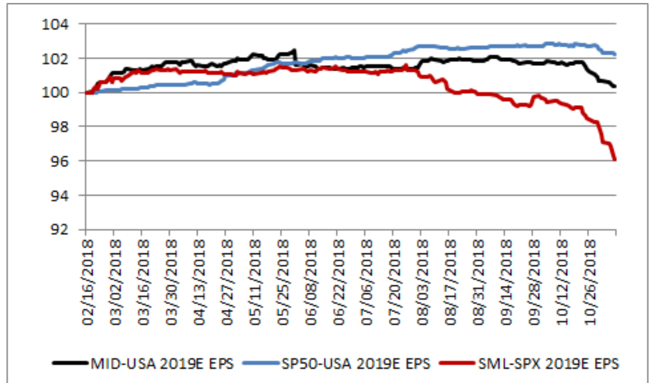
2018 growth robust, but slowing in 2019 and revisions turning negative

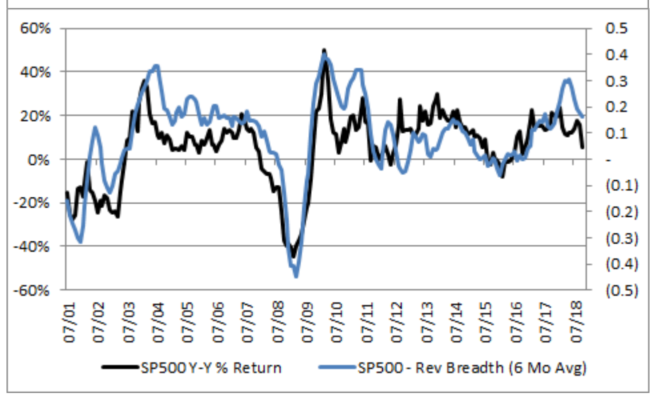
Small cap leading charge due to domestic base and biggest beneficiary of tax cut



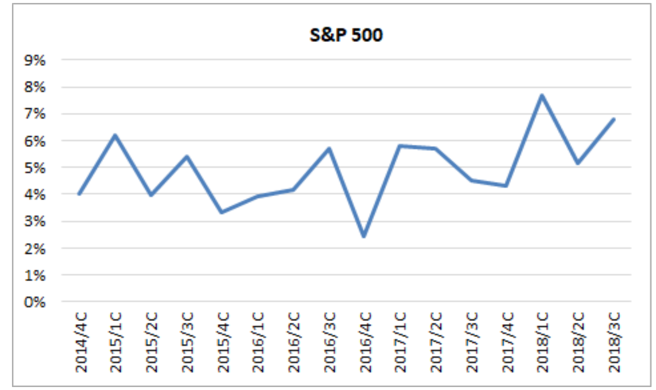


But small cap revisions most negative and revisions correlated with returns

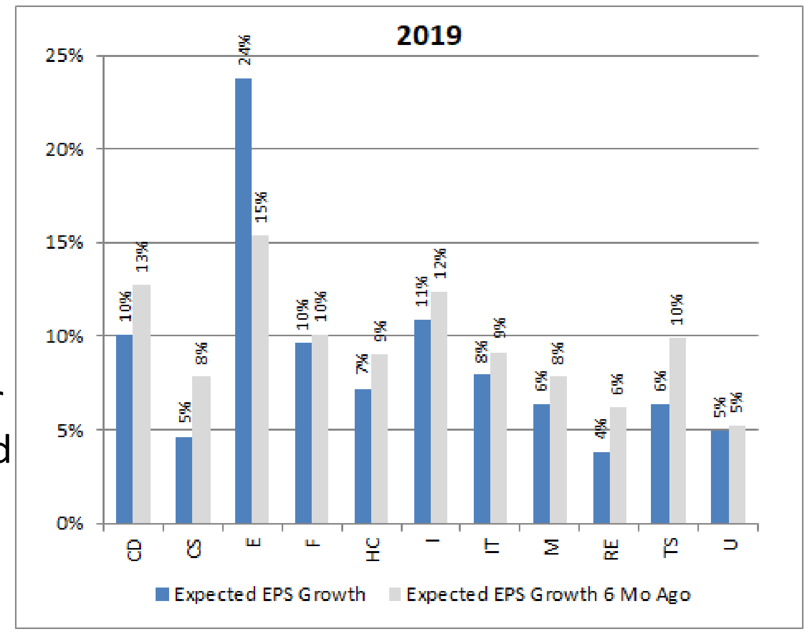




And surprises still strong



Cyclicals (energy, consumer discretionary, financials, and industrials) expected to produce highest growth in 2019



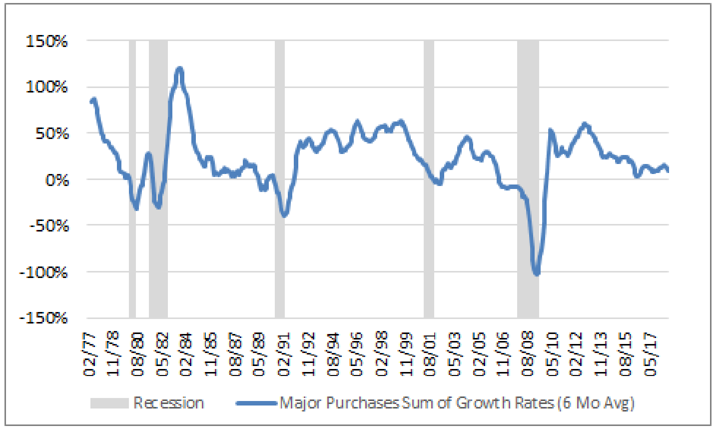
Source: Spellman, FactSet.

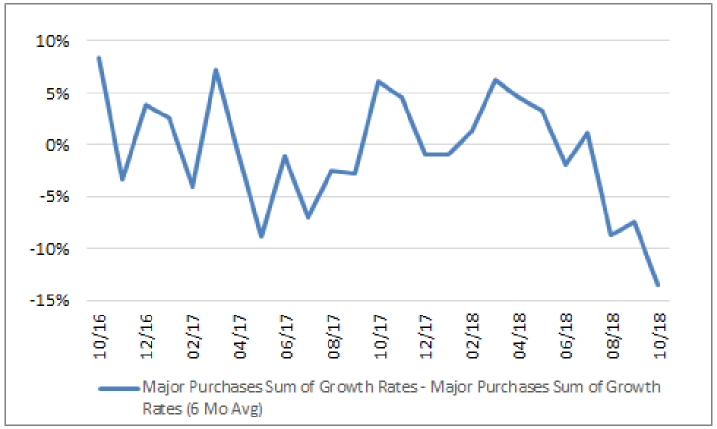
Big ticket items are SLOWING!

When people get nervous, they may think twice about big ticket purchases (home, auto, vacations by air, and computer stuff)

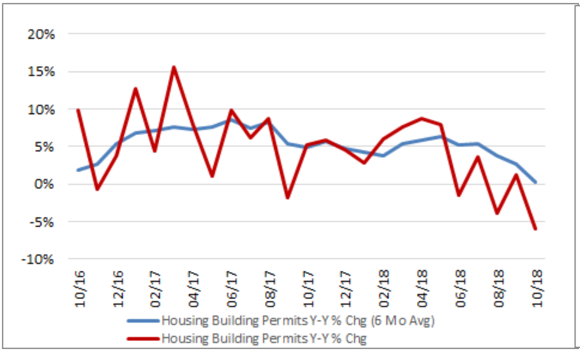
October growth rate = -4.6%, down from 18.8% in March

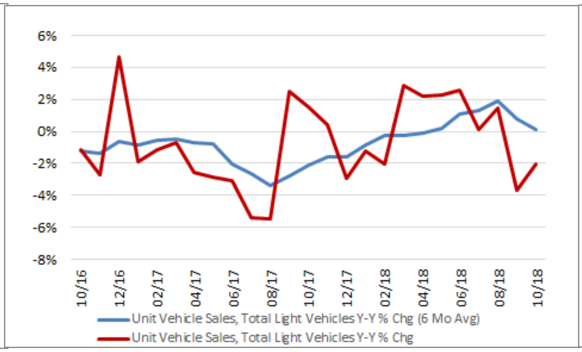
Six month average growth rate 8.8%, down from 15.8% in July → declines to about zero before recessions

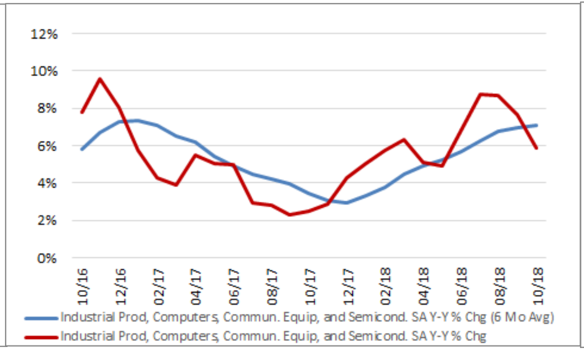


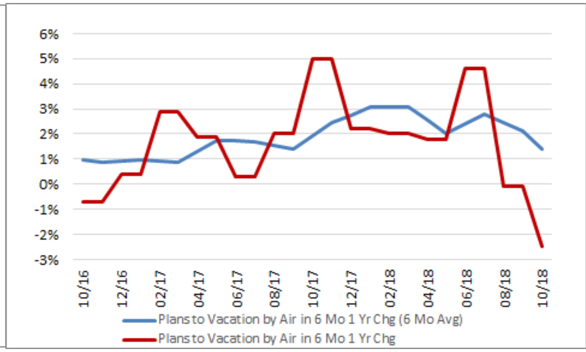


Weakness across the board





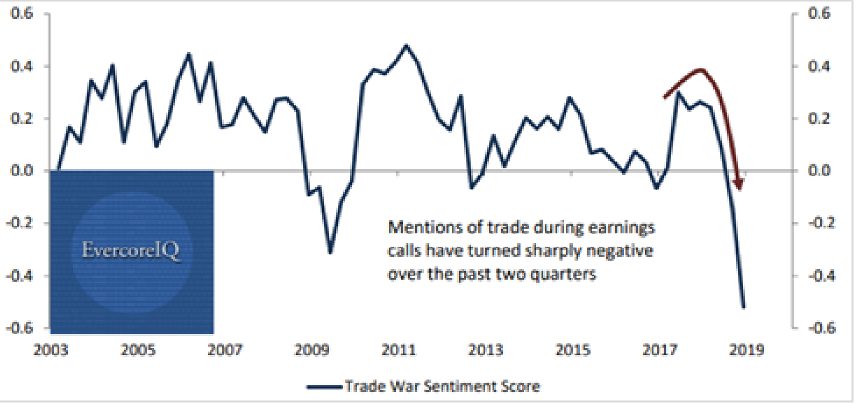


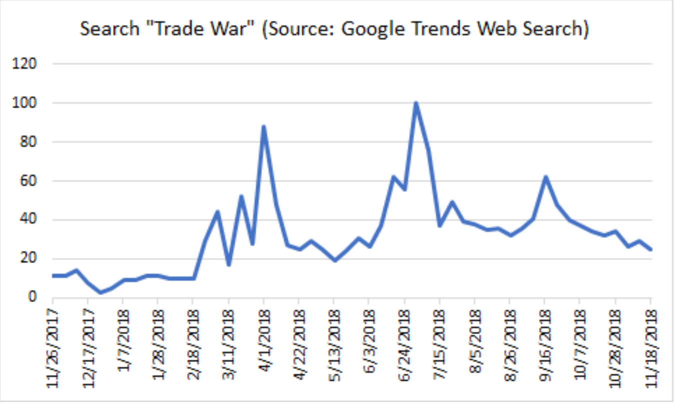


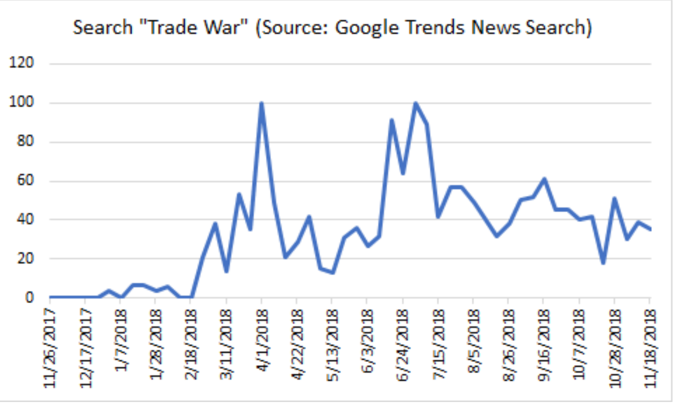
Source: Spellman, FactSet, BEA, Conference Board, ECRI, Federal Reserve System, and US Census Bureau.

Trade war does not help

- The trade war is making people nervous
  - Impacts sentiment
  - Impacts spending
  - Impacts markets







- So far, about $250 billion of goods will be tariffed at 25% by the end of the year
  - US imports $506 billion/$483 billion from China and exports $130 billion/$116 billion in 2017/2015
  - US affiliates in China sell $481 billion while Chinese US affiliates sell $26 billion in the US in 2015
  - **Net sales** of US to China (2015) is $597 billion vs China's sales to US is $509 billion, **or $88 billion in the US favor**
    - **Conclusion: China has ample opportunity to pressure US, and it may be easy for them to implement policy**

Source: Spellman, Google, Evercore ISI, Congressional Research Service report to Congress (https://fas.org/sgp/crs/row/RL33536.pdf), Information Office of State Council, The People's Republic of China (http://www.scio.gov.cn/zfbps/32832/Document/1638289/Image/201809251638289_336183.doc).

Why matters? Higher inflation and/or lower profits

Higher inflation leads to a more aggressive Fed and worry of recession while lower profits also hurts corporate outlook and financial markets

9% drop in business profits if they eat the costs

- Business about 85% of GDP ($17 trillion / $20 trillion) so impact is $110 billion ($125 billion * 85%)
- Net income = 7% * $17 trillion = $1.2 trillion
- Hit to income is 9% ($110 billion trillion / $1.2 trillion)
  - Ignores lost income from retaliation on US companies in China, lost export sales on products with tariffs in China, slowing Chinese and world growth, etc.

Data and Assumption:

US GDP = $20 trillion

Chinese imports = $500 billion

Business GDP = $17 trillion

7% estimated net profit margin

25% tariff on all imports is max, but US could influence allies to partner against China

0.6% jump in inflation if costs passed on to consumers

- $500 billion imports * 25% = $125 billion in tariffs
- $125 billion / $20 trillion economy = 0.6% rise in inflation

Correction Dynamics

Asset return leadership changes frequently

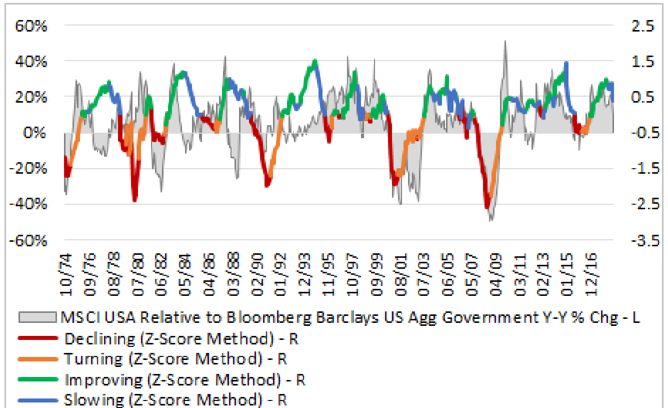
Commodities best in 2018, gold and bonds and gold worst

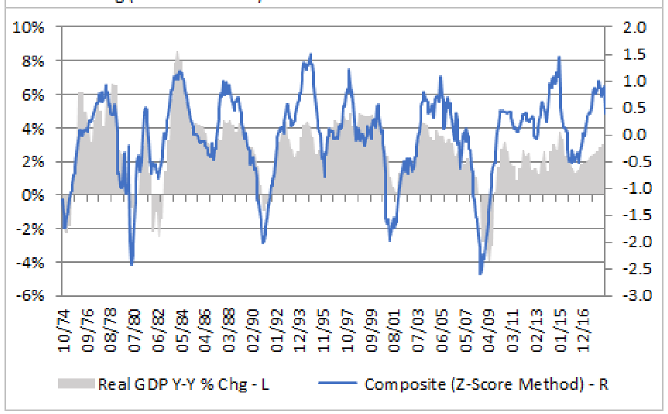
2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	10/18
Russell 2000 TR	WTI	WTI	FTSE NAREIT REITs TR	WTI	BB US Agg Gov TR	WTI	Gold	Gold	FTSE NAREIT REITs TR	Russell 2000 TR	FTSE NAREIT REITs TR	Nom TW Dollar, Major	WTI	Russell 200 TR	WTI
47%	34%	40%	34%	57%	12%	78%	30%	10%	20%	39%	27%	16%	45%	23%	8%
FTSE NAREIT REITs TR	FTSE NAREIT REITs TR	GSCI	Gold	GSCI	Gold	BB US Agg High Yield TR	FTSE NAREIT REITs TR	WTI	Russell 1000 TR	Russell 3000 TR	Russell 200 TR	Russell 200 TR	GSCI	Russell 1000 TR	Russell 200 TR
38%	30%	39%	23%	41%	6%	58%	28%	10%	16%	34%	13%	2%	28%	22%	4%
Russell 3000 TR	GSCI	Gold	Russell 2000 TR	Gold	Nom TW Dollar, Major	GSCI	Russell 2000 TR	BB US Agg Gov TR	Russell 3000 TR	Russell 1000 TR	Russell 1000 TR	FTSE NAREIT REITs TR	Russell 2000 TR	Russell 3000 TR	GSCI
31%	19%	18%	18%	31%	-4%	50%	27%	9%	16%	33%	13%	2%	21%	21%	3%
Russell 1000 TR	Russell 2000 TR	FTSE NAREIT REITs TR	Russell 3000 TR	BB US Agg Gov TR	BB US Agg High Yield TR	Russell 1000 TR	GSCI	FTSE NAREIT REITs TR	Russell 2000 TR	Russell 200 TR	Russell 3000 TR	Russell 1000 TR	BB US Agg High Yield TR	Russell 2000 TR	Russell 1000 TR
30%	18%	8%	16%	9%	-26%	28%	20%	7%	16%	32%	13%	1%	17%	15%	3%
BB US Agg High Yield TR	Russell 3000 TR	Russell 1000 TR	Russell 200 TR	Russell 200 TR	Russell 2000 TR	Russell 3000 TR	Russell 3000 TR	BB US Agg High Yield TR	Russell 200 TR	BB US Agg High Yield TR	BB US Agg Gov TR	BB US Agg Gov TR	Russell 3000 TR	Gold	Russell 3000 TR
29%	12%	6%	16%	6%	-34%	28%	17%	5%	16%	7%	5%	1%	13%	14%	2%
Russell 200 TR	Russell 1000 TR	Russell 3000 TR	Russell 1000 TR	Russell 1000 TR	Russell 200 TR	FTSE NAREIT REITs TR	Russell 1000 TR	Russell 200 TR	BB US Agg High Yield TR	WTI	Russell 2000 TR	Russell 3000 TR	Russell 1000 TR	WTI	BB US Agg High Yield TR
27%	11%	6%	15%	6%	-36%	27%	16%	3%	16%	7%	5%	0%	12%	12%	1%
Gold	BB US Agg High Yield TR	Russell 2000 TR	BB US Agg High Yield TR	Russell 3000 TR	Russell 3000 TR	Russell 2000 TR	BB US Agg High Yield TR	GSCI	Gold	FTSE NAREIT REITs TR	Nom TW Dollar, Major	Russell 2000 TR	Russell 200 TR	GSCI	Nom TW Dollar, Major
20%	11%	5%	12%	5%	-37%	27%	15%	2%	7%	3%	3%	-4%	11%	11%	0%
GSCI	Russell 200 TR	Russell 200 TR	BB US Agg Gov TR	BB US Agg High Yield TR	FTSE NAREIT REITs TR	Russell 200 TR	WTI	Russell 1000 TR	Nom TW Dollar, Major	Nom TW Dollar, Major	BB US Agg High Yield TR	BB US Agg High Yield TR	FTSE NAREIT REITs TR	FTSE NAREIT REITs TR	Russell 2000 TR
11%	8%	4%	3%	2%	-37%	24%	13%	2%	4%	3%	2%	-4%	9%	9%	-1%
WTI	Gold	BB US Agg High Yield TR	GSCI	Russell 2000 TR	Russell 1000 TR	Gold	Russell 200 TR	Russell 3000 TR	BB US Agg Gov TR	GSCI	Gold	Gold	Gold	BB US Agg High Yield TR	FTSE NAREIT REITs TR
4%	5%	3%	0%	-2%	-38%	24%	12%	1%	2%	-2%	-1%	-10%	8%	8%	-1%
BB US Agg Gov TR	BB US Agg Gov TR	BB US Agg Gov TR	WTI	Nom TW Dollar, Major	GSCI	Nom TW Dollar, Major	BB US Agg Gov TR	Russell 2000 TR	GSCI	BB US Agg Gov TR	GSCI	GSCI	BB US Agg Gov TR	BB US Agg Gov TR	BB US Agg Gov TR
2%	3%	3%	0%	-6%	-43%	4%	6%	-4%	0%	-3%	-34%	-25%	1%	2%	-2%
Nom TW Dollar, Major	Nom TW Dollar, Major	Nom TW Dollar, Major	Nom TW Dollar, Major	FTSE NAREIT REITs TR	WTI	BB US Agg Gov TR	Nom TW Dollar, Major	Nom TW Dollar, Major	WTI	Gold	WTI	WTI	Nom TW Dollar, Major	Nom TW Dollar, Major	Gold
-12%	-8%	-2%	-2%	-18%	-54%	-2%	-3%	-6%	-7%	-28%	-46%	-31%	1%	-1%	-7%

Source: Spellman, FactSet, Barclays, CRB, Federal Reserve, FTSE NAREIT, Russell, S&P GSCI.

Now… risk-off as economy moving to slowing …

Economic model (line) slowing

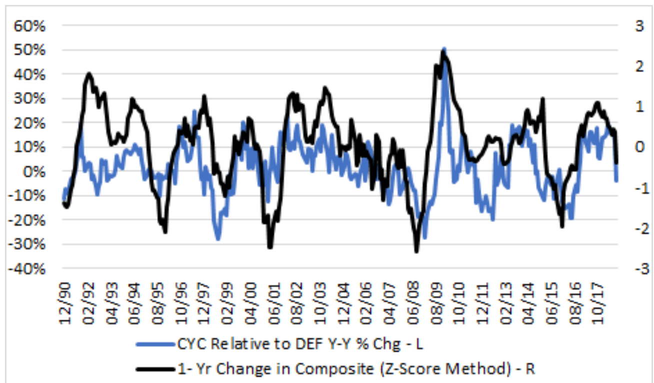




When defensives perform best

Sector	Cycle Model
Consumer Discretionary	0.54
Consumer Staples	0.19
Energy	0.37
Financials	0.48
HealthCare	0.36
Industrials	0.54
Information Technology	0.55
Materials	0.41
Telecommunication Services	0.44
Utilities	0.34

… And recently defensives destroyed cyclicals



Risk-on to risk-off last few months

Returns				
Risk-on asset		Risk-off asset		Difference
Russell 3000		Bloom Barclays US Agg Gov		
12 Mo	6.60%	12 Mo	-1.92%	8.51%
3 Mo	-3.95%	3 Mo	-0.63%	-3.32%
1 Mo	-7.36%	1 Mo	-0.47%	-6.90%
MTD	-2.03%	MTD	#N/A	#N/A
Russell 3000 Growth		Russell 3000 Value		
12 Mo	10.20%	12 Mo	2.78%	7.41%
3 Mo	-3.90%	3 Mo	-4.00%	0.10%
1 Mo	-9.23%	1 Mo	-5.46%	-3.77%
MTD	-4.03%	MTD	-0.07%	-3.95%
Russell 2000		Russell 200		
12 Mo	1.85%	12 Mo	8.64%	-6.79%
3 Mo	-9.26%	3 Mo	-2.51%	-6.75%
1 Mo	-10.86%	1 Mo	-6.60%	-4.26%
MTD	-1.44%	MTD	-2.53%	1.09%
Bloom Barclays US Agg HY		Bloom Barclays US Agg Gov		
12 Mo	0.97%	12 Mo	-1.92%	2.89%
3 Mo	-0.32%	3 Mo	-0.63%	0.31%
1 Mo	-1.60%	1 Mo	-0.47%	-1.13%
MTD	#N/A	MTD	#N/A	#N/A
Cyclical Stocks		Defensive Stocks		
12 Mo	7.46%	12 Mo	3.89%	3.57%
3 Mo	4.92%	3 Mo	7.21%	-2.29%
1 Mo	0.08%	1 Mo	1.70%	-1.62%
MTD	-9.29%	MTD	-2.17%	-7.12%
Russell 3000		FTSE NAREIT		
12 Mo	6.60%	12 Mo	1.63%	4.97%
3 Mo	-3.95%	3 Mo	-2.70%	-1.25%
1 Mo	-7.36%	1 Mo	-2.62%	-4.74%
MTD	-2.03%	MTD	2.51%	-4.54%
MSCI EM		MSCI AC World		
12 Mo	-8.53%	12 Mo	1.28%	-9.81%
3 Mo	-9.28%	3 Mo	-5.28%	-4.01%
1 Mo	-7.77%	1 Mo	-6.89%	-0.88%
MTD	1.16%	MTD	-1.47%	2.63%
GSCI		Gold		
12 Mo	9.92%	12 Mo	-4.32%	14.24%
3 Mo	-1.83%	3 Mo	-0.93%	-0.90%
1 Mo	-6.16%	1 Mo	1.75%	-7.91%
MTD	-7.49%	MTD	1.11%	-8.61%

Notes: 12 Mo, 3, Mo, and 1 Mo through last completed month, MTD return since last completed month.

Source: Spellman, FactSet, Barclays, BEA, CRB, Federal Reserve, FTSE NAREIT, MSCI, Russell, S&P, S&P GSCI, cyclical includes consumer discretionary, energy, financials, information technology, industrials, and materials, whereas defensive includes consumer staples, health care, telecommunications services, and utilities.

Correction was reasonable given all markets at extremes

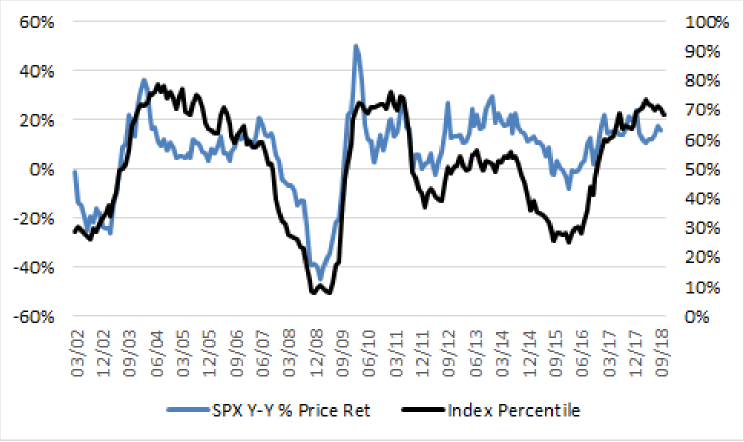
- S&P positively or negatively correlated with 13 variables
  - 11 of 13 pointing in same "up" direction
    - Exceptions HY - 10-Yr and dollar
    - 12 in September (exception was dollar)
  - Overall composite level *very* lofty
    - Positively correlated with returns

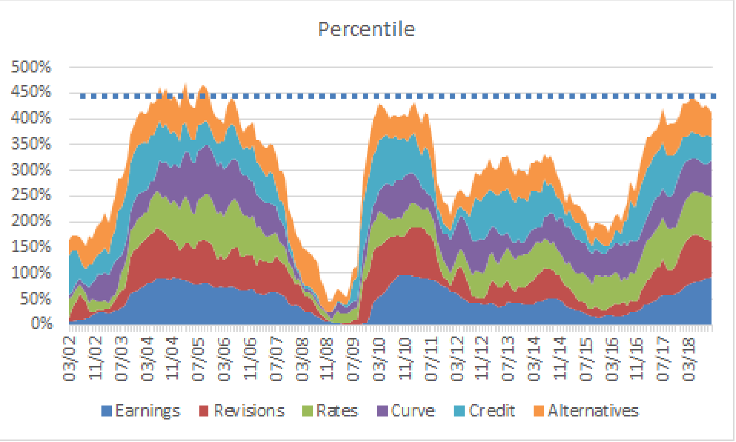
Components of composite

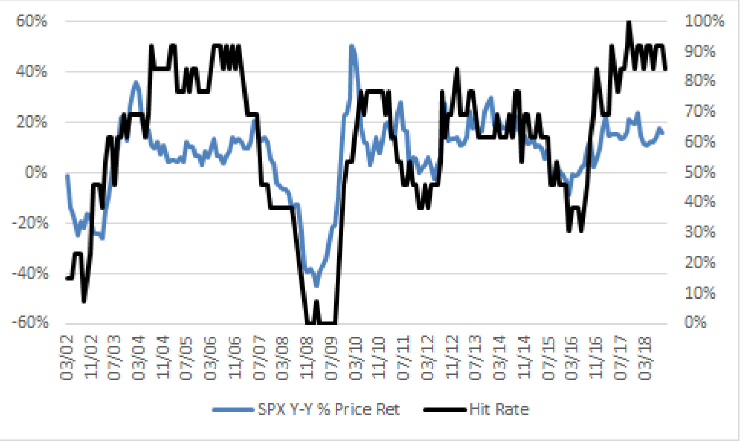
100.0%	Total
13.3%	SPX Y-Y % LTM EPS Growth
13.3%	SPX Y-Y % NTM EPS Growth
13.3%	SPX (Up-Down)/(Up+Down) 6 Mo Avg
3.3%	Y-Y Chg 10-Yr Treasury
3.3%	Y-Y Chg 2-Yr Treasury
3.3%	Y-Y Chg Fed Funds
3.3%	Y-Y Chg in 10-Yr-Fed Funds
3.3%	Y-Y Chg in 10-2 Yr Treasury
3.3%	Y-Y Chg in Fed Funds - Core CPI
20.0%	Y-Y Chg in HY - 10-Yr Treasury
6.7%	Dollar Broad Y-Y % Chg
6.7%	GSCI Price Y-Y % Chg
6.7%	Gold Y-Y % Chg

Correlation to SPX Y-Y % change

Since 02/01	SPX Y-Y % Price Ret
SPX Y-Y % Price Ret	1.00
SPX Y-Y % LTM EPS Growth	0.51
SPX Y-Y % NTM EPS Growth	0.71
SPX (Up-Down)/(Up+Down) 6 Mo Avg	0.77
Y-Y Chg 10-Yr Treasury	0.60
Y-Y Chg 2-Yr Treasury	0.63
Y-Y Chg Fed Funds	0.63
Y-Y Chg in 10-Yr - Fed Funds	(0.37)
Y-Y Chg in 10-2 Yr Treasury	(0.33)
Y-Y Chg in Fed Funds - Core CPI	0.62
Y-Y Chg in HY - 10-Yr Treasury	(0.71)
Dollar Broad Y-Y % Chg	(0.41)
GSCI Price Y-Y % Chg	0.35
Gold Y-Y % Chg	(0.02)



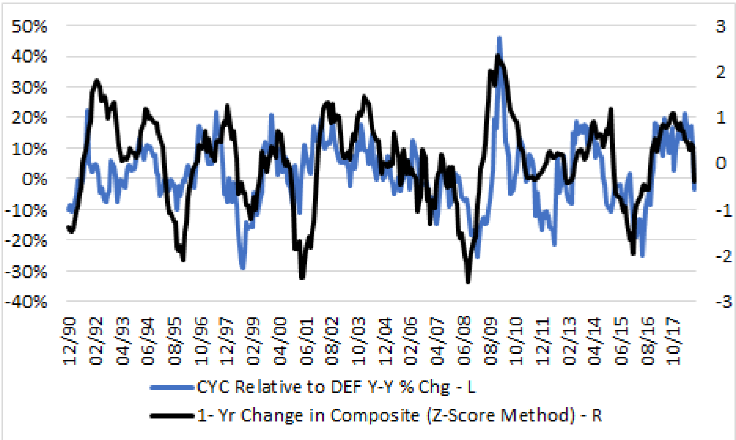




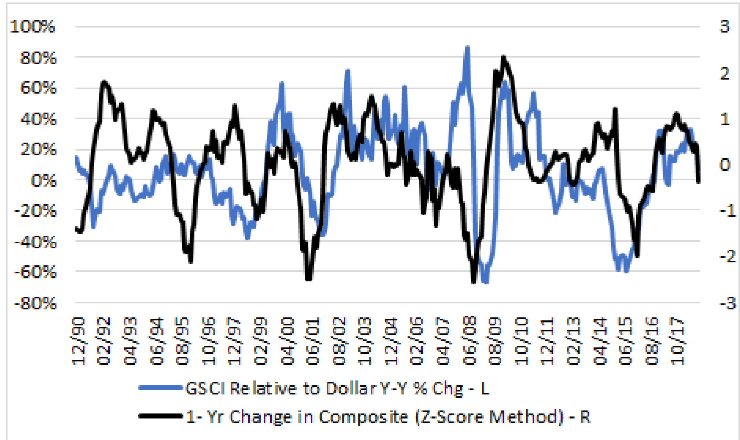
Source: Spellman, FactSet, Federal Reserve System, Merrill Lynch Fixed Income, S&P GSCI, U.S. Department of Labor.

Markets were very extended!

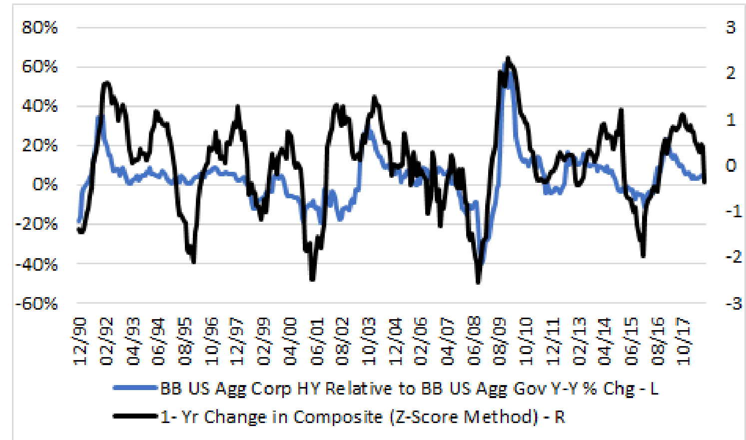
Cyclicals were roaring!



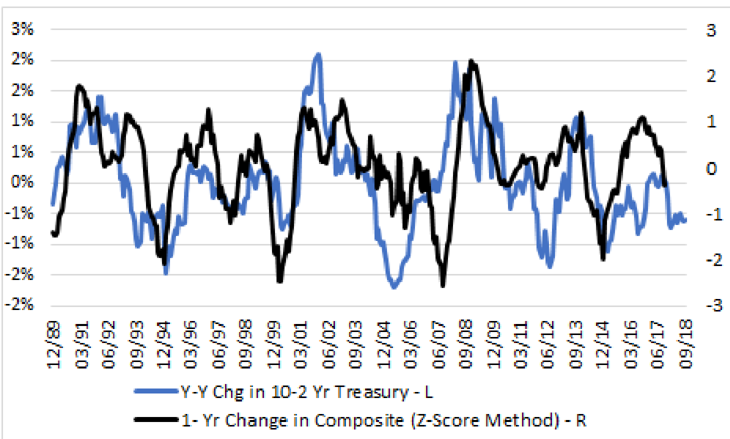
Commodities were strong



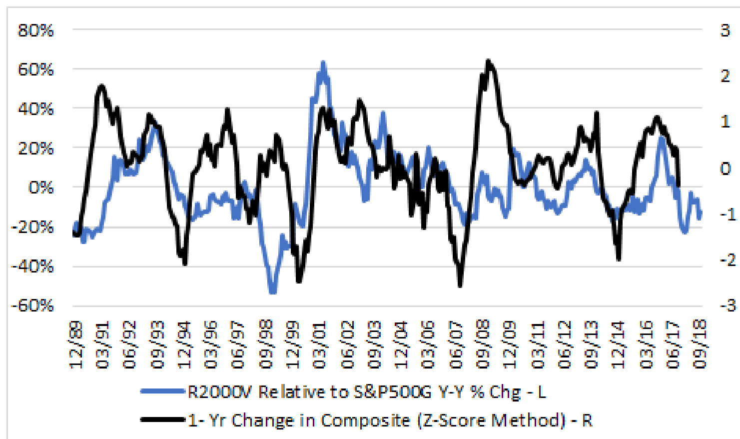
Corporate bonds were outperforming governments



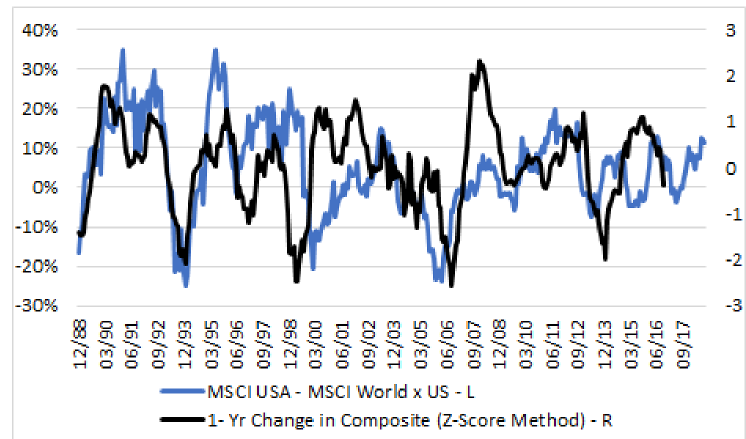
Yield curve was saying watch out (leads economy by 12 mo)



Small value predicted (12 mo lead) the slowdown



US stocks outperform world (lead economy by 24 mo)

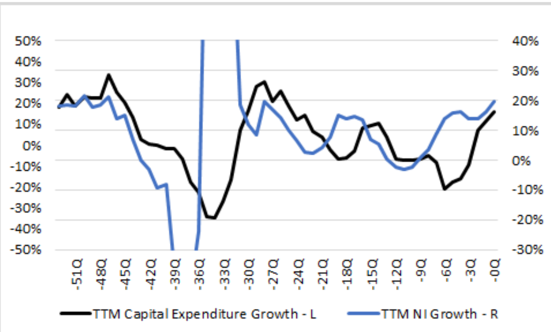


Source: Spellman, FactSet, see https://coachinvesting.com/2018/07/15/tactical-allocation-over-the-cycle/.

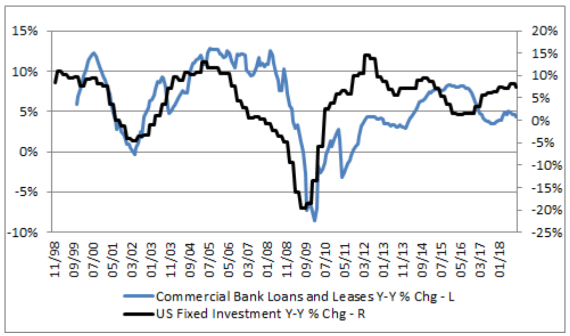
Corporations excited as well

- Growth in cap ex, M&A, and IPO activity, but lending moderate

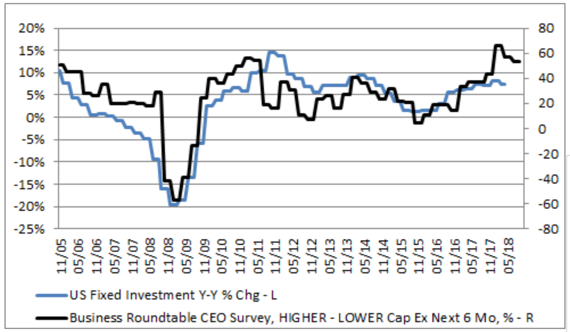
Cap ex growth high (follows earnings)



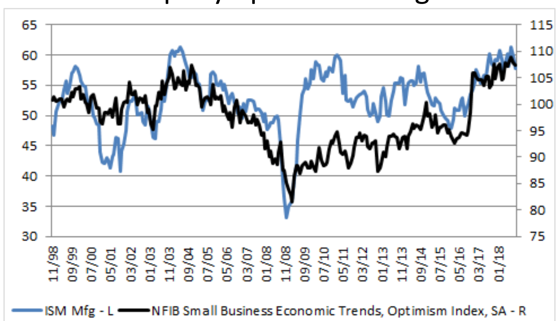
Loan growth follows cap ex and is moderate



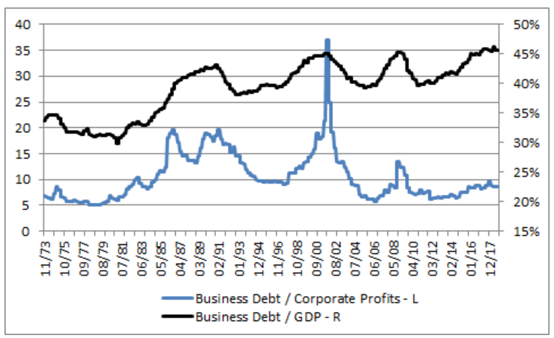
Optimism (high) leads investment



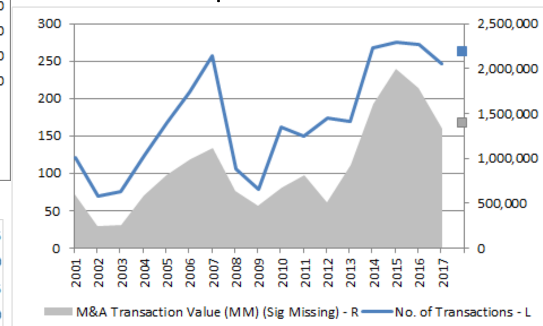
Company optimism is high



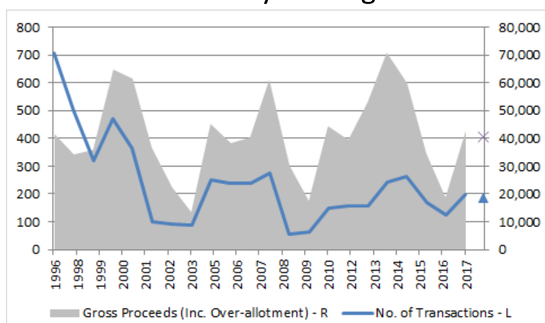
Which may explain willingness to borrow



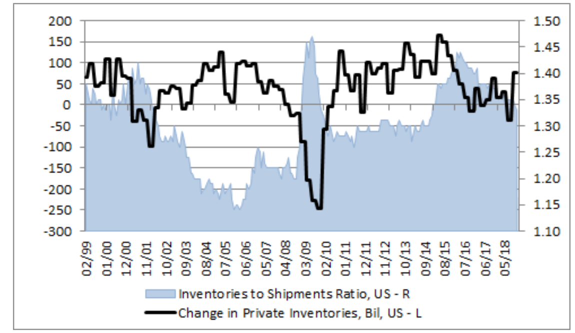
Large M&A on pace for close to record despite ample PE funding for private companies and drop in number of public firms



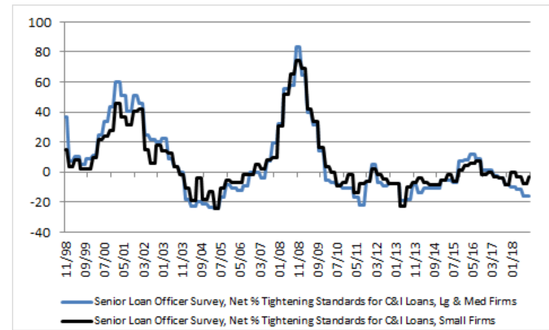
IPO activity coming back



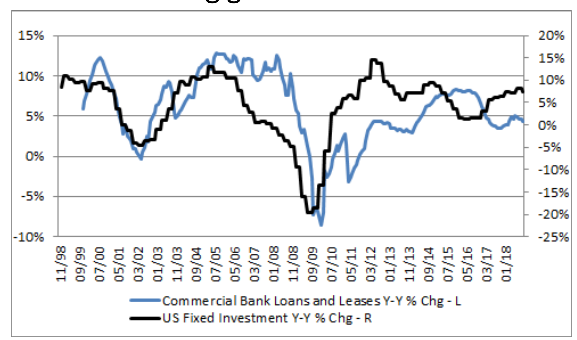
Inventory growth rebounding (improving I/S)



Lenders bullish



Lending growth moderate

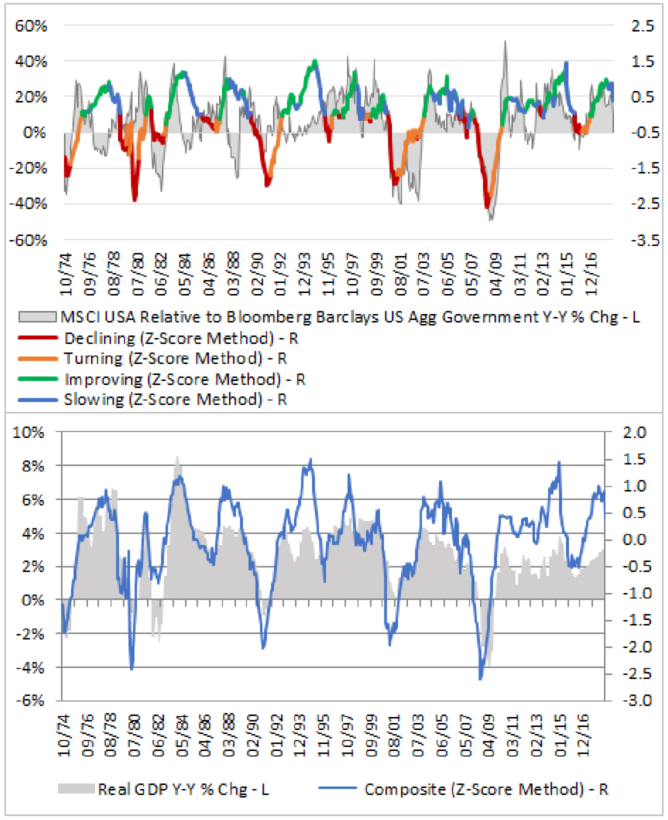


Source: Spellman, FactSet, BEA, Business Roundtable, Federal Reserve System, ISM, NFIB - National Federation of Independent Business, US Census Bureau.

Economic and Earnings Trends

Business, consumer, and credit deteriorating

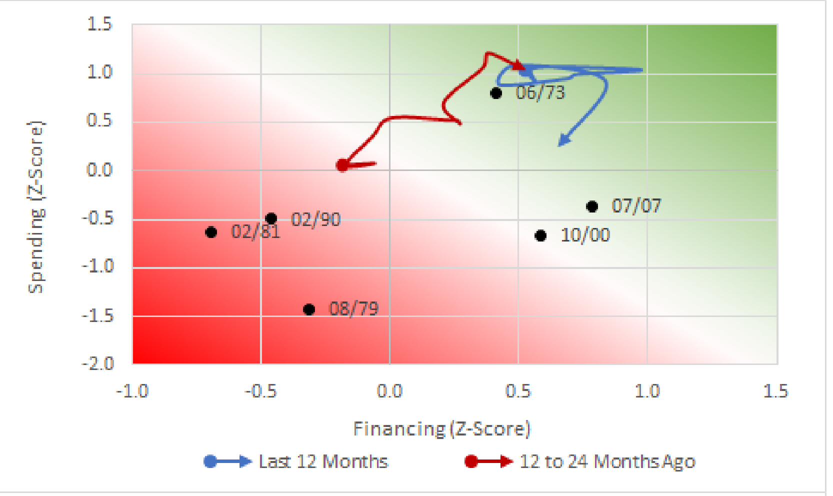
Movement to slowing when stock advantage wanes versus bonds



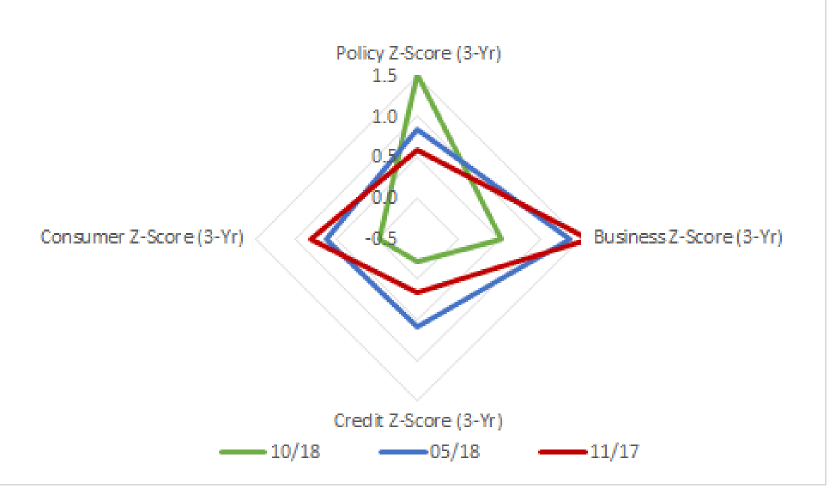
Economic model has 18 components across business, consumer, credit, and monetary policy

Dots show six months prior to recessions, line is path over last two years → moving to warning

(financing = policy/credit, spending = business/consumer)



Business, consumer, and credit have deteriorated, while policy looks late cycle (hot)

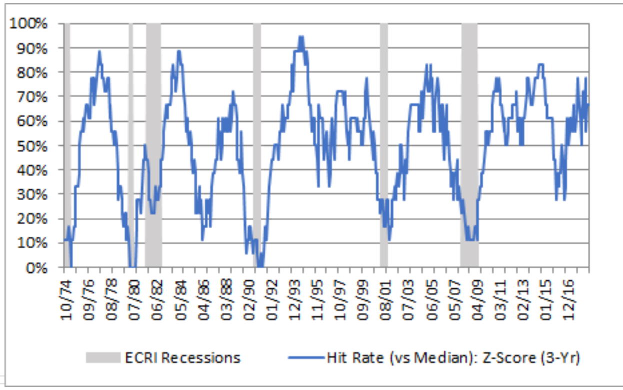


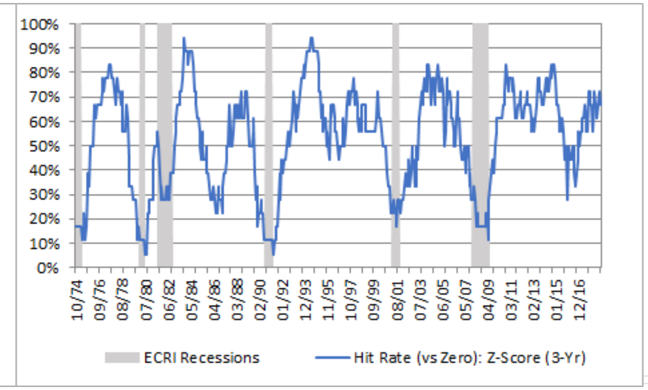
Source: Spellman, see https://coachinvesting.com/2018/01/31/positioning-the-cycle/ for description of the economic model.

18 variables in model - seven well positive, eight close to neutral, three negative

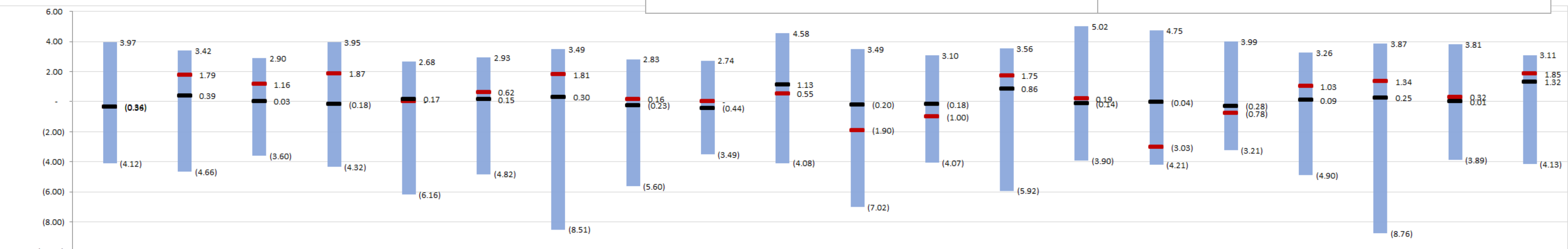
- Indicating economic strength
  - M2 growth - GDP growth
  - Fed funds - inflation
  - Capacity utilization
  - Consumer confidence
  - 3-mo DPI
  - Savings rate
  - Unemployment rate
- Indicating economic weakness
  - Consumer credit debt outstanding
  - Commercial loans/leases
  - Retail sales

Model peaks with hit rate at 70-85%, current = 67%, WAS AS HIGH AS 72%





Since 4/87

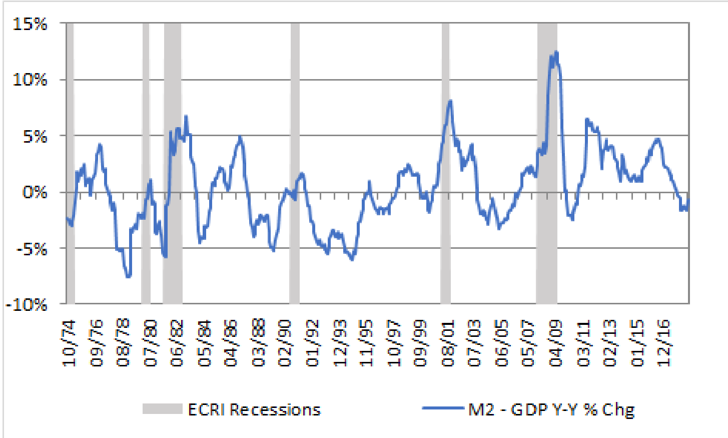


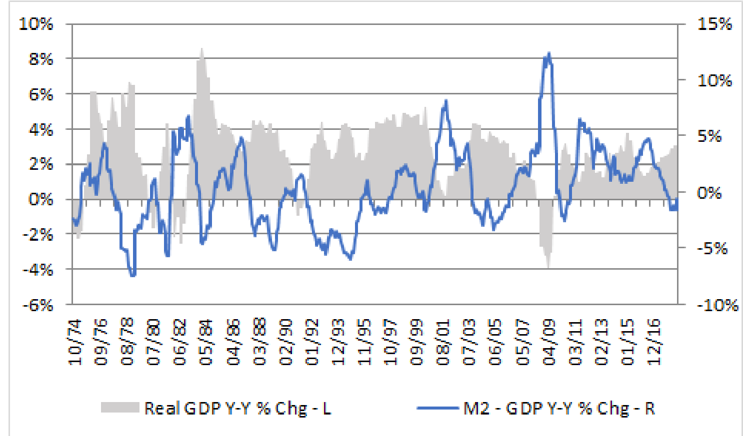
	Nominal GDP Y-Y % Chg Z-Score (3-Yr)	M2 Y-Y % Chg Z-Score (3-Yr)	M2 - GDP Y-Y % Chg Z-Score (3-Yr)	Fed Funds Target - Inflation Rate Z-Score (3-Yr)	IP Growth-US Z-Score (3-Yr)	ISM (NAPM) Index, Manufacturing Z-Score (3-Yr)	Capacity Utilization, Total, SA, Percent - United States Z-Score (3-Yr)	Private Inv, Fixed, Nonres, Equipment Y-Y % Chg Z-Score (3-Yr)	6 Mo Avg Senior Loan Officer, Net % Increase Willingness Cons Install Loan Z-Score (3-Yr)
Current	(0.34)	1.79	1.16	1.87	-	0.62	1.81	0.16	-
12-Month Ago	(1.02)	1.84	1.61	(0.37)	1.45	1.75	0.28	2.34	0.16
25% Percentile	(0.97)	(1.12)	(1.24)	(1.17)	(1.03)	(0.98)	(1.02)	(1.49)	(1.43)
Median	(0.36)	0.39	0.03	(0.18)	0.17	0.15	0.30	(0.23)	(0.44)
75% Percentile	1.28	1.18	1.14	0.79	0.92	1.09	1.30	1.08	0.94
Max	3.97	3.42	2.90	3.95	2.68	2.93	3.49	2.83	2.74
Min	(4.12)	(4.66)	(3.60)	(4.32)	(6.16)	(4.82)	(8.51)	(5.60)	(3.49)

	Business Debt / GDP Z-Score (3-Yr)	Debt Outstanding Consumer Credit Y-Y % Chg Z-Score (3-Yr)	Commercial Bank Loans and Leases Y-Y % Chg Z-Score (3-Yr)	Consumer Confidence Index, Index - United States Z-Score (3-Yr)	3 Mo Avg Consumer Confidence US Y-Y % Chg Z-Score (3-Yr)	Sales of Retail Stores Y-Y % Chg Z-Score (3-Yr)	3 Mo Avg Y-Y Growth in Housing Starts Z-Score (3-Yr)	3 Mo Avg DPI Y-Y % Chg Z-Score (3-Yr)	Savings Rate Percent of Disposable Income Z-Score (3-Yr)	DPI Per Capita Y-Y % Chg - Inflation Rate Z-Score (3-Yr)	Unemployment Rate, U-3, SA, Percent - United States - L Z-Score (3-Yr)
Current	0.55	(1.90)	(1.00)	1.75	0.19	(3.03)	(0.78)	1.03	1.34	0.32	1.85
12-Month Ago	1.05	(0.09)	(2.22)	2.26	0.70	0.19	(1.10)	0.49	1.11	(0.20)	2.01
25% Percentile	(0.91)	(1.35)	(1.13)	(0.69)	(0.81)	(1.06)	(1.11)	(0.85)	(0.65)	(0.85)	(0.70)
Median	1.13	(0.20)	(0.18)	0.86	(0.14)	(0.04)	(0.28)	0.09	0.25	0.01	1.32
75% Percentile	1.66	0.87	1.01	1.56	0.61	0.77	0.84	0.91	0.95	0.74	1.76
Max	4.58	3.49	3.10	3.56	5.02	4.75	3.99	3.26	3.87	3.81	3.11
Min	(4.08)	(7.02)	(4.07)	(5.92)	(3.90)	(4.21)	(3.21)	(4.90)	(8.76)	(3.89)	(4.13)

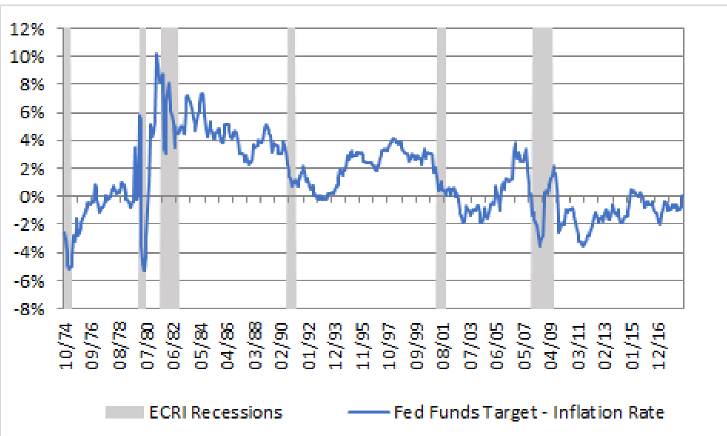
Economic model: policy variables putting on the brakes

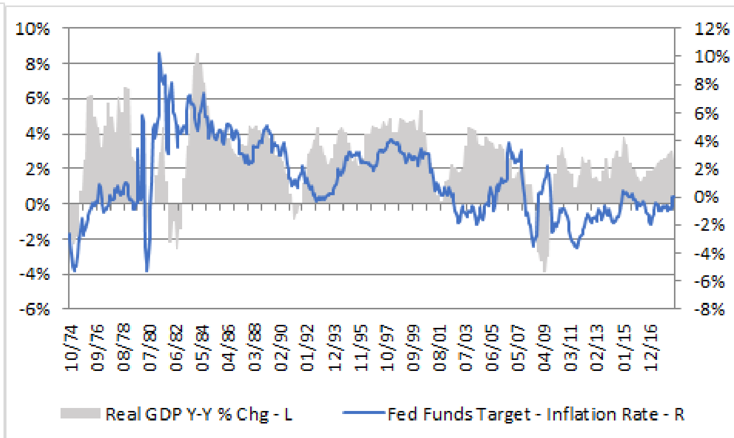
Money supply growing slower than GDP

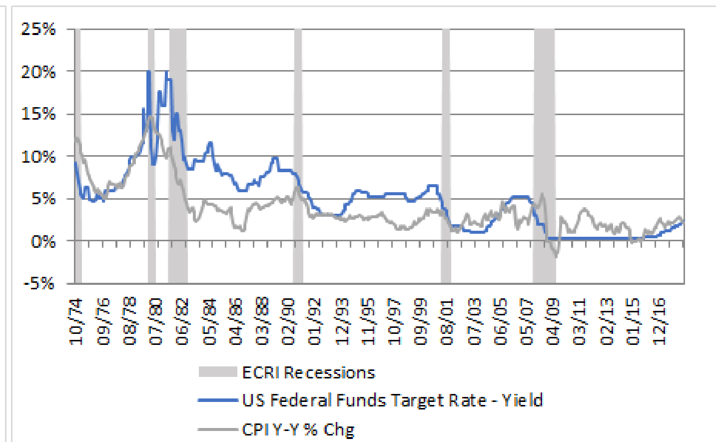




Fed funds have risen to inflation rate (normally peak at above before recession)



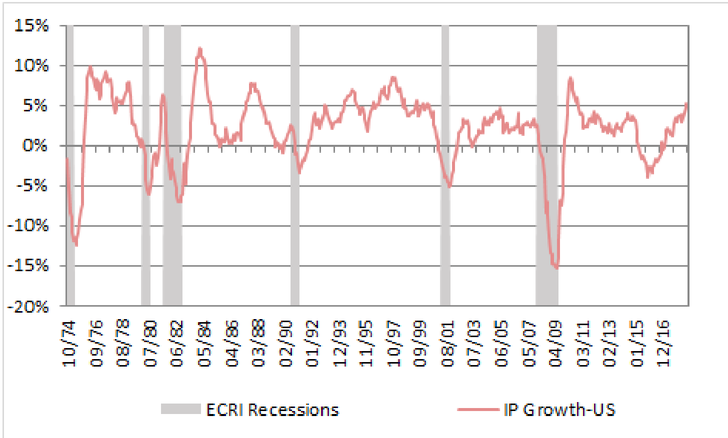


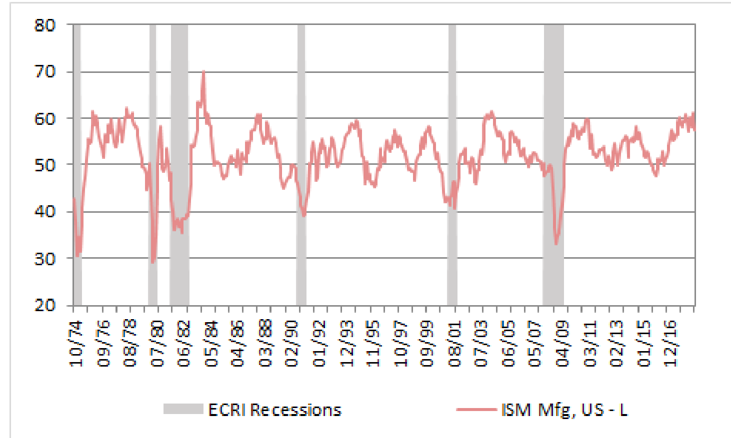


Source: Spellman, FactSet, BEA, ECRI, Federal Reserve System, and US Department of Labor.

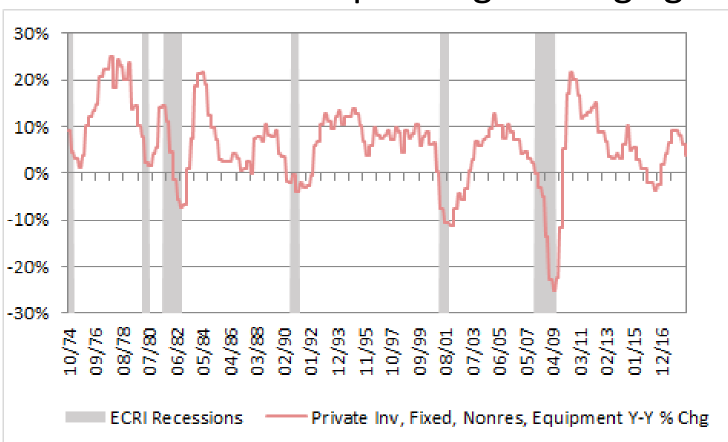
Economic model: business variables mixed

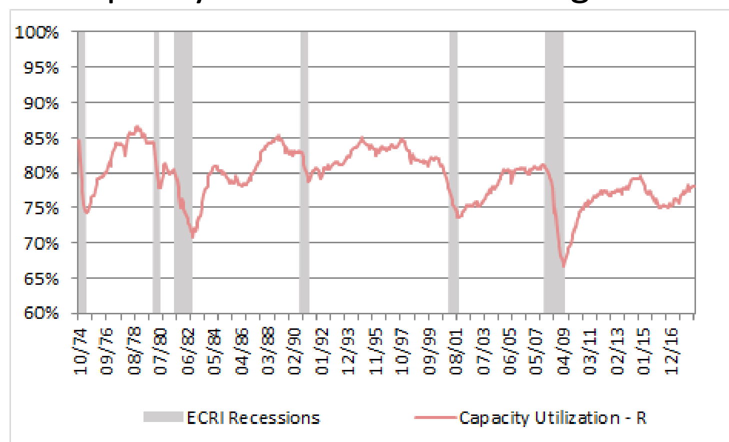
ISM and industrial production strong





Investment spending slowing again and capacity utilization still not high

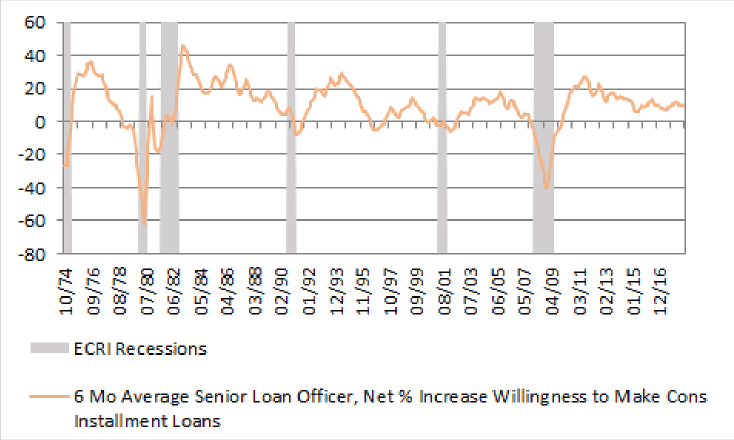


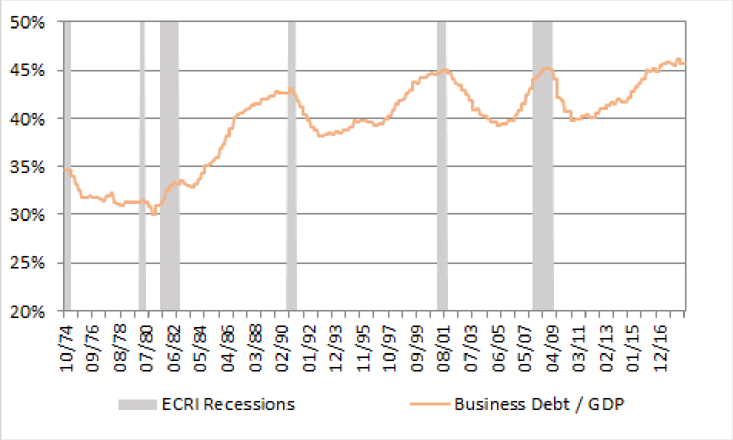


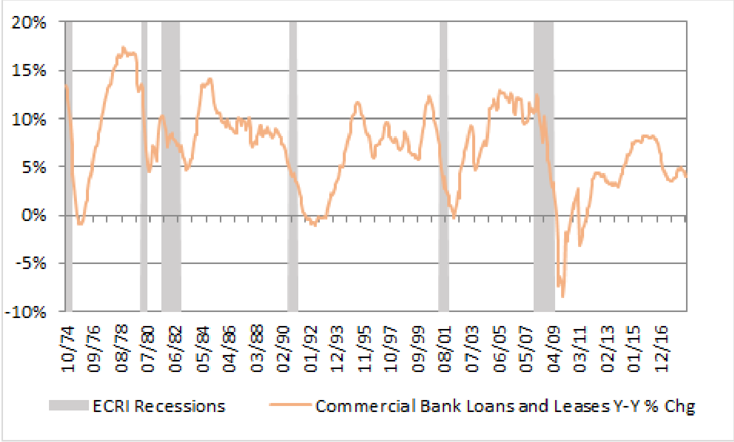
Source: Spellman, FactSet, BEA, ECRI, Federal Reserve System, and ISM.

Economic model: credit high and growing at least at rate of economy

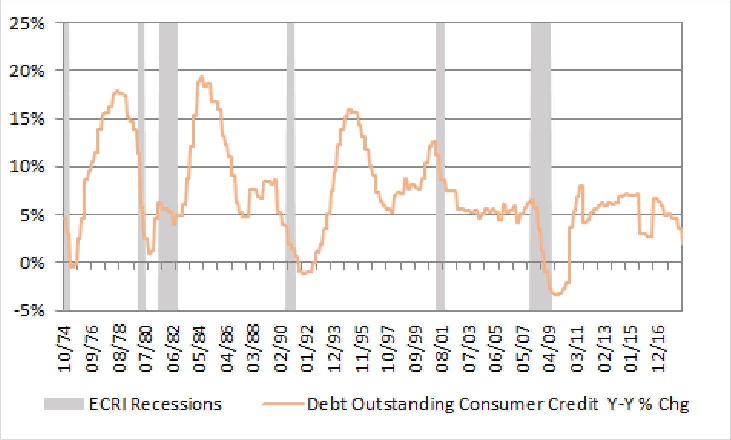
Banks wiling to make loans, and business taking them out!





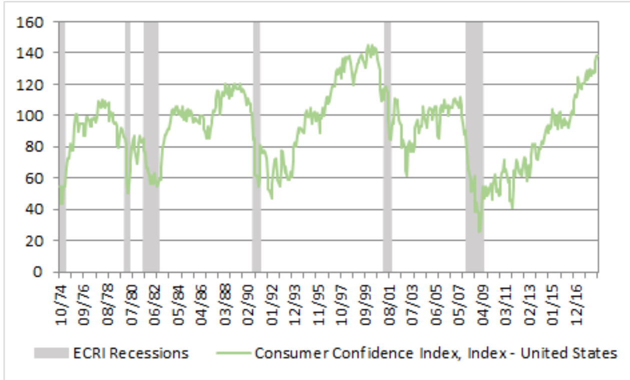


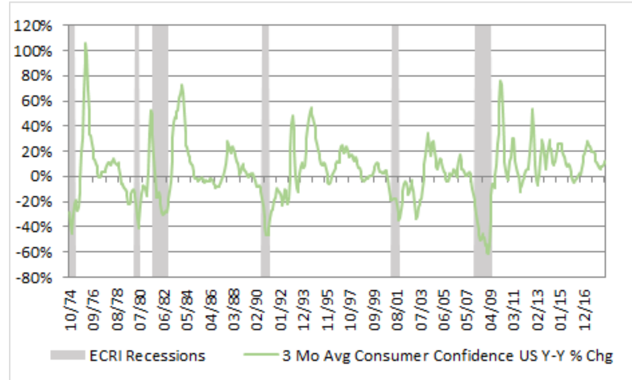
Although, consumer credit slowing

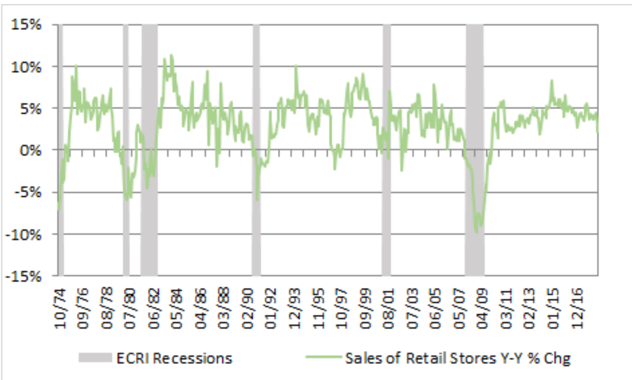


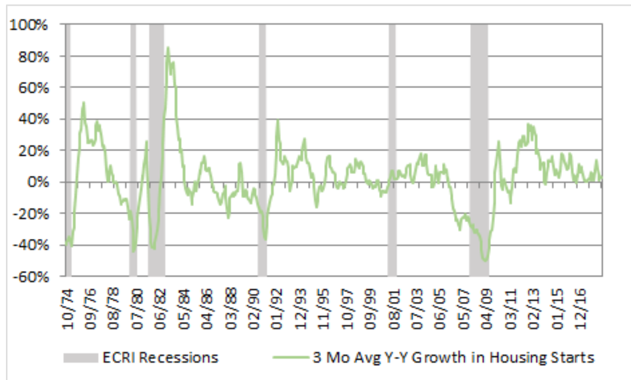
Source: Spellman, FactSet, BEA, ECRI, and Federal Reserve System.

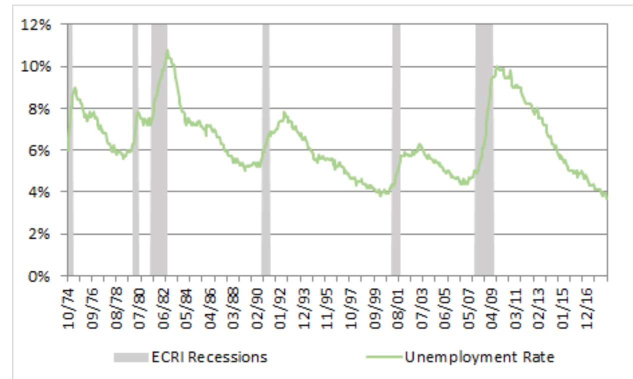
Economic model: consumer confidence/income/spending/jobs solid; housing weak

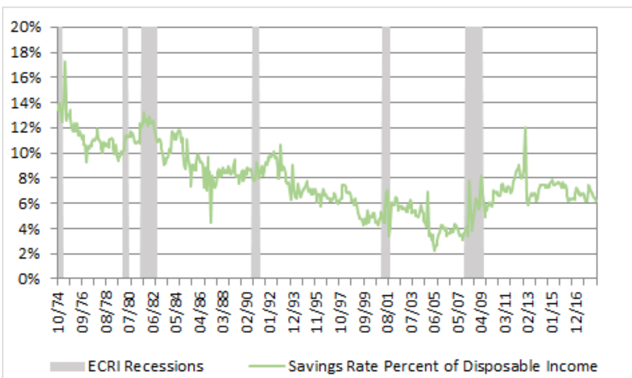


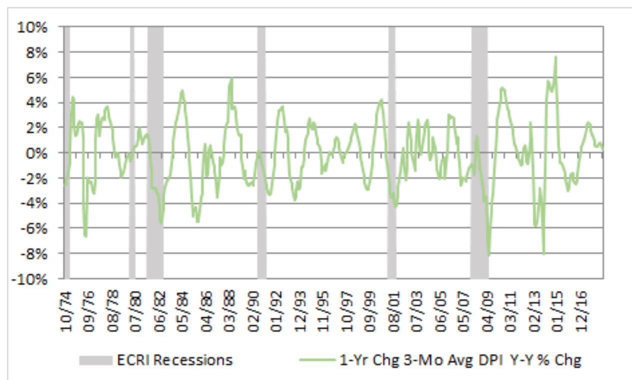


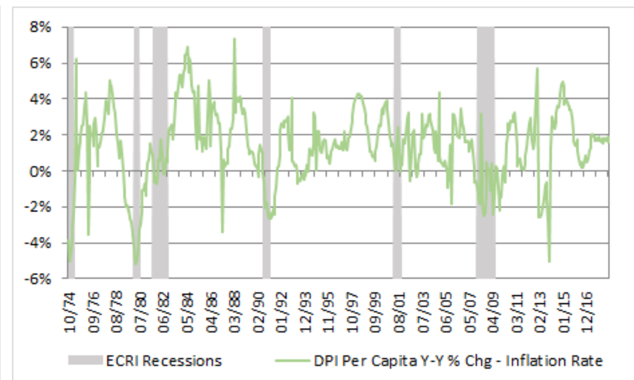








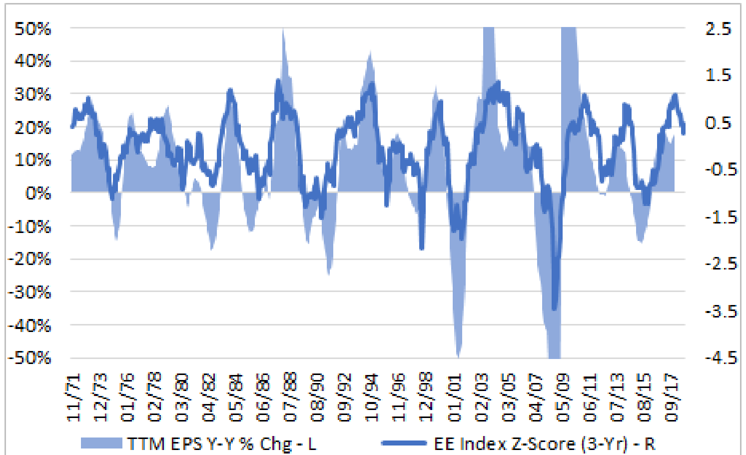




Source: Spellman, FactSet, BEA, Conference Board, ECRI, US Census Bureau, and US Department of Labor.

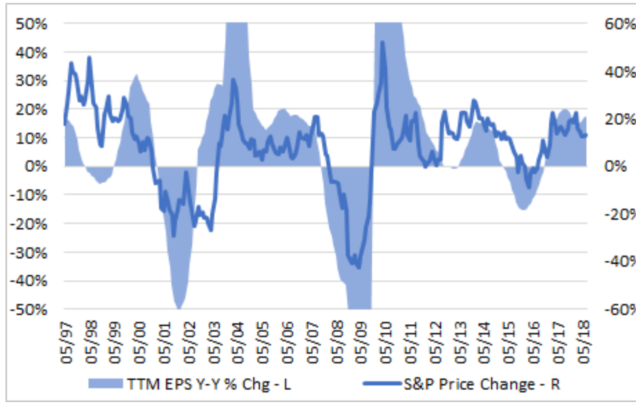
Earnings model is peaking, which leads earnings, and stocks follow

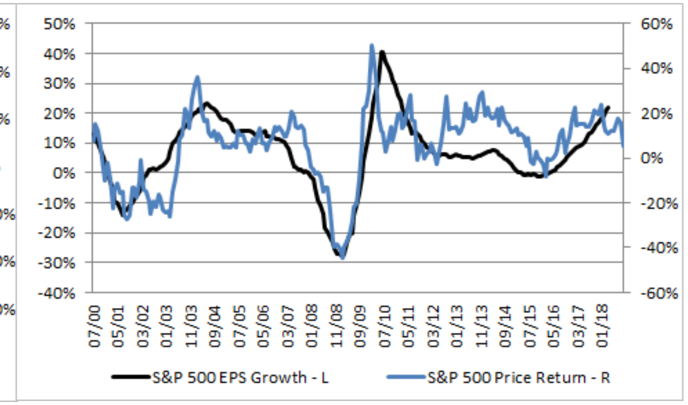
Earnings model is peaking, and leads earnings by 6 months



Earnings Expectations (EE) Model (12-Month Leading Indicator)
Yield Curve
Credit Spreads
Manufacturing Outlook Diffusion Index
Capacity Utilization
Change in Unemployment Rate
Capital Expenditure Outlook
Inventory/Sales Ratio
Charge-Offs Consumer Loans
Dollar
CPI Growth

…And S&P is coincident with to a 6-month lead to earnings, so returns should be lower going forward



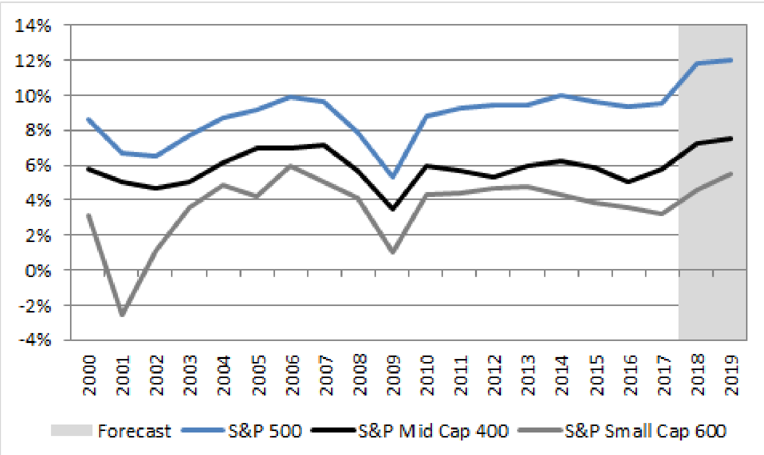


Consensus: S&P 500 quarterly Y-Y growth over 20% from 1Q-3Q 2018, before drop to 6% in 1Q 2019 and about 6% to 12% rest of year

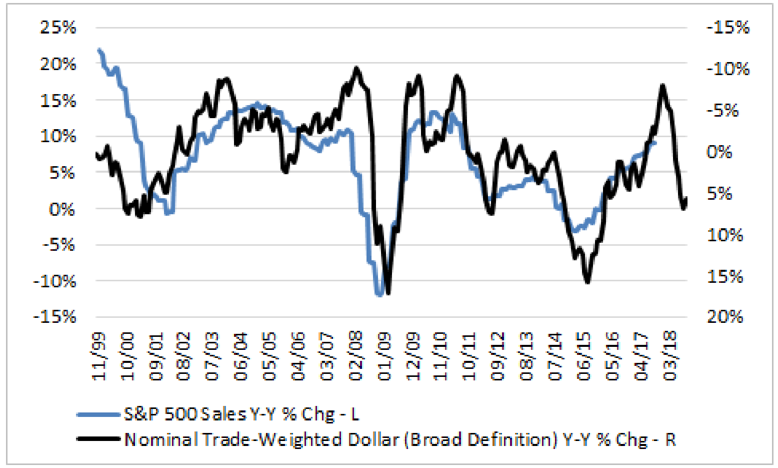
Source: Spellman, FactSet, Shiller data for EPS for top and middle graphs, and analyst numbers provided by FactSet for top right graph, see https://coachinvesting.com/2018/01/31/positioning-the-cycle/ for description of the earnings model.

Estimates call for sales and margin increases, but both have headwinds

Estimates call for rising sales and **margins**

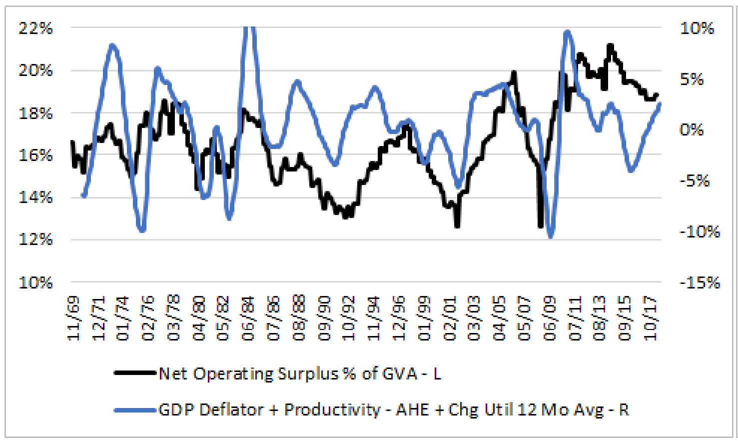


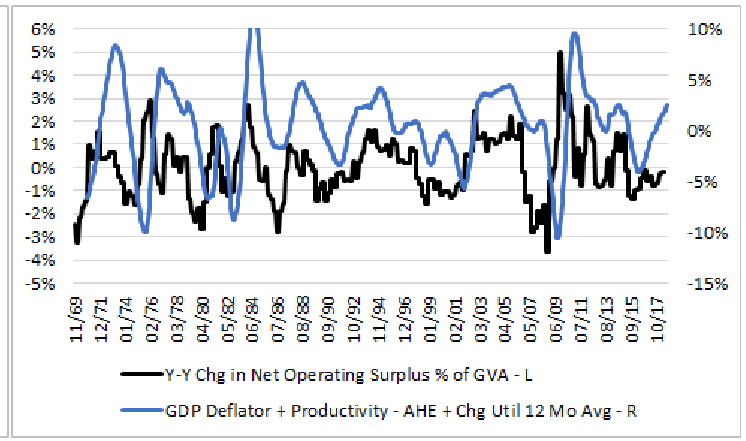
Stronger dollar is inversely related to future sales growth (translation losses, strength reflects weakness outside US)



Stronger dollar reflects rising interest rates, relatively stronger economy, and widening fiscal deficit (see https://coachinvesting.com/2018/08/04/whats-up-or-down-with-the-dollar/

Margins are positively related to inflation, productivity, and utilization, and negatively related to wages





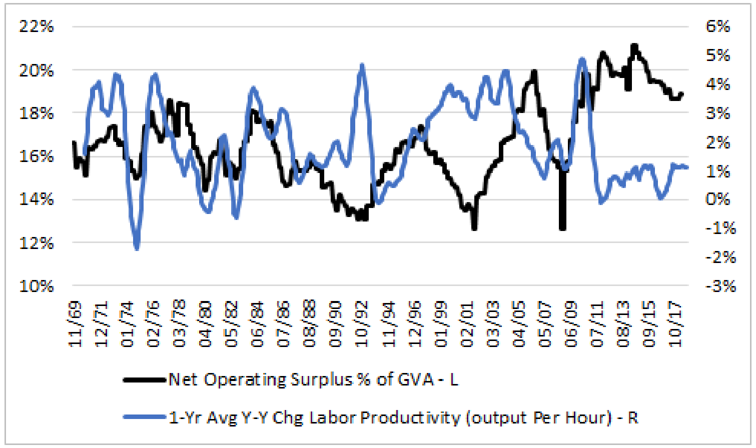
Wages going higher, which is offset by higher prices and productivity, but utilization is a ?

Bottom line also impacted by interest rates, which are rising

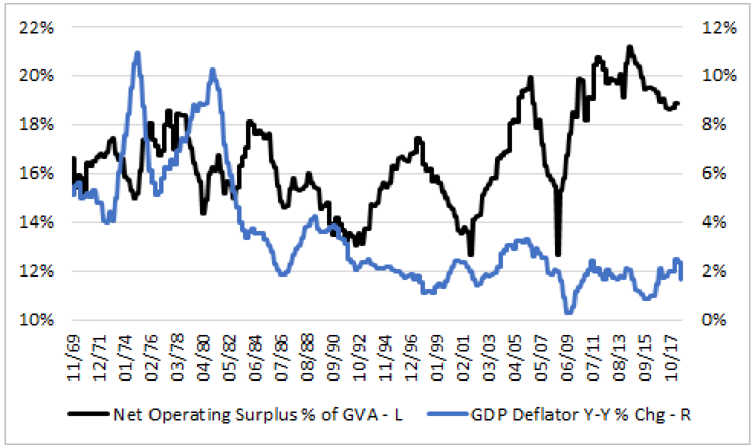
Source: Spellman, FactSet, BEA, Conference Board, Federal Reserve, and US Department of Labor.

Productivity and inflation rising, but wages going up and utilization is a ?

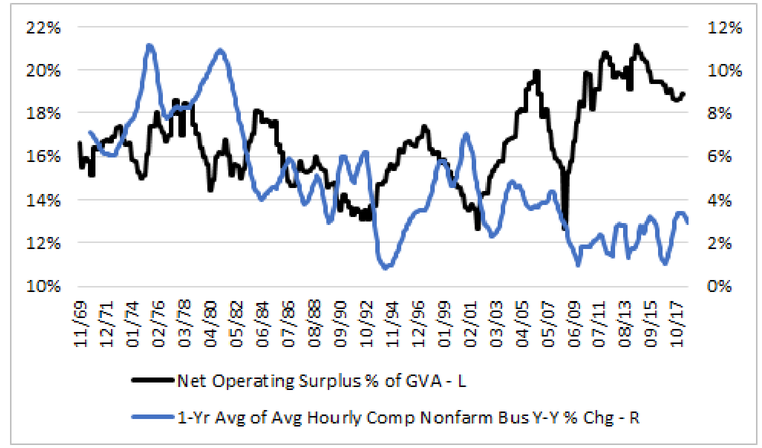
After years rising 0-1%, productivity back growing 1%+



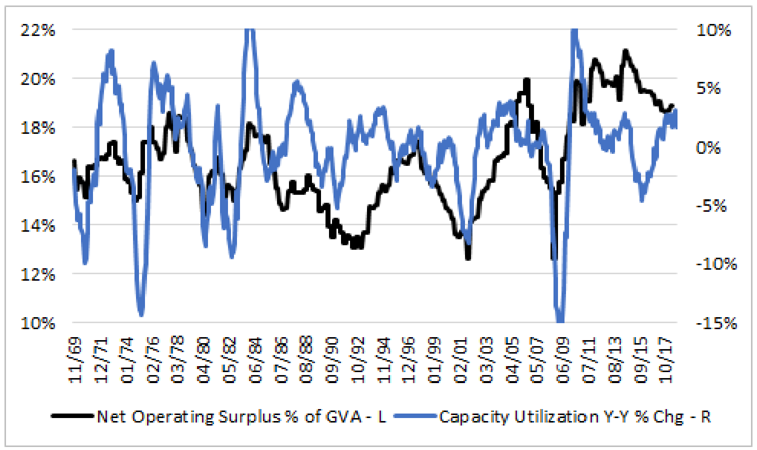
Prices rising

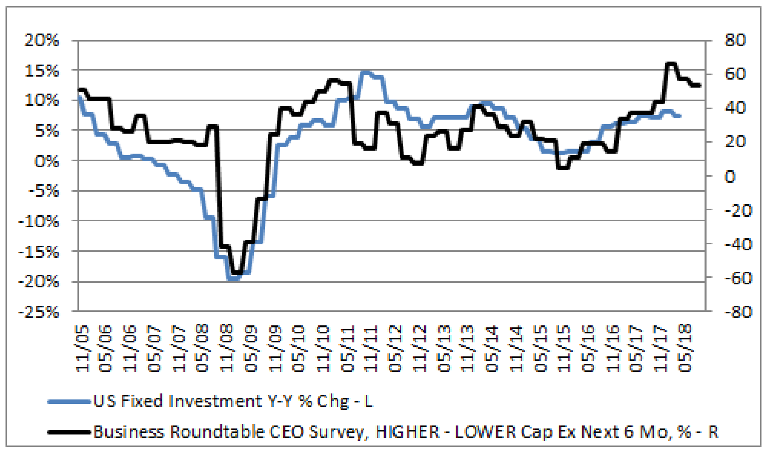


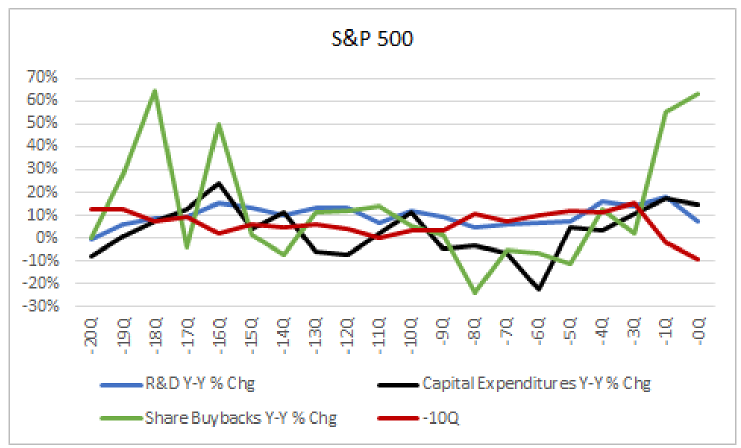
But wages are rising as well



Key margin driver is utilization, and robust investment spending will likely limit gains as cap ex growth is higher than sales growth, but firms using some of tax and cash winds to buy back shares at an aggressive pace







Source: Spellman, FactSet, BEA, Business Roundtable, Conference Board, FDIC, Federal Reserve, and US Department of Labor.

Volatility and Returns

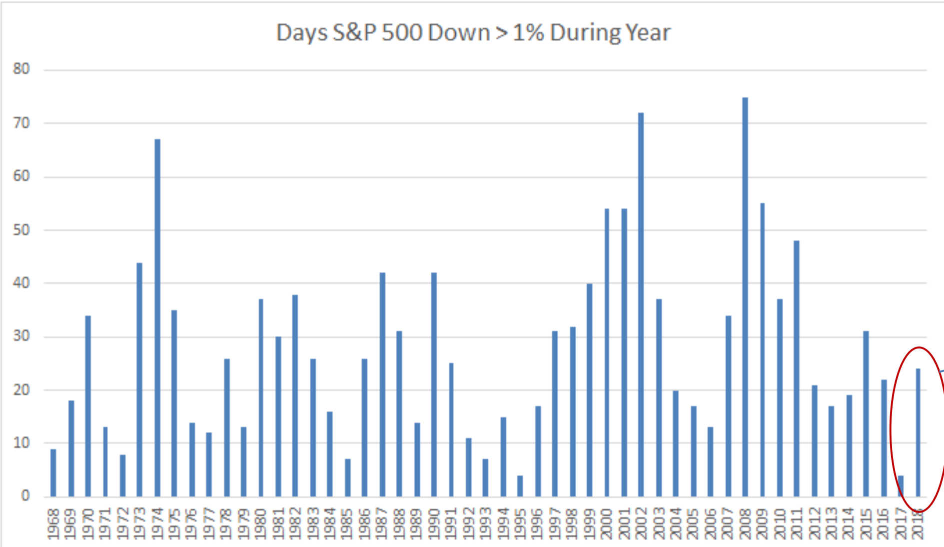
Volatility coming back?

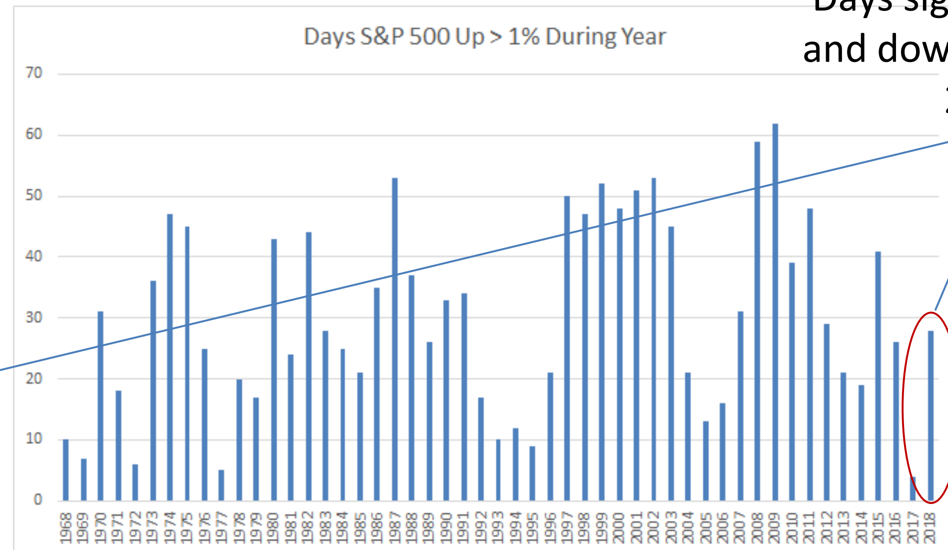
Volatility tends to rise when the economy deteriorates

Number of big up days about same as big down days, but people tend to ignore good news

This year = 24

Average = 28



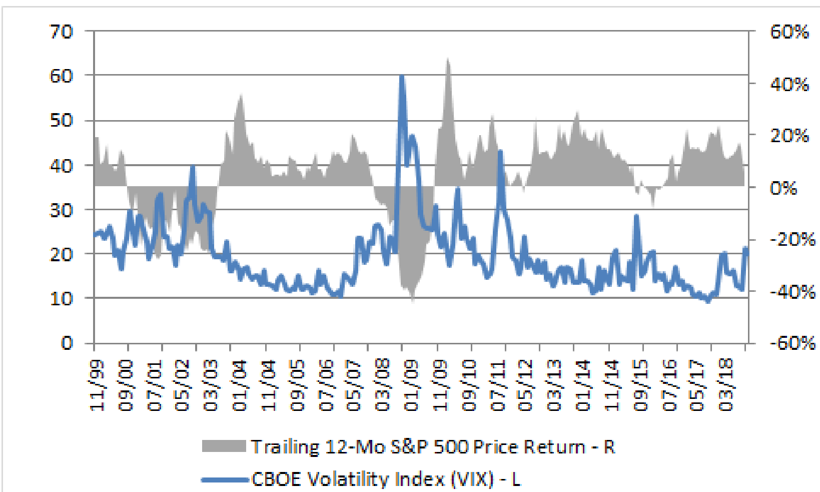


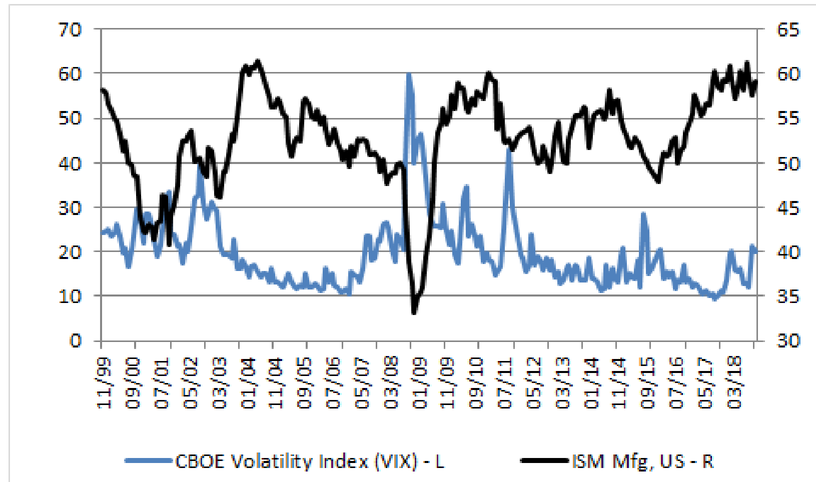
Days significantly up and down rising from 2017

This year = 28

Average = 30

Volatility inversely correlated with economy returns





Volatility inversely correlated with economy (ISM)

Source: Spellman, FactSet, CBOE, ISM, days up/down data through 11/20/18.

Rare for P/E to be above average when growth is positive and slowing

Column A

Growth is positive and decelerating 20-25% of time

Column B

Over 2/3 of time returns are positive

Columns C & D

When growth is positive and decelerating, returns are more likely to be positive

Columns E – I

However, returns more likely positive when P/E below average

Columns J & K

Rare for P/E to be above average when growth is positive and slowing

	A	B	C	D	E	F	G	H	I	J	K	L
	LTM EPS Growth Positive and Decelarating	Price Return Positive	LTM EPS Growth Positive and Decelarating and Price Return Positive	LTM EPS Growth Positive and Decelarating and Price Return Negative	P/E -1 Above 5-Yr Avg	P/E -1 Above 5-Yr Avg and Return Positive	P/E -1 Below 5-Yr Avg and Return Positive	P/E -1 Above 5-Yr Avg and Return Negative	P/E -1 Below 5-Yr Avg and Return Negative	LTM EPS Growth Positive/ Decel-lerating P/E-1 Above 5 yr Avg and Return Positive	LTM EPS Growth Positive/ Decel-lerating P/E-1 Above 5 yr Avg and Return Negative	Total
Since 1873	363	1102	235	128	879	506	589	373	230	41	43	1698
Percent of Months	40%	63%	21%	20%	52%	46%	54%	62%	38%	4%	7%	
Since 1970	132	429	106	26	278	182	247	96	57	13	2	582
Percent of Months	44%	74%	25%	17%	48%	42%	58%	63%	37%	3%	1%	
Since 1980	105	361	103	2	250	165	196	85	16	13	2	462
Percent of Months	43%	78%	29%	2%	54%	46%	54%	84%	16%	4%	2%	
Since 1990	84	271	82	2	177	117	154	60	11	9	2	342
Percent of Months	45%	79%	30%	3%	52%	43%	57%	85%	15%	3%	3%	
Since 2000	61	161	59	2	103	53	108	50	11	5	2	222
Percent of Months	48%	73%	37%	3%	46%	33%	67%	82%	18%	3%	3%	

A: Percent of months decel-erating

B: Percent of total months

C–D: Percent of months positive or negative return

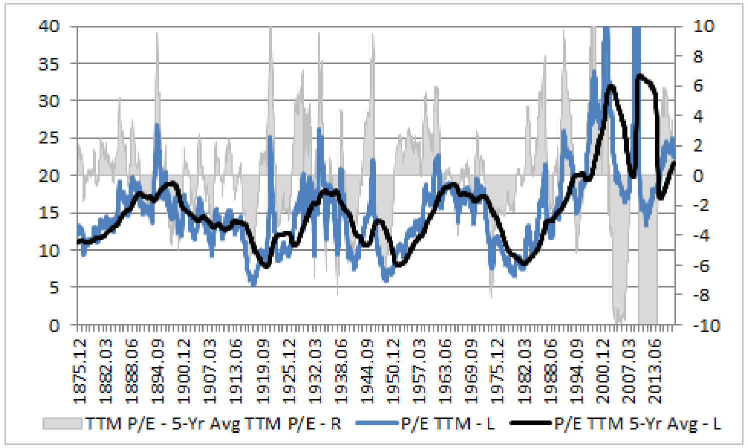
E: Percent of total months

F–K: Percent of months positive or negative return

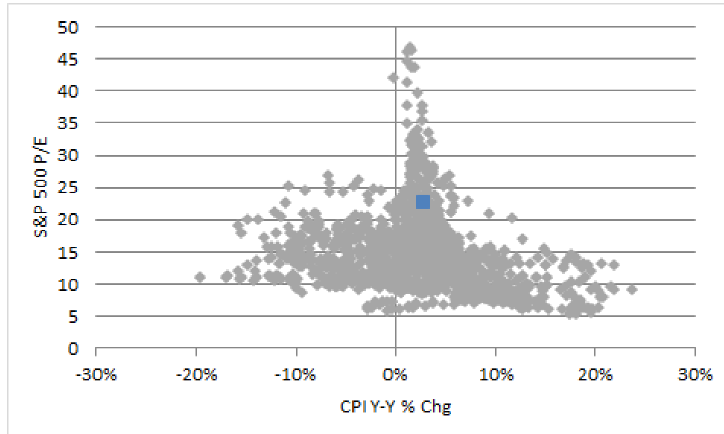
Source: Spellman, Shiller data, annual returns and growth rates, data through June 2018.

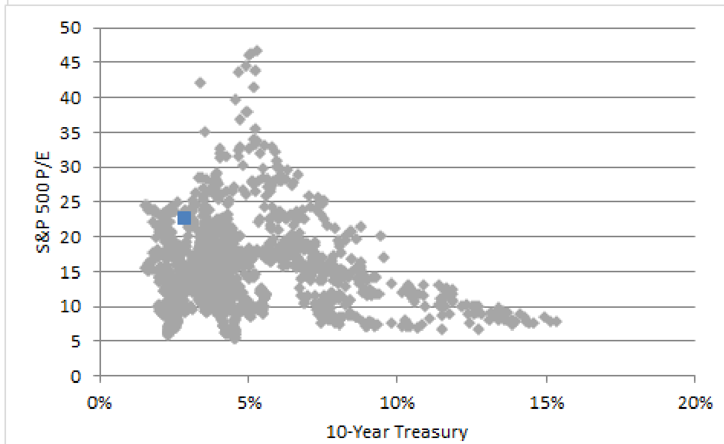
High current P/E may be justified by discount rate, but it drives down future returns

S&P 500 has elevated P/E

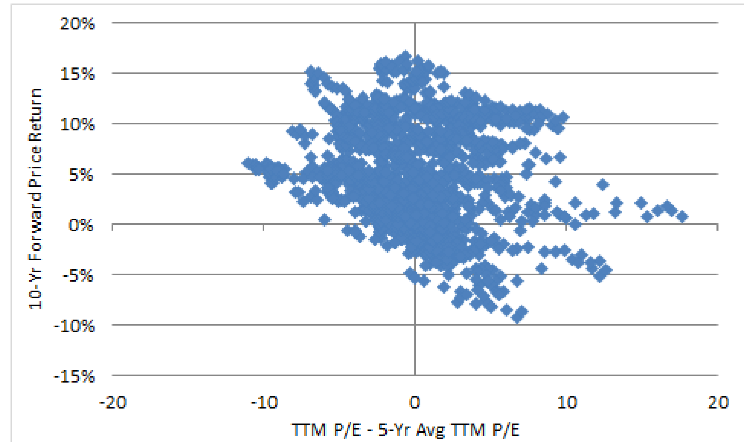


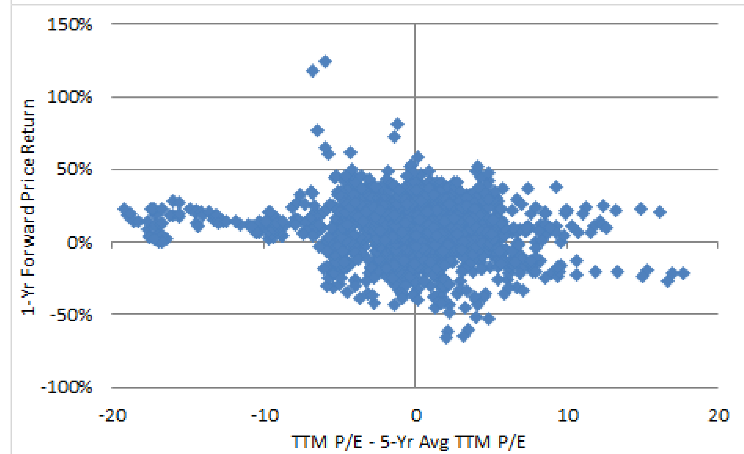
Although, CPI and interest rates are at sweet spot for P/E



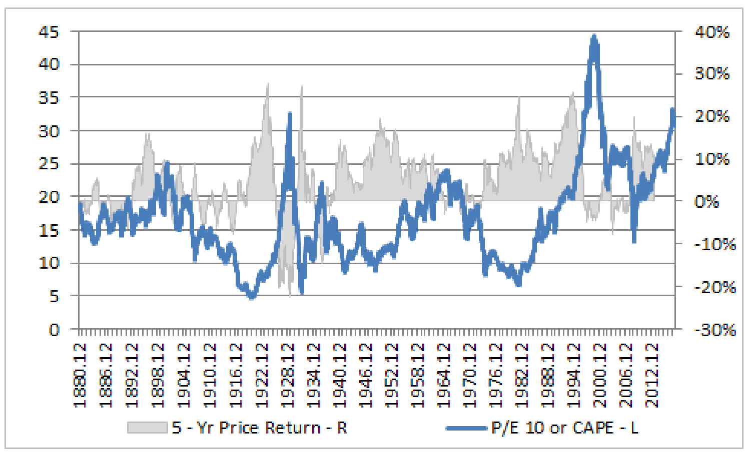


Above average P/E => poor returns





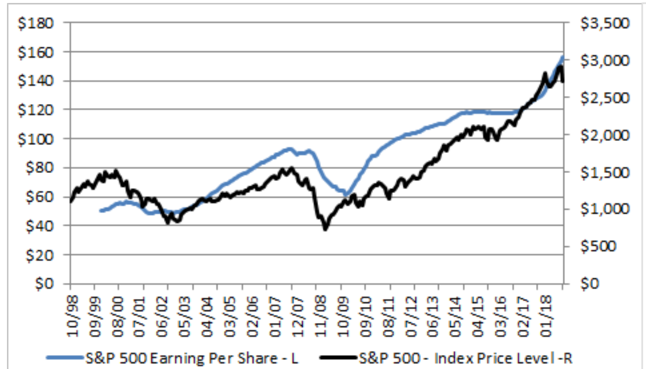
Shiller CAPE high and leads to low returns

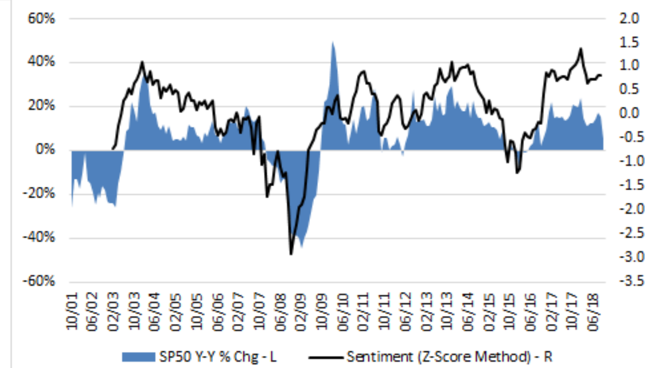


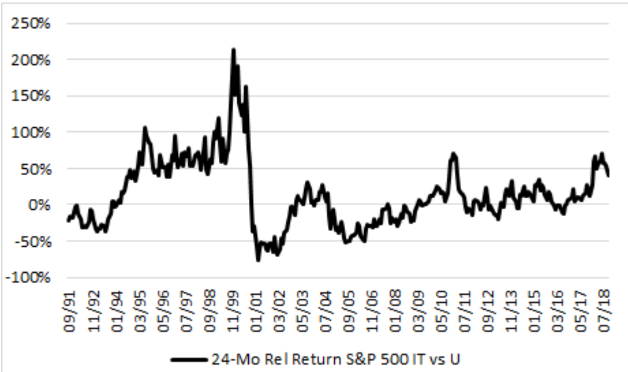
Source: Spellman, Shiller data, annual returns and growth rates, data through June, July, and part of November depending on the data.

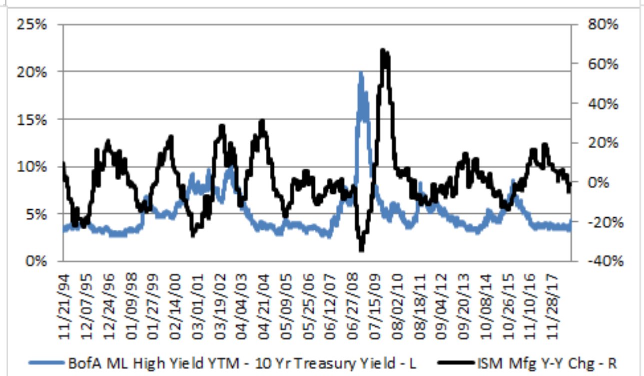
Markets ***were*** not worried until recently

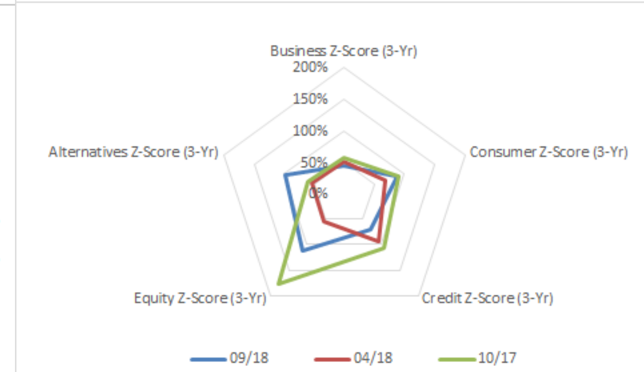
- Sentiment indicator at historical highs early this year, and still lofty now
  - Stock and bond markets expensive, but both have come back in

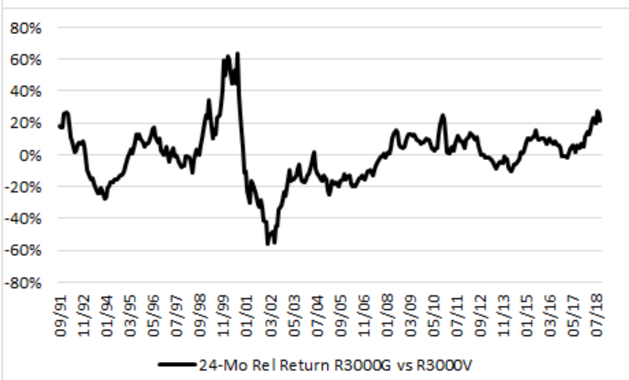












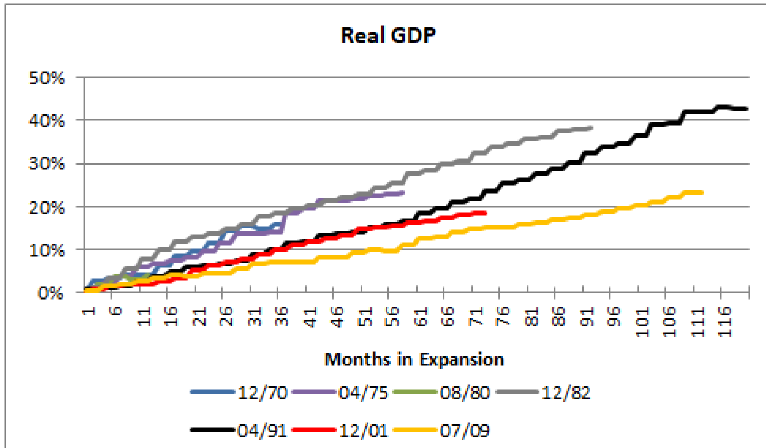
Fundamentals		
Business	**Consumer**	
Business Surveys	Consumer Confidence Surveys	
Fixed Investment	AAII Surveys	
Commercial Loan Growth	Stock-Bond Flows	
Financial Markets		
Credit	Equity	Alternatives
Real risk free rate	Valuation (Multiples)	Currency
Inflation expectations	Revisions	Commodities
Yield curve	Advance-Decline	Volatility Index
Credit spreads	Price Bands	Safety/Risk Ratios

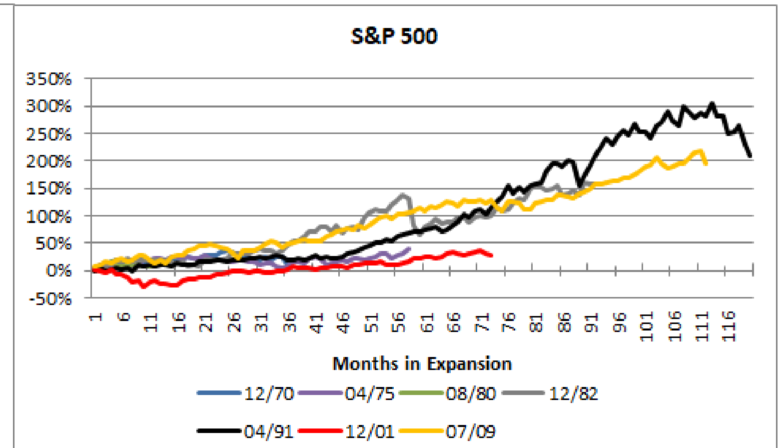
Source: Spellman, FactSet, ISM, Merrill Lynch Fixed Income.

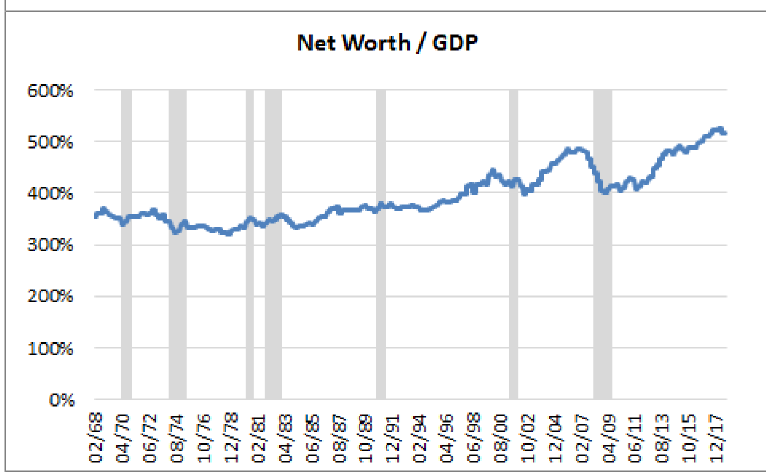
Late Cycle and Debt

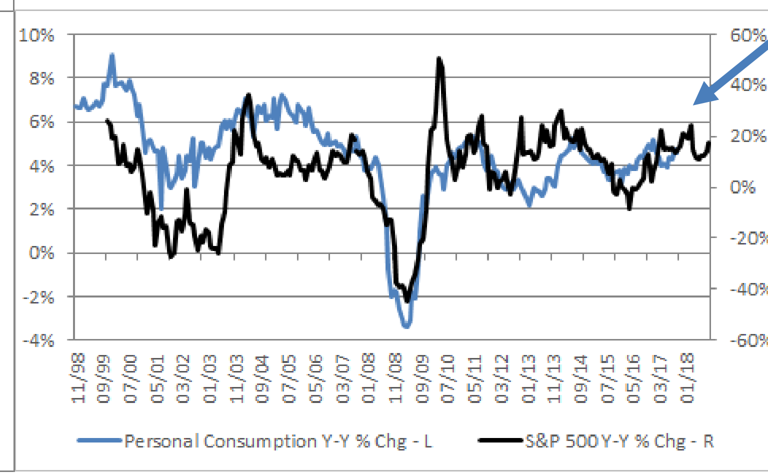
Expansion in 113th month, exceeding average of 72 since 1970s

- Real GDP up 23.4%, right in line with median (average is 23.8%)
  - … And last recession was deep
- Fed targets inflation and unemployment, but what about the stock market?
  - Stocks only up further in 1990s and wealth drives consumption, real GDP, and then returns







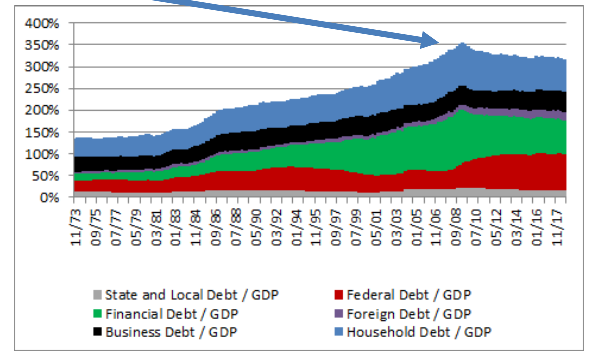


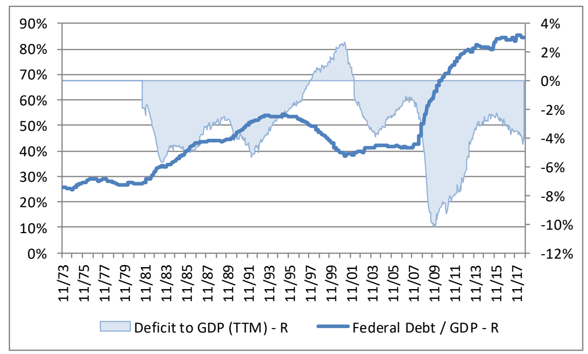
Stocks lead consumption; is this because they predict improvement, or does boost of wealth cause rising spending, or both?

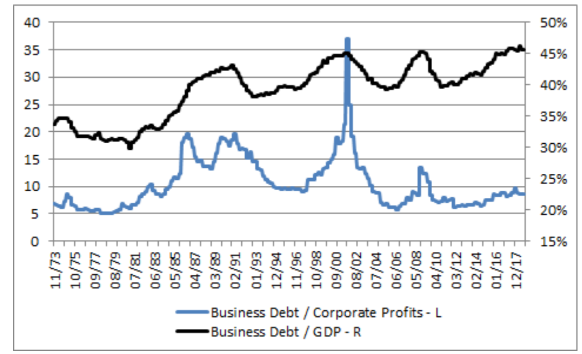
Source: Spellman, FactSet, BEA, ECRI, Federal Reserve System, S&P.

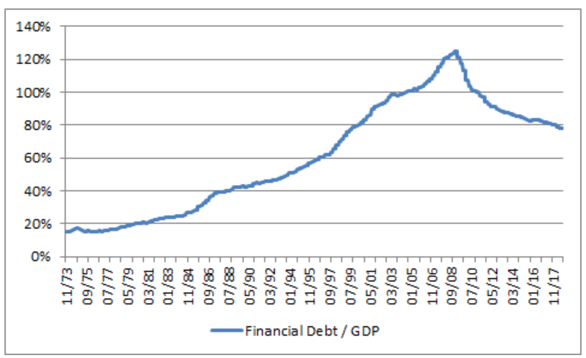
A worry is debt

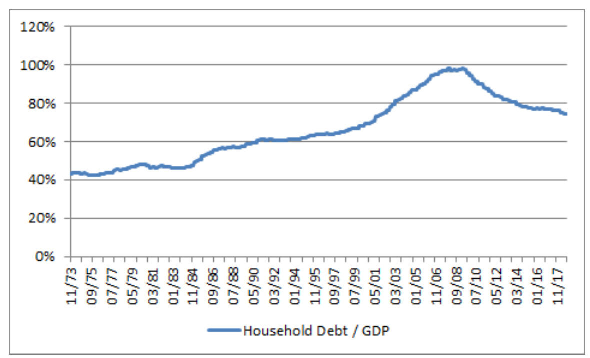
- Debt to GDP has not really improved (and this is not just a US problem)
- Who is most indebted has shifted
  - Businesses and government worse off
  - Consumers and financials better
    - But consumer debt may only be manageable because interest rates are low

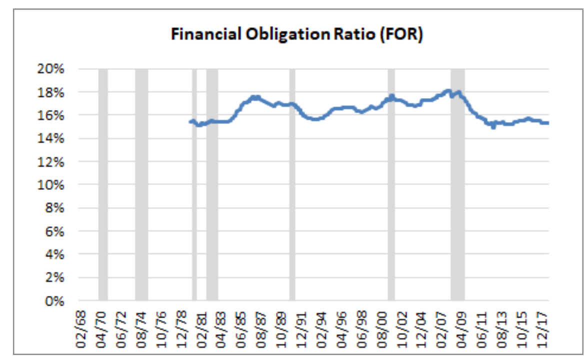








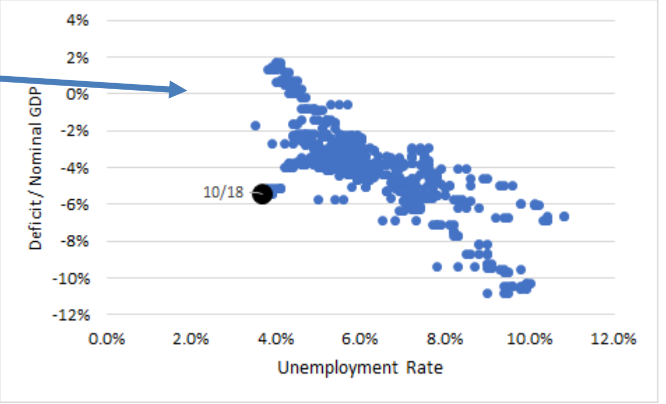


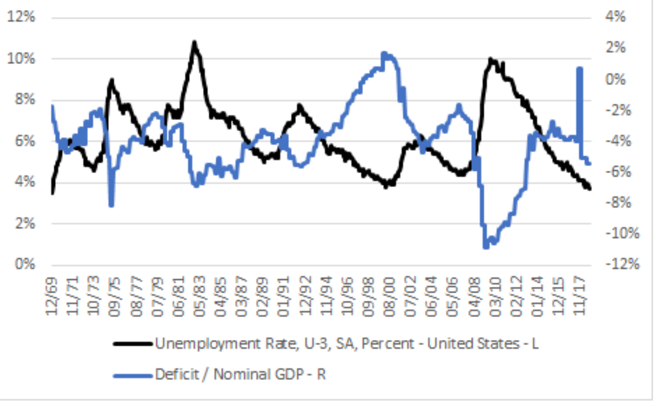


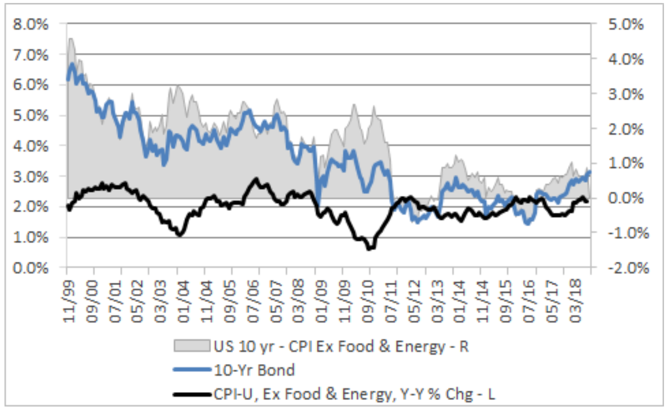
Source: Spellman, FactSet, BEA, ECRI, Federal Reserve System.

Rising Federal deficit at this stage of cycle is dangerous

- During good times, deficit normally declines
  - 5.4% of GDP partially due to tax cut after bottoming at 3.2% in 10/15
- Could rise another 1% if rates normalize
  - Unsustainable as then growth rate is > nominal GDP growth
    - Debt / GDP will rise
      - Right now, we should be saving for rainy day
    - Cannot jump start economy with large deficit in bad times (huge risk!)
      - Unless Fed becomes lender
  - Only ok if (risky bet) if
    - GDP growth is up sustainably over long-term
    - Debt does not have to be paid back and can be refinanced at same low rates
- Could recent GDP growth bump be short-term at expense of long-term?
  - Fuel more Fed rate hikes that slow economy
    - Bring sooner end to cycle (negative)
    - Help Fed normalize rates (a positive)
      - What if cycle ends and Fed still has a $3-$4 trillion dollar balance sheet?



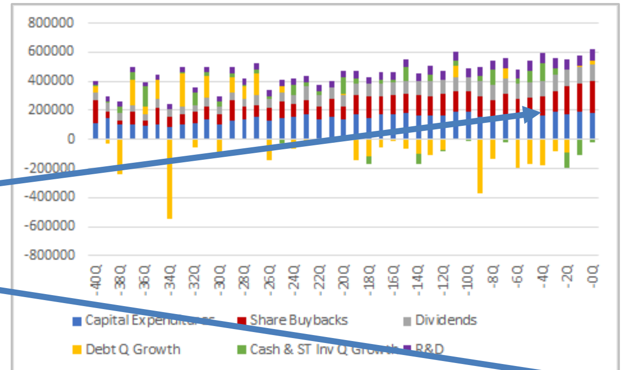


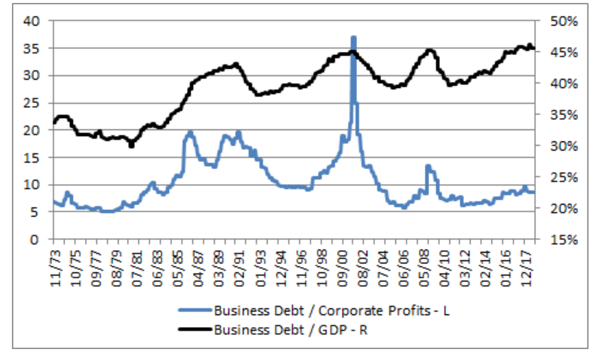


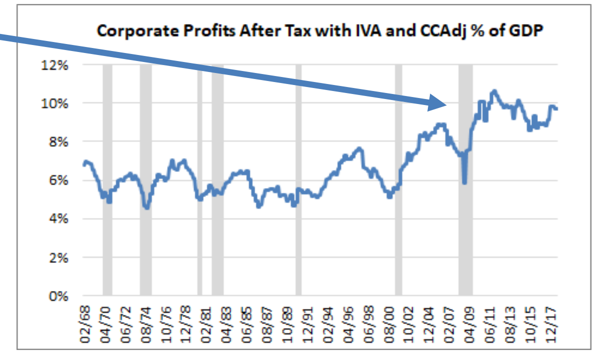
Source: Spellman, FactSet, BEA, US Department of Labor.

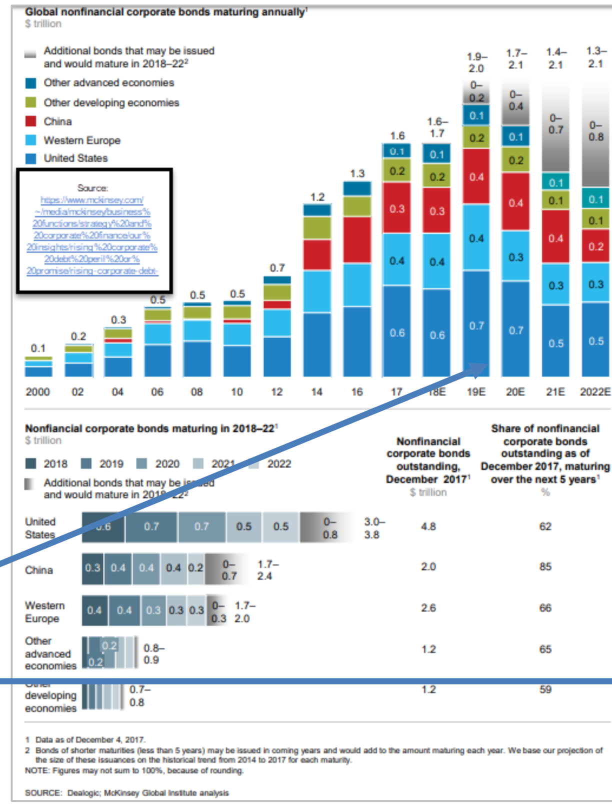
Corporate debt a serious concern

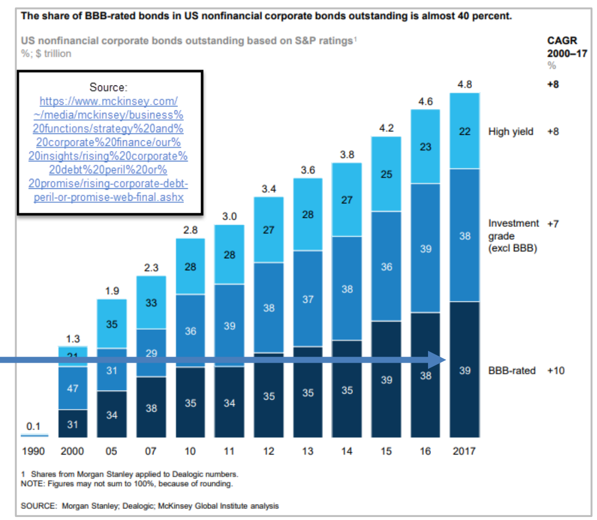
- The level of debt is concerning
- But what it was used for is as well
  - M&A and share buy-backs (at high prices)
- At a time of high profit margins
- High amount just above junk ratings
  - BBB larger than the entire investment grade market in mid-2007
    - https://www.marketwatch.com/story/heres-a-simmering-worry-for-the-corporate-bond-market-2018-04-18
  - But cash supporting the debt for speculative borrowers is just 12% in 2017, below 14% in the 2008 crisis
    - https://www.cnbc.com/2018/06/27/debt-for-us-corporations-tops-6-trillion-sp-global.html
  - BBB 2017 net leverage 2.9X vs 1.7X in 2000
    - https://www.pimco.com/en-us/insights/viewpoints/investment-grade-credit-be-actively-aware-of-bbb-bonds/
  - And a huge amount of debt will maturing in 2019 and 2020
    - Better hope rates do not rise too much
    - Better hope no recession









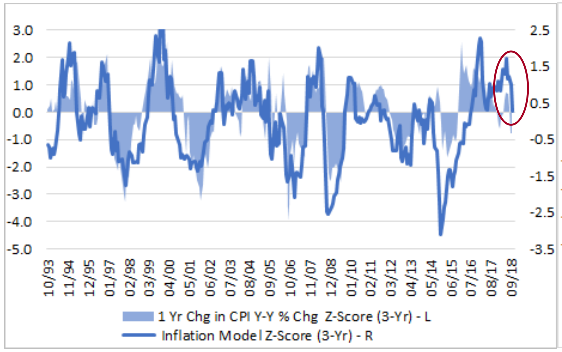


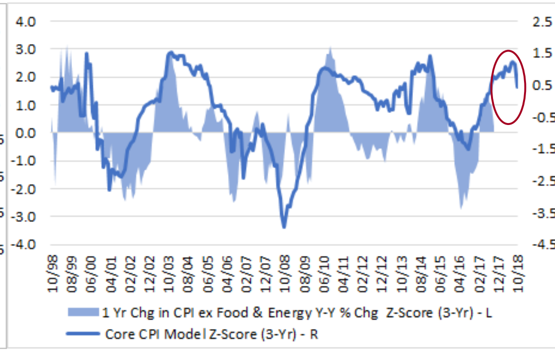
Source: Spellman, FactSet, BEA, ECRI, Federal Reserve System.

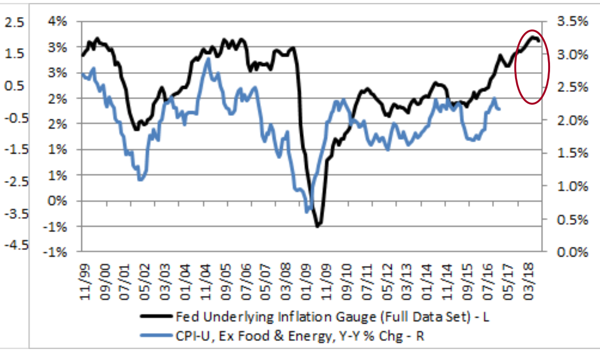
Inflation model rolling over → could this lead to a reprieve in rate hikes?

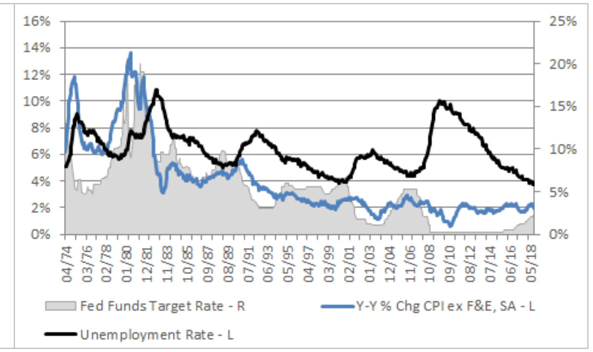
CPI All Items (Coincident)	Core CPI (CPI ex Food and Energy) (12-Month Leading)
Real GDP Growth (positive correlation)	Real GDP Growth (positive correlation)
Change in Oil Prices (positive correlation)	Wage Growth (positive correlation)
Change in Dollar (negative correlation)	Unemployment Rate (negative correlation)
	Change in Capacity Utilization (positive correlation)

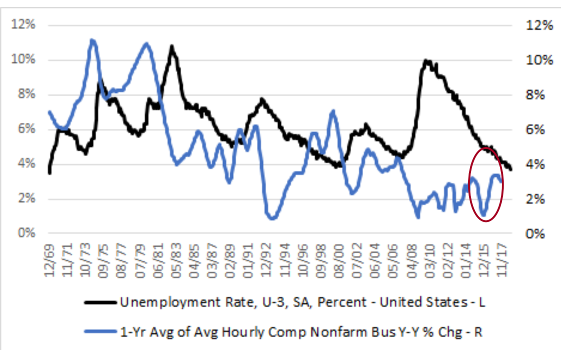
- CPI driven by real GDP, oil prices, and dollar
- 12-month leading core CPI driven by real GDP, wage growth, unemployment, and utilization

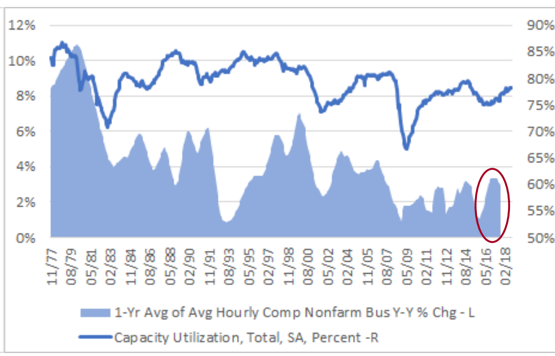


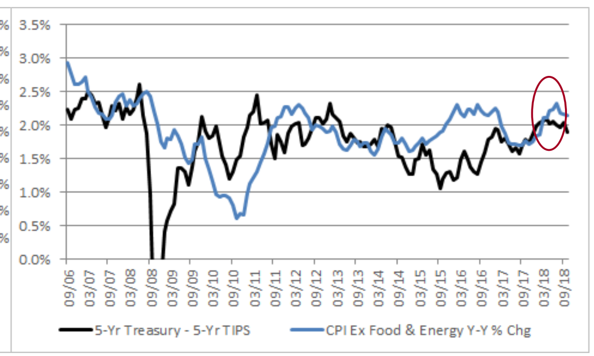








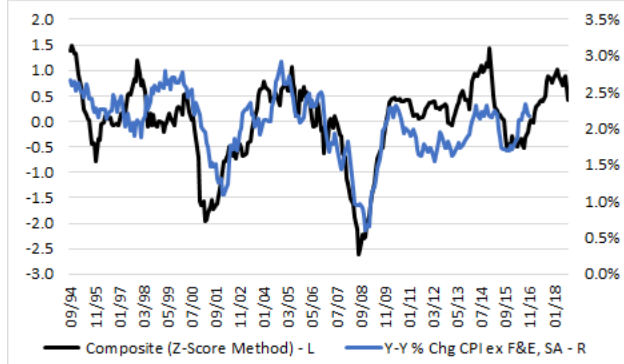




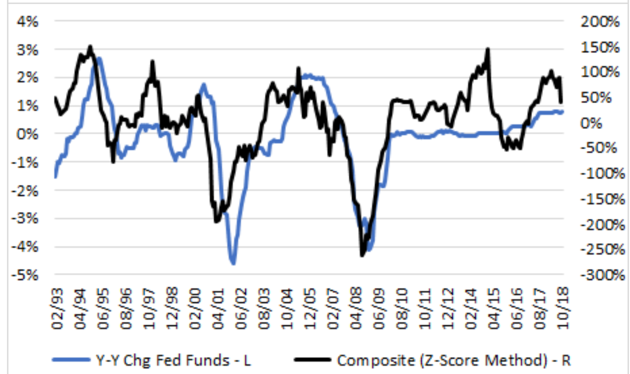
Source: Spellman, FactSet, Conference Board, Federal Reserve System, US Department of Labor.

Model leads inflation, inflation drives Fed policy, and cycle is inverse with spreads

Model suggests inflation will decelerate

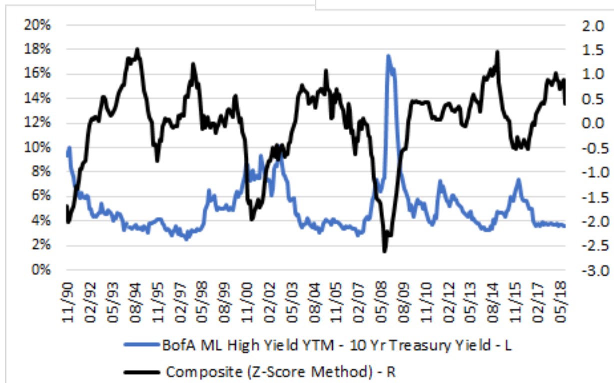


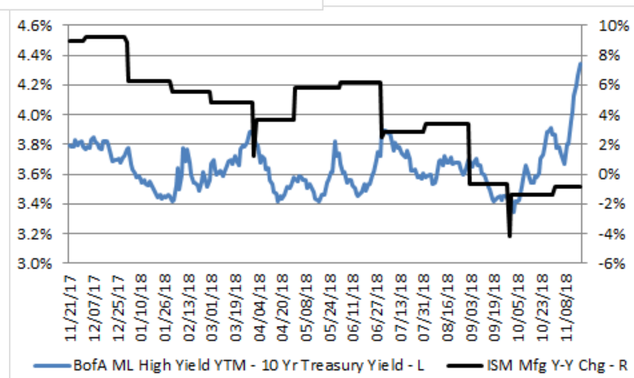
This may lead to slowing Fed rate hikes (and the Fed is raising rates)



Recent slowing has led to widening spreads over last month

(which are still tight)





Source: Spellman, FactSet, Federal Reserve System, ISM, Merrill Lynch, US Department of Labor.

Should we be worried about inflation?

- Rising inflation makes the Fed more aggressive
- Many factors have kept inflation at bay
  1. Velocity of money fell as capital was tied up as banks deleveraged, but this could be reversing
  2. Technology gains reduced costs
  3. The Internet increased competition and buyer power
  4. Deflation was imported from China, but trade war and less cost benefit manufacturing in China now than in the past
  5. Low wage growth, but rising
  6. Demographics (ageing population leads to lower demand)
  7. Low capacity utilization/output gap, but capacity utilization has been rising
  8. Productivity growth during early to mid-cycle is strong and then slowed, but maybe rising again
     - Productivity may be related to wages which are related to inflation (see https://coachinvesting.com/2018/05/14/thinking-about-technology/)
  9. Dollar strength could reverse
  10. Higher oil prices which recently retreated
  11. Debt constrained spending, but banks and consumers perhaps about to leverage up
  12. NAFTA and the impact on competition, but is the new trade deal better for US workers?

Sector Trends

Sector return leadership changes frequently

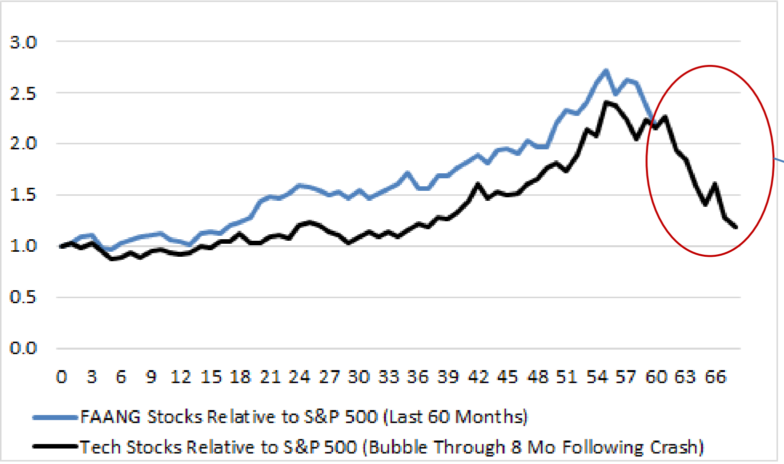
Technology #1 or #2 in 2017 and 2018, and consumer discretionary #1 or #2 in four of last seven years, but worst over last 3 months

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	10/18
IT	E	E	RE	E	CS	IT	RE	U	F	CD	RE	CD	E	IT	IT
47%	32%	31%	41%	34%	-15%	62%	32%	20%	29%	43%	30%	10%	27%	39%	11%
M	RE	U	TS	M	HC	M	CD	CS	CD	HC	U	HC	TS	M	HC
38%	29%	17%	37%	23%	-23%	49%	28%	14%	24%	41%	29%	7%	23%	24%	9%
CD	U	RE	E	U	DEF_CSHCTS U	CD	I	HC	RE	I	HC	CS	F	CD	CD
37%	24%	13%	24%	19%	-26%	41%	27%	13%	20%	41%	25%	7%	23%	23%	7%
CYC_CDEFIIT M	TS	F	U	IT	U	CYC_CDEFIIT M	M	RE	TS	F	IT	IT	I	F	U
33%	20%	6%	21%	16%	-29%	33%	22%	11%	18%	36%	20%	6%	19%	22%	5%
I	I	HC	F	CS	TS	RE	E	DEF_CSHCTS U	HC	CYC_CDEFIIT M	CS	RE	M	HC	RE
32%	18%	6%	19%	14%	-30%	27%	20%	9%	18%	31%	16%	5%	17%	22%	0%
F	CD	CYC_CDEFIIT M	CD	I	CD	I	TS	TS	I	IT	F	TS	U	I	DEF_CSHCTS U
31%	13%	5%	19%	12%	-33%	21%	19%	6%	15%	28%	15%	3%	16%	21%	-1%
RE	M	M	M	TS	E	HC	CYC_CDEFIIT M	CD	M	CS	DEF_CSHCTS U	DEF_CSHCTS U	CYC_CDEFIIT M	CYC_CDEFIIT M	CS
29%	13%	4%	19%	12%	-35%	20%	18%	6%	15%	26%	15%	0%	15%	19%	-1%
U	CYC_CDEFIIT M	CS	DEF_CSHCTS U	DEF_CSHCTS U	I	F	CS	E	IT	M	I	F	IT	CS	CYC_CDEFIIT M
26%	13%	4%	17%	11%	-40%	17%	14%	5%	15%	26%	10%	-2%	14%	13%	-3%
E	F	DEF_CSHCTS U	CYC_CDEFIIT M	HC	CYC_CDEFIIT M	CS	F	IT	CYC_CDEFIIT M	E	CD	I	DEF_CSHCTS U	U	E
26%	11%	2%	15%	7%	-42%	15%	12%	2%	15%	25%	10%	-3%	7%	12%	-5%
HC	DEF_CSHCTS U	I	CS	CYC_CDEFIIT M	RE	E	IT	I	CS	DEF_CSHCTS U	M	U	CD	RE	F
15%	11%	2%	14%	6%	-42%	14%	10%	-1%	11%	19%	7%	-5%	6%	11%	-5%
DEF_CSHCTS U	CS	IT	I	CD	IT	U	DEF_CSHCTS U	CYC_CDEFIIT M	DEF_CSHCTS U	U	CYC_CDEFIIT M	CYC_CDEFIIT M	CS	DEF_CSHCTS U	TS
12%	8%	1%	13%	-13%	-43%	12%	6%	-4%	8%	13%	7%	-5%	5%	8%	-5%
CS	IT	TS	IT	RE	M	DEF_CSHCTS U	U	M	E	TS	TS	M	RE	E	I
12%	3%	-6%	8%	-18%	-46%	10%	5%	-10%	5%	11%	3%	-8%	3%	-1%	-6%
TS	HC	CD	HC	F	F	TS	HC	F	U	RE	E	E	HC	TS	M
7%	2%	-6%	8%	-19%	-55%	9%	3%	-17%	1%	2%	-8%	-21%	-3%	-1%	-12%

Source: Spellman, FactSet, S&P 500 sectors, CD = consumer discretionary, CS = consumer staples, E = energy, F = financials, HC = health care, I = industrials, IT = information technology, M = materials, RE = real estate, TS = telecommunication services, U = utilities.

FAANGs optimism looked like technology in the 1990s

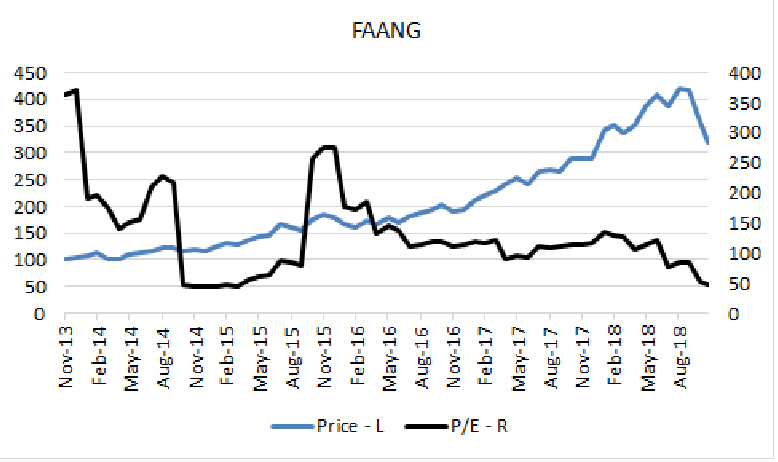
FAANG stocks rallied and outperformed market by 150% through mid summer



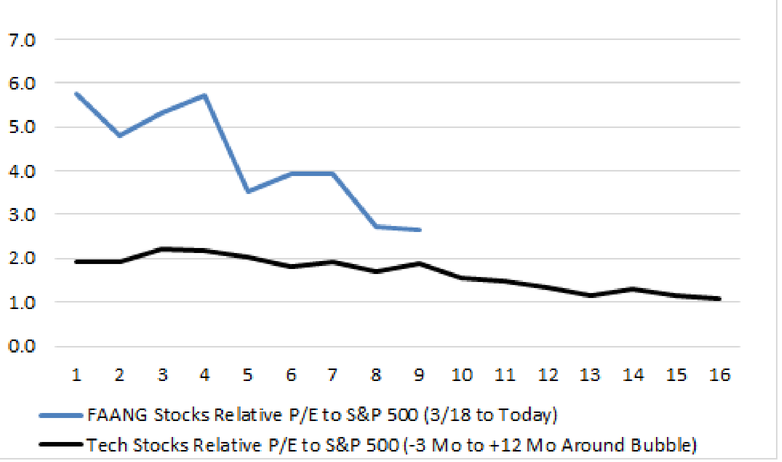
It ended badly

Area	Return Since 8/31	P/E 8/31	P/E 11/20
S&P 500	-8.9%	21.5	18.4
FAANG	-23.3%	84.7	48.4
FB	-24.6%	24.3	17.9
AMZN	-25.7%	182.7	92.0
AAPL	-22.3%	20.6	14.9
NFLX	-27.4%	167.9	95.7
GOOGL	-16.3%	27.8	21.5
Information Technology	-15.3%	28.0	21.7
FAANG Rel S&P 500	-14.3%	3.9	2.6
IT Rel S&P 500	-6.4%	1.3	1.2

P/E was 121 in June or nearly 6X market



Even more expensive than tech was to S&P 500 during internet bubble!



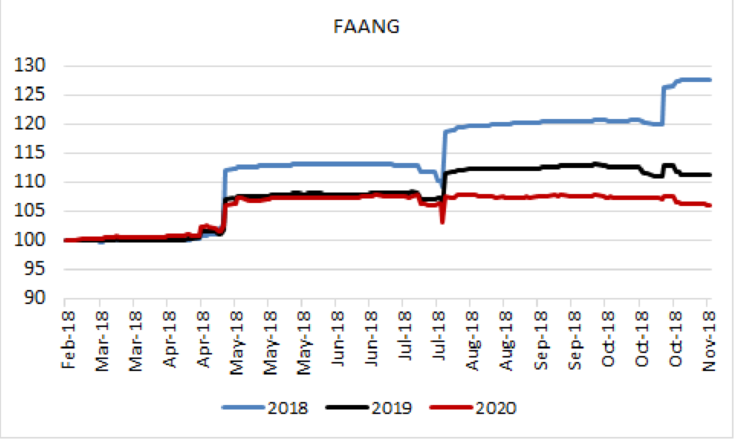
Source: Spellman, FactSet.

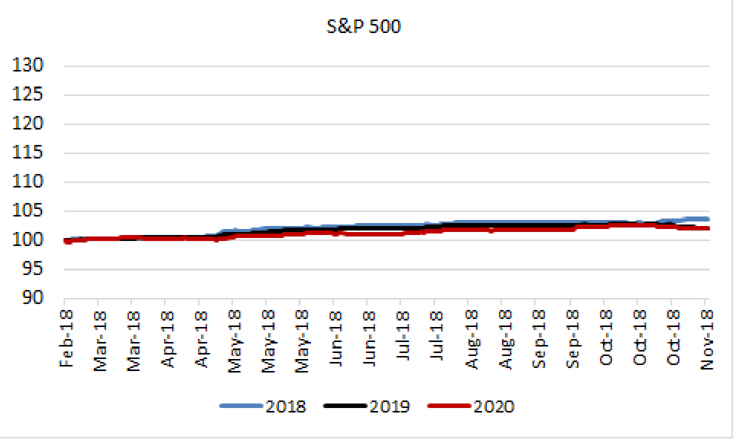
FAANG growth is slowing

Investors have been very excited about growth, but it is now slowing, regulation concerns are building, etc.

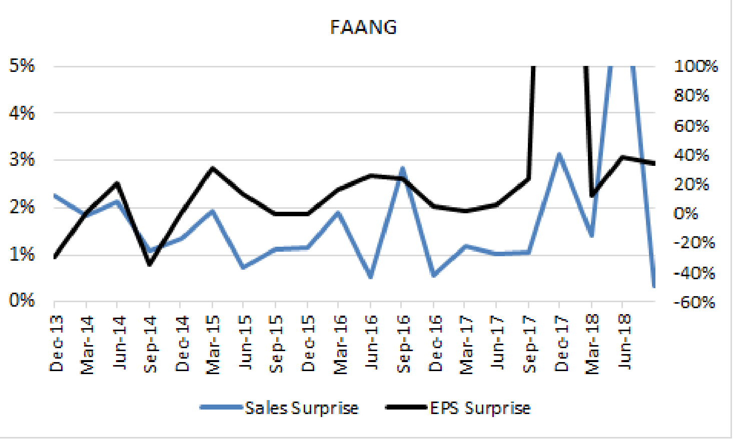
	EPS Growth				
Area	2016	2017	2018	2019	2020
S&P 500	1%	11%	22%	9%	10%
FAANG	86%	60%	82%	24%	30%
FB	86%	75%	-1%	2%	14%
AMZN	292%	-7%	335%	35%	47%
AAPL	-10%	11%	29%	13%	11%
NFLX	44%	188%	28%	57%	61%
GOOGL	18%	33%	17%	13%	15%
Information Technology	1%	21%	19%	8%	11%
FAANG Rel S&P 500	85%	49%	59%	15%	19%
IT Rel S&P 500	0%	10%	-4%	-1%	0%

Revisions in out years 2019 and 2020 have flattened





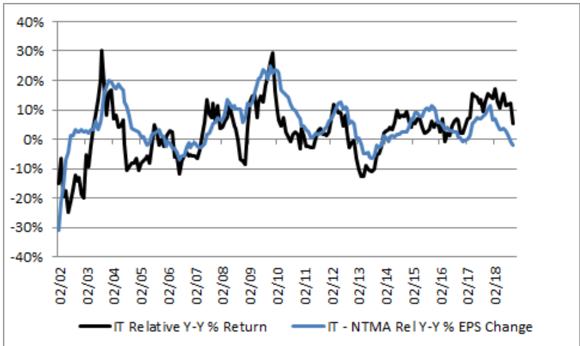
And only Google and Apple surprised positive on sales during recent quarter



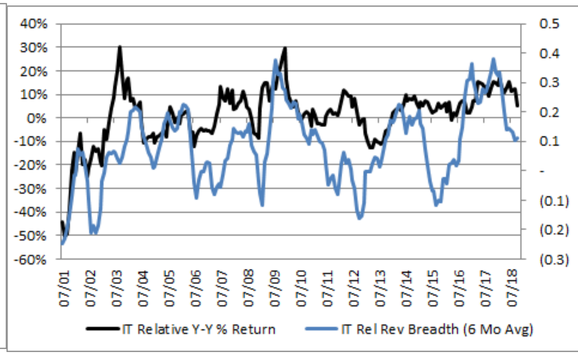
Source: Spellman, FactSet.

Tech recent underperformance reflects slowing relative growth/weakened revisions

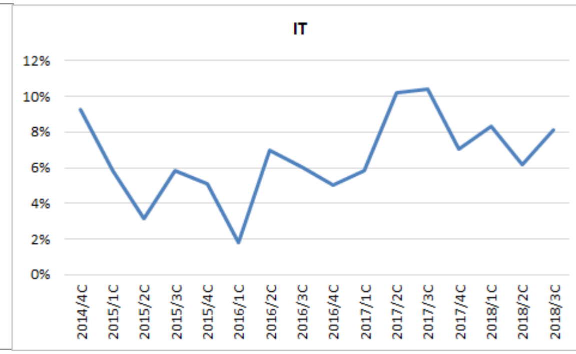
Technology NTM EPS slowing versus past above growth versus market



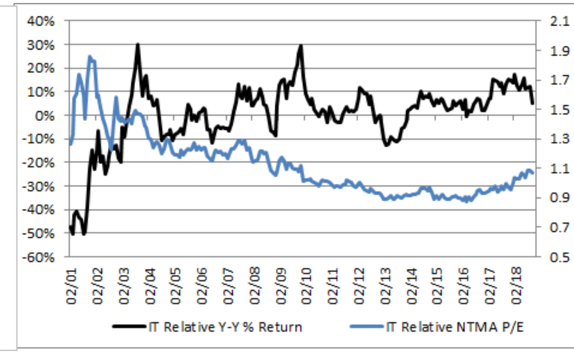
Revision breadth weakened significantly



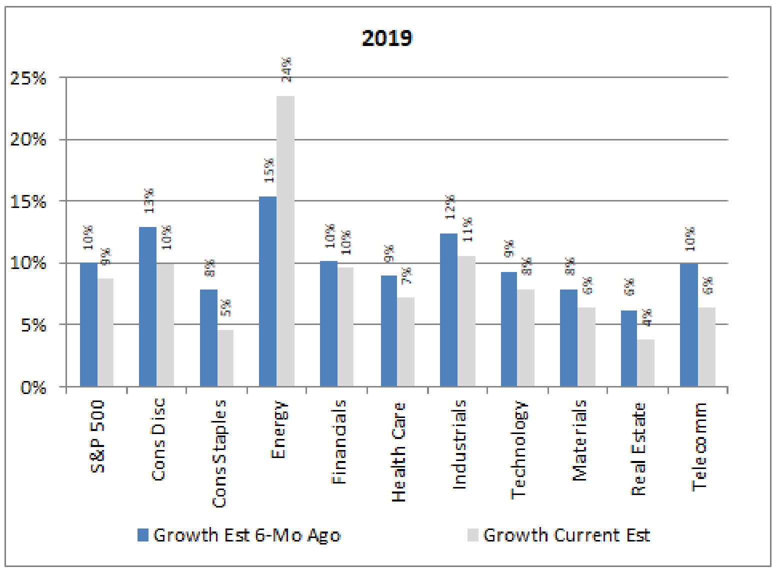
But surprises still strong



Valuation ok (about 10% premium)



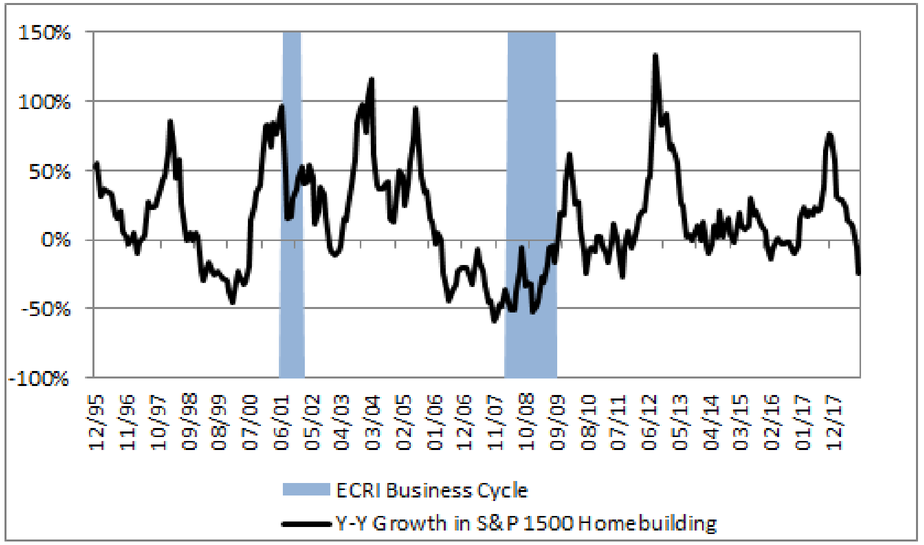
Tech revisions negative, but ok vs market average and growth second to most cyclical sectors



Source: Spellman, FactSet.

Housing is important, and stocks are down

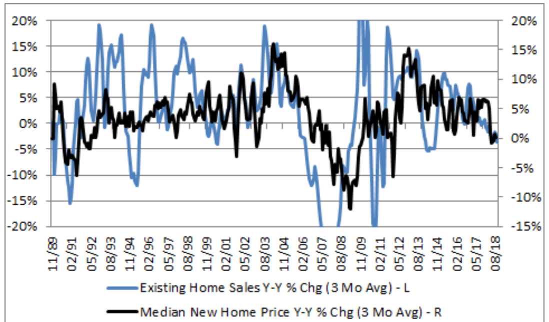
- $25 trillion in assets in 1Q 2018 (Federal Reserve)
- 42% of net worth (US Census Bureau)
  - People spend based on worth
- 17-18% of GDP through residential investment and consumption of housing services (rents, utility payments, etc.) (NAHB)
  - But volatile, so contributes more to changes in GDP growth
  - Home purchases fuel other sales (furniture, etc.)
  - Home builders employ people who spend their wages
- Housing stocks are faltering

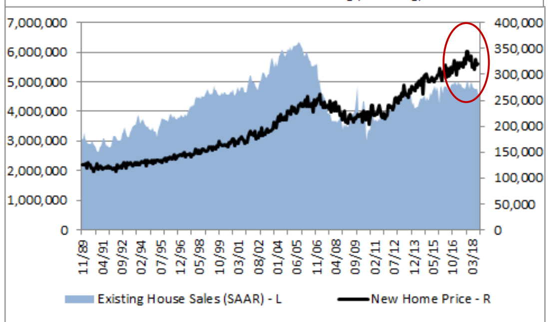


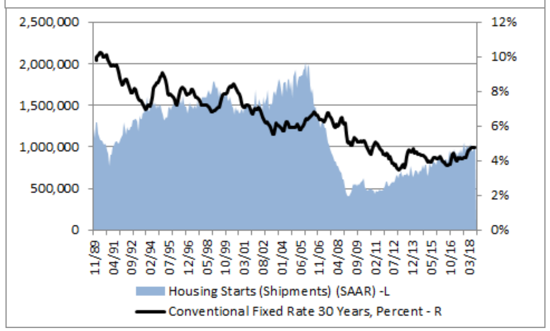
Source: Spellman, FactSet, ECRI, S&P.

Cracks in the foundation of housing?

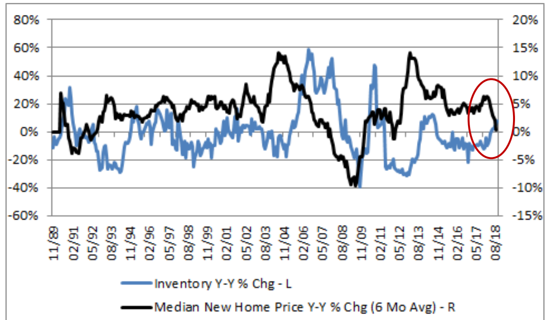
Existing home sales and prices of new homes are down (existing home prices still rising), but sales/starts still off highs and home ownership low (64% vs 69% at peak)

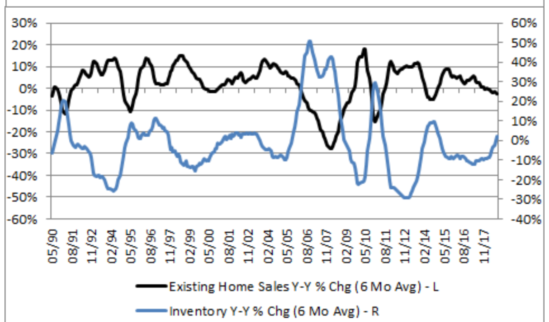


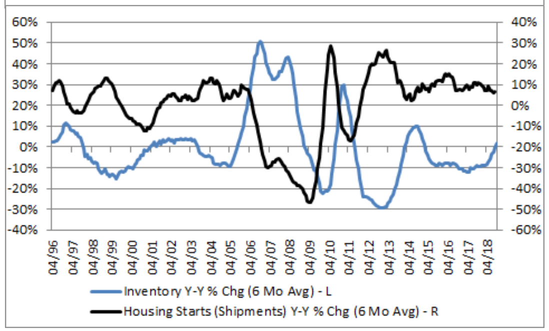




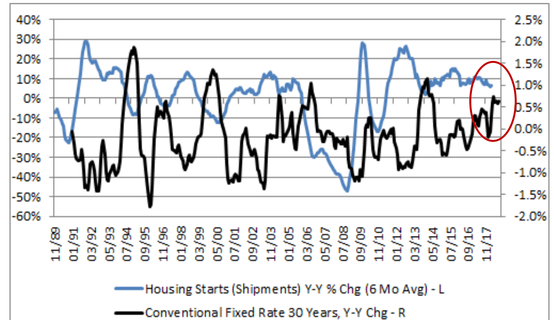
Home sales growth slowing, and inventory rising => leading to price weakness?

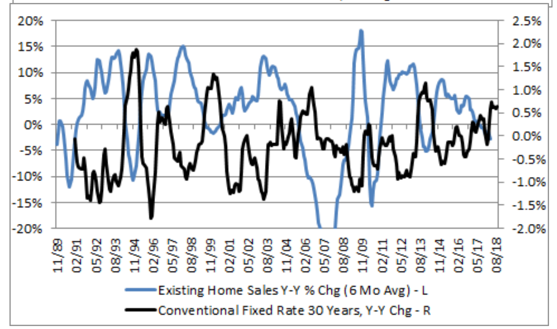




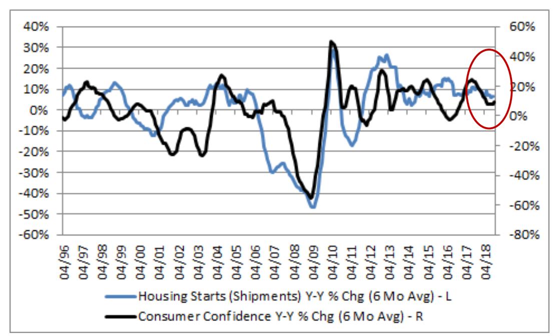


Higher interest rates do not help

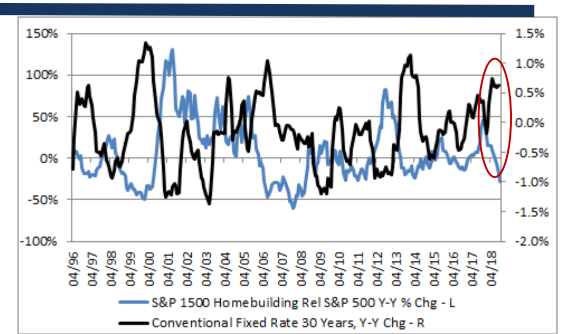


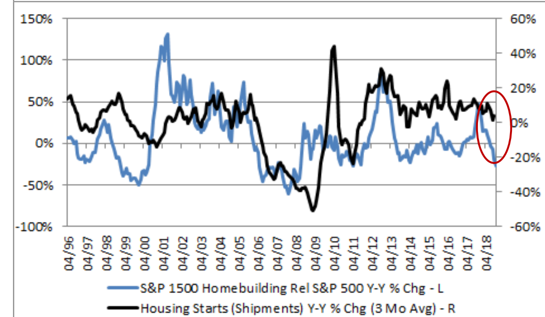


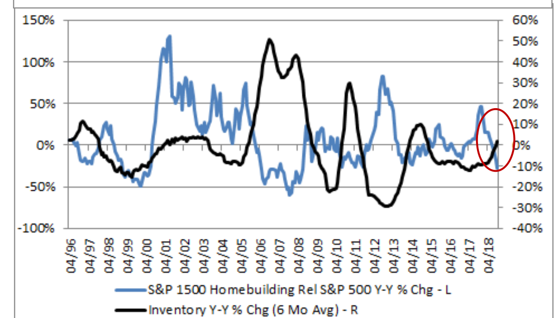
And consumer confidence is peaking?

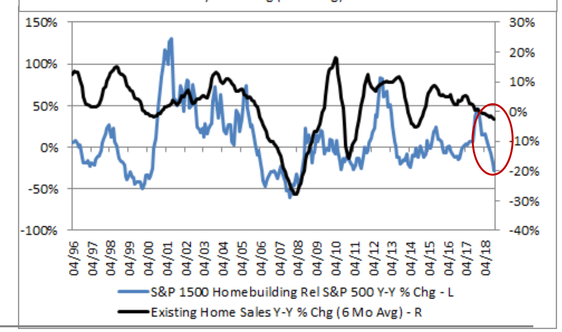


Homebuilder stocks faltering





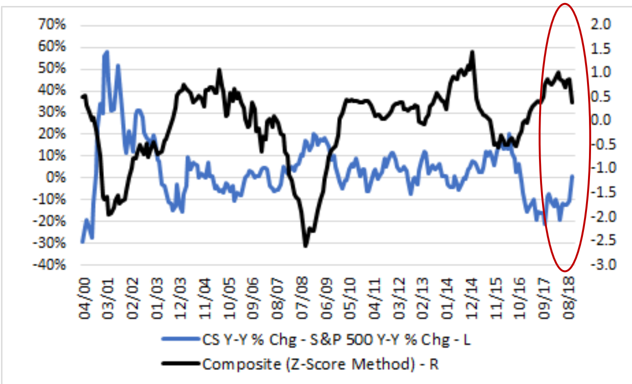




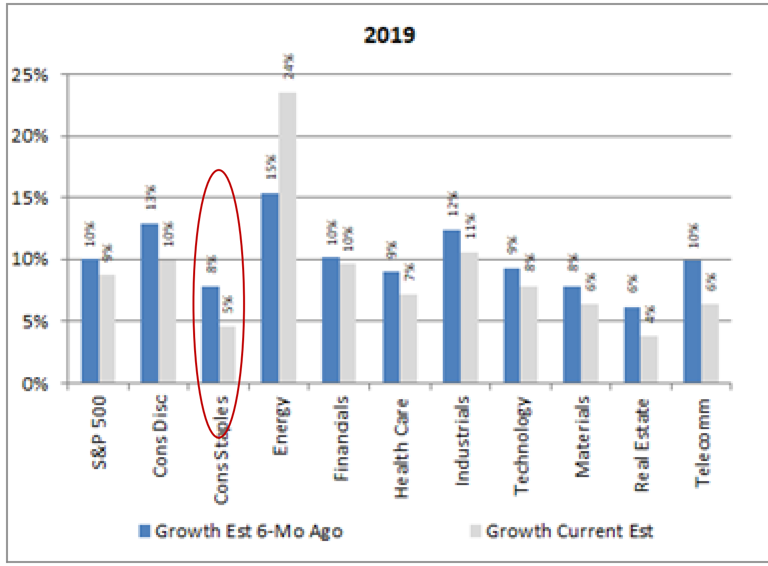
Source: Spellman, FactSet, Conference Board, National Association of Realtors, S&P, US Census Bureau, US Federal Housing Finance Agency.

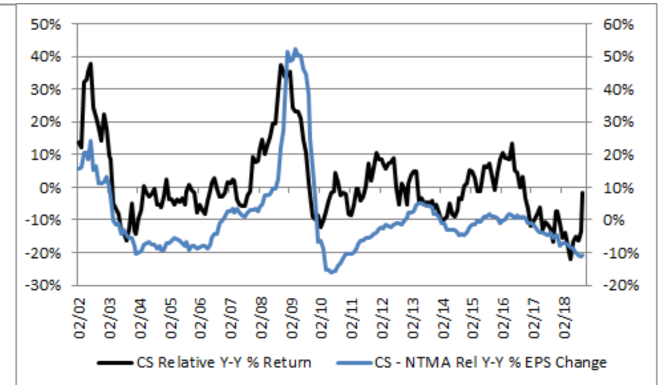
Consumer Staples was hammered over last couple years, but best recently

Consumer staples performs poorly as cycle rebounds

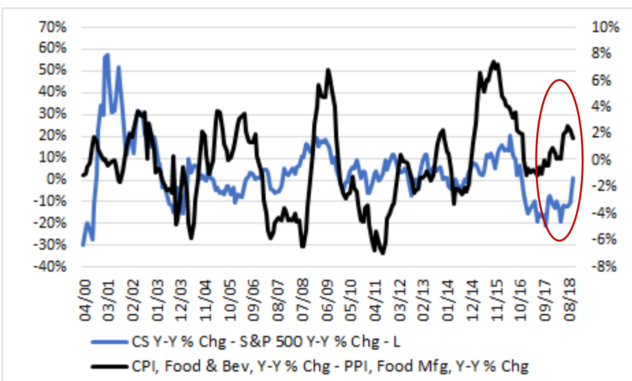


Moderate growth versus other sectors and revisions quite negative

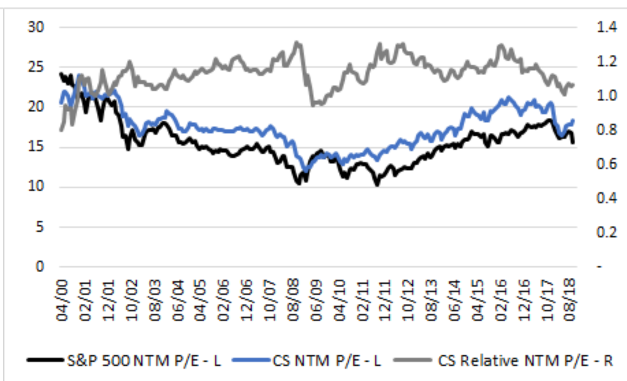




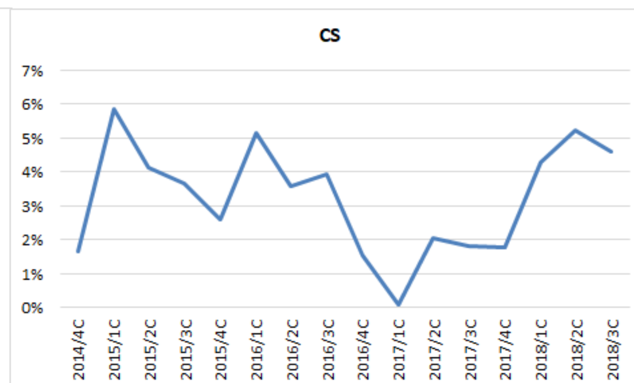
And has been faced with changes in consumer preferences (e.g., away from carbonated beverages) and was experiencing declining pricing power relative to costs



... And now the sector is cheap



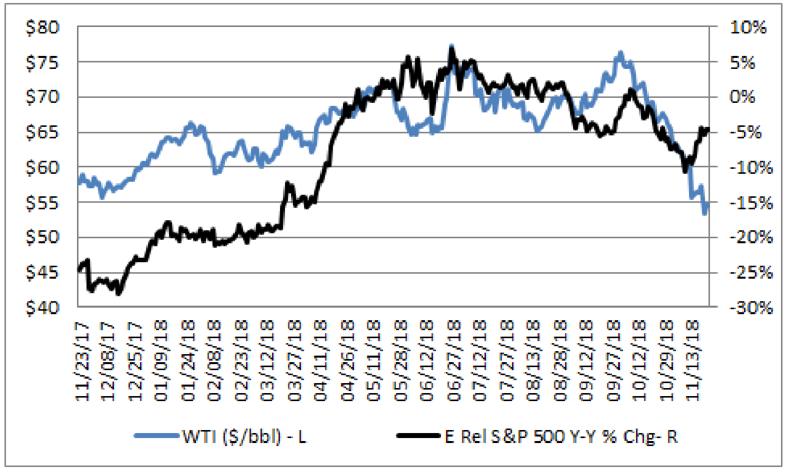
... And surprises turned up



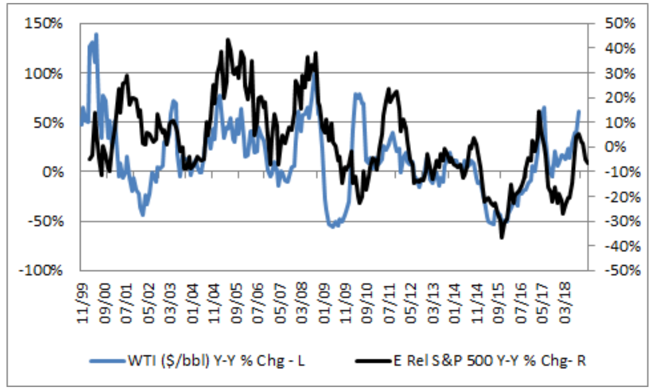
Source: Spellman, FactSet, US Department of Labor.

Energy taking a nose dive? World demand weakening, dollar up, and supply up

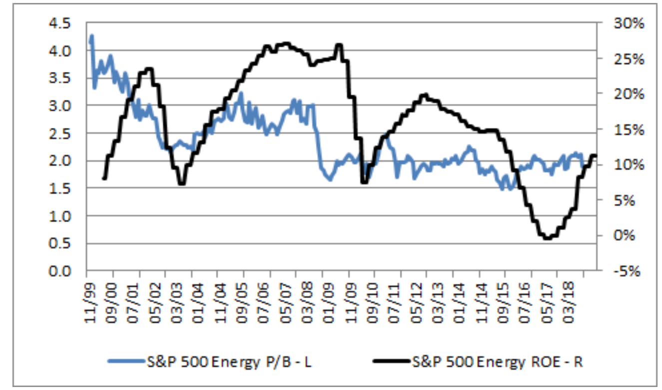
Oil crashing



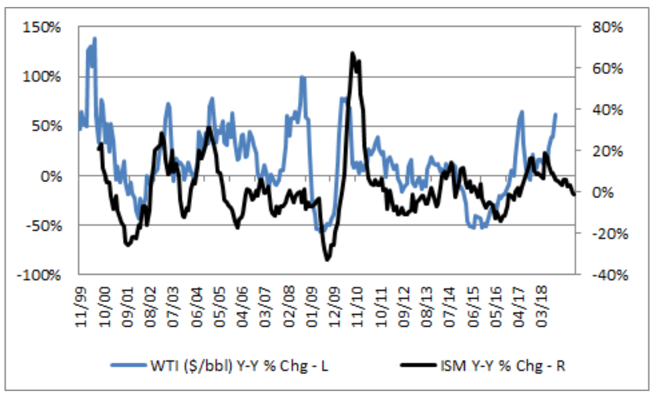
Sector relative returns 4-mo lead to oil



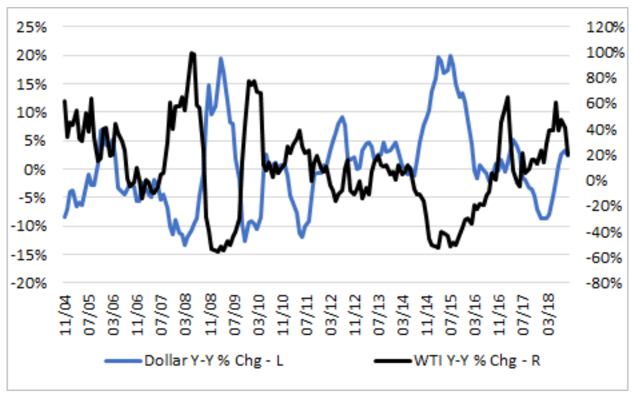
Sector cheap as ROE rebounds?



ISM (economy) leads WTI by 9 months and US and world are slowing

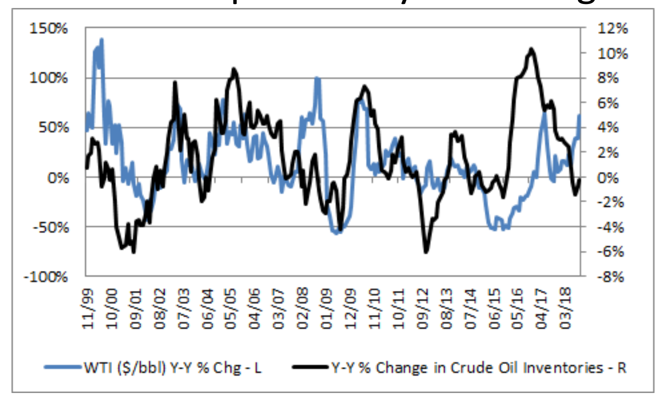


Stronger dollar not necessarily good for WTI as oil priced in dollars



and makes oil more expensive for non-US buyers (demand decreases)

Inventories improved 1-year through Oct



However, up 44 million barrels (US), or 4%, since Sept 14, US production up 1 mil barrels/day since May, Saudi overproducing 1 million, and eight countries with sanction exceptions so Iran cutting less than perhaps expected of 2 million+

Source: Spellman, FactSet, Federal Reserve System, ISM, Commodity Research Bureau, US Department of Energy, https://www.wsj.com/articles/in-oils-huge-drop-all-signs-say-made-in-the-u-s-a-1543003398?mod=?mod=itp&mod=djemITP_h .

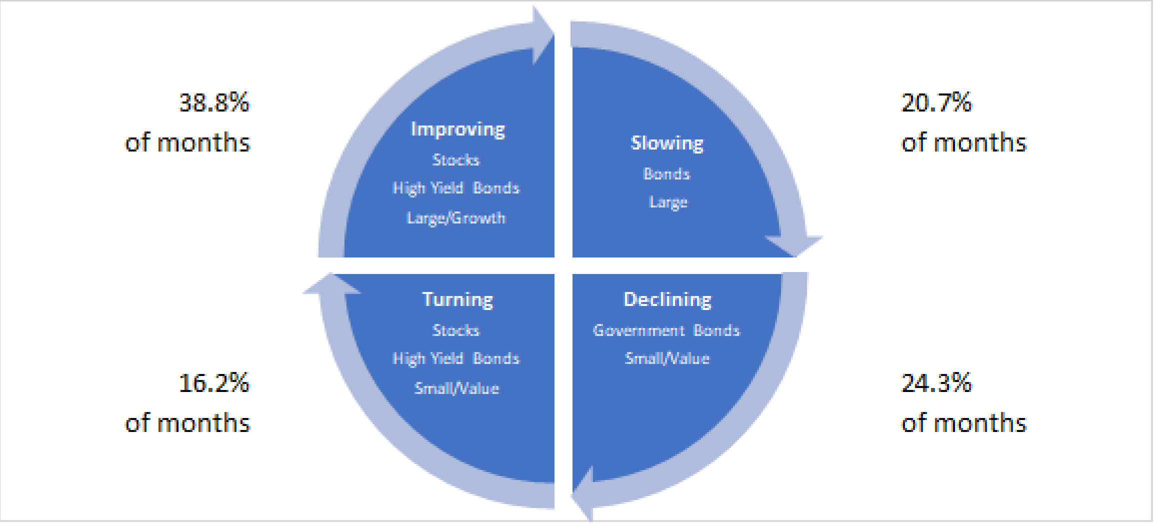
Appendix

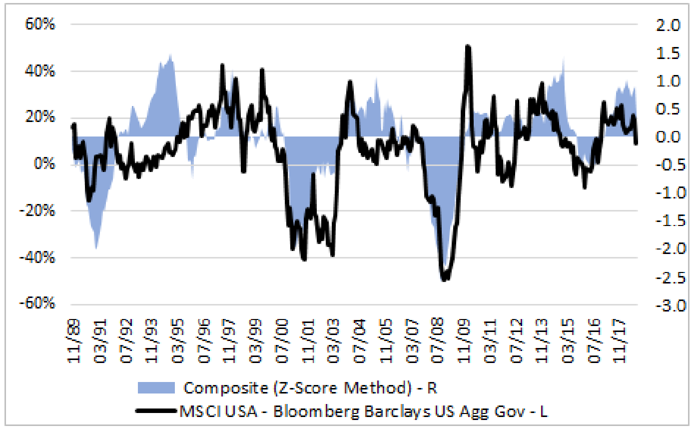
- Cycle phases and asset and sector returns
- Asset correlations
- Sector correlations
- Sector revision, earnings, surprise, and valuation trends

Cycle correlates with asset returns

	Russell 3000 Total Return M-M % Chg	Russell 2000 Total Return M-M % Chg	Russell 200 Total Return M-M % Chg	Russell 2000 Value Total Return M-M % Chg	S&P 500 Growth Total Return M-M % Chg	Russell 3000 Value Total Return M-M % Chg	Russell 3000 Growth Total Return M-M % Chg	FTSE NAREIT All REITs Total Return M-M % Chg	MSCI EM M-M % Chg	Bloomberg Barclays US Agg Government M-M % Chg	Bloomberg Barclays US Agg Corporate High Yield M-M % Chg	GSCI M-M % Chg	WTI M-M % Chg	Gold M-M % Chg	Dollar M-M % Chg
From	05/91	To	10/18												
Declining															
Avg	-0.17%	-0.29%	-0.11%	0.20%	-0.21%	0.20%	-0.54%	0.20%	-0.13%	0.55%	0.16%	-0.82%	-0.35%	0.52%	0.24%
Med	0.62%	1.46%	0.39%	1.50%	0.22%	0.83%	-0.09%	1.11%	0.08%	0.44%	0.62%	-0.35%	0.51%	0.11%	0.22%
Turning															
Avg	1.50%	2.08%	1.31%	2.00%	1.44%	1.39%	1.59%	1.61%	3.98%	0.35%	1.61%	2.07%	2.83%	1.00%	-0.29%
Med	2.26%	2.83%	1.48%	2.35%	1.78%	1.73%	2.68%	1.87%	4.49%	0.43%	1.45%	1.61%	2.48%	1.01%	-0.33%
Improving															
Avg	1.12%	1.18%	1.10%	1.13%	1.24%	0.96%	1.27%	1.12%	1.72%	0.39%	0.60%	0.48%	0.86%	0.21%	0.11%
Med	1.36%	1.31%	1.30%	1.48%	1.33%	1.31%	1.49%	1.64%	1.91%	0.40%	0.74%	1.22%	1.82%	-0.34%	0.16%
Slowing															
Avg	0.85%	0.60%	0.84%	0.63%	0.78%	0.94%	0.76%	0.77%	0.23%	0.49%	0.60%	0.15%	-0.23%	0.49%	-0.12%
Med	1.38%	1.38%	1.24%	1.04%	1.54%	1.39%	1.42%	0.77%	0.16%	0.50%	0.86%	0.31%	-0.83%	-0.05%	0.15%

Recent decline of stocks relative to bonds indicates fears of moving to declining from current slowing



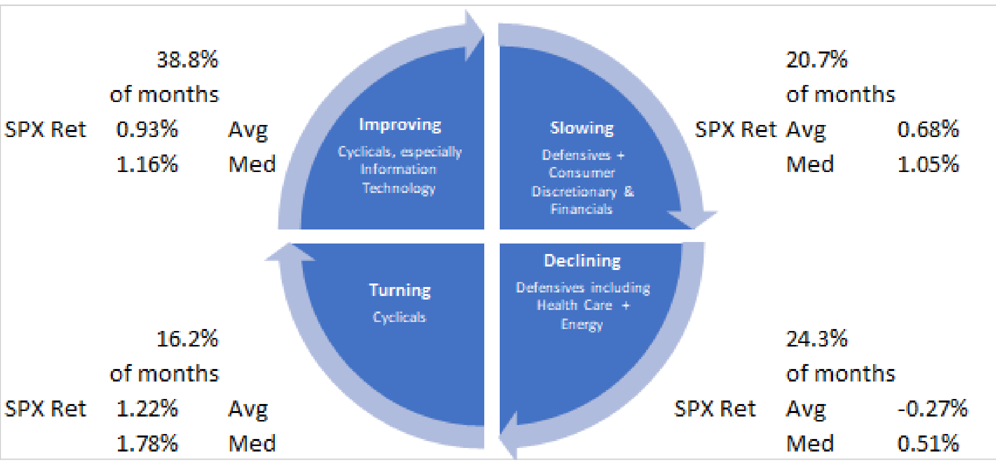


Source: Spellman, FactSet, Barclays, CRB, Federal Reserve, FTSE NAREIT, MSCI, Russell, S&P, S&P GSCI, phase probability 1/89-10/18.

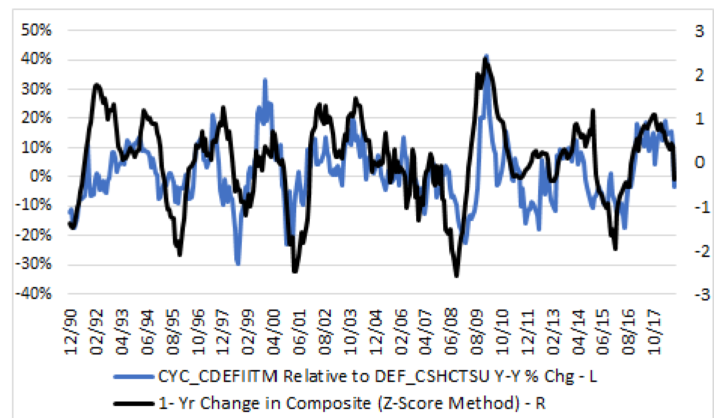
Cycle correlates with sector returns

	CD M-M % Chg	CS M-M % Chg	E M-M % Chg	F M-M % Chg	HC M-M % Chg	I M-M % Chg	IT M-M % Chg	M M-M % Chg	TS M-M % Chg	U M-M % Chg	CYC M-M % Chg	DEF M-M % Chg	GRO M-M % Chg	CYC_CDEFIITM M-M % Chg	CYC_EIM M-M % Chg	DEF_CSHCTSU M-M % Chg	CYC_CDEFIITM - DEF_CSHCTSU M-M % Chg
From	10/98	To	10/18														
Declining																	
Avg	-0.49%	0.42%	0.13%	-1.63%	0.20%	-0.78%	-1.55%	0.10%	-0.06%	0.18%	-0.04%	-0.01%	-0.69%	-0.23%	0.20%	-0.05%	-0.18%
Med	0.09%	0.71%	-0.54%	-0.37%	1.22%	0.86%	-0.30%	0.17%	1.45%	1.11%	0.44%	0.71%	-0.49%	0.59%	0.14%	0.46%	-0.16%
Turning																	
Avg	1.84%	0.99%	0.91%	2.49%	0.65%	1.63%	2.65%	2.32%	0.36%	-0.19%	0.77%	-0.15%	0.68%	0.82%	0.59%	-0.05%	0.87%
Med	2.17%	1.03%	0.79%	2.19%	1.02%	2.40%	2.64%	2.22%	1.01%	0.79%	0.88%	0.04%	1.09%	0.58%	0.74%	0.71%	0.62%
Improving																	
Avg	1.12%	0.59%	1.03%	0.62%	1.03%	1.16%	1.73%	0.67%	0.46%	0.94%	0.97%	0.38%	1.38%	1.11%	0.92%	0.54%	0.57%
Med	1.20%	0.70%	1.26%	1.44%	1.05%	1.21%	1.81%	0.65%	0.31%	1.23%	1.00%	0.45%	1.26%	1.04%	0.71%	0.61%	0.68%
Slowing																	
Avg	1.00%	0.88%	0.85%	1.16%	0.72%	0.94%	0.47%	0.28%	0.56%	1.31%	0.79%	0.87%	1.30%	0.89%	0.82%	0.95%	-0.07%
Med	0.58%	0.66%	1.45%	0.91%	0.98%	0.72%	1.05%	0.56%	0.39%	1.49%	1.09%	1.18%	1.21%	1.18%	1.08%	1.08%	-0.02%

Sector	Cycle Model
Consumer Discretionary	0.54
Consumer Staples	0.19
Energy	0.37
Financials	0.48
HealthCare	0.36
Industrials	0.54
Information Technology	0.55
Materials	0.41
Telecommunication Services	0.44
Utilities	0.34



Cyclicals rolling over as slowing has set in



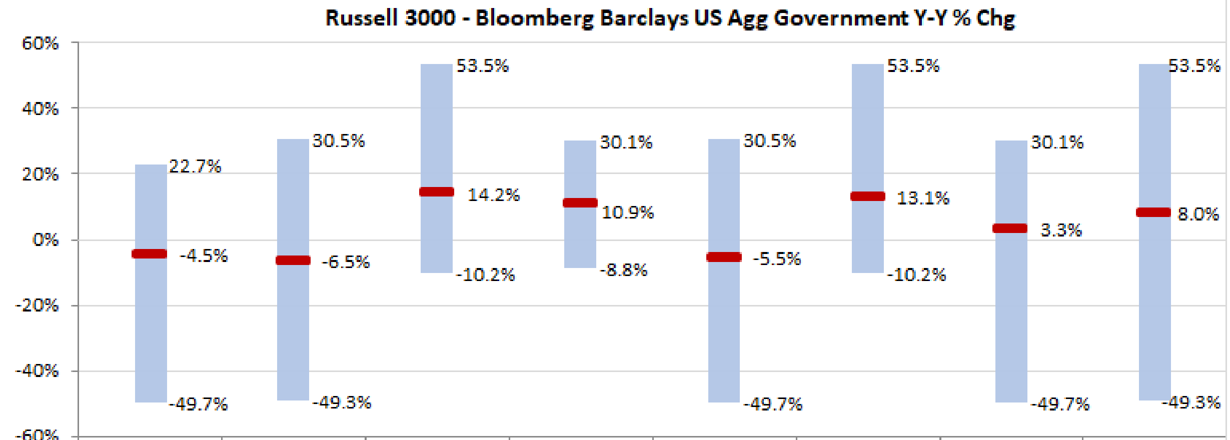
Source: Spellman, FactSet, S&P, S&P 500 sectors, monthly returns for sectors 10/98-10/18, monthly returns for S&P 500 5/91-10/18, annual correlations 12/91-10/18.

… although, there is substantial historic variation

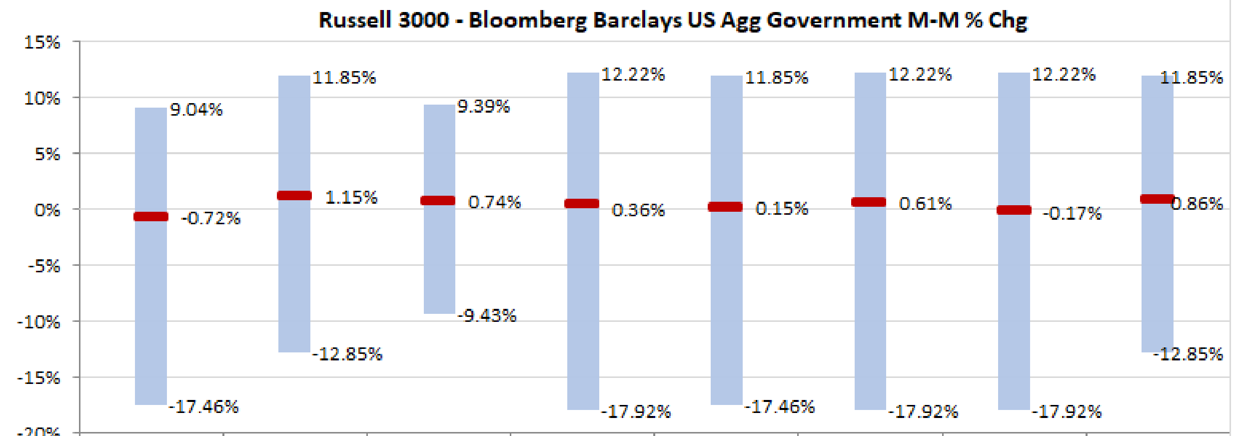
The equity market tends to perform better (than government bonds) during improving and slowing phases, but this is not always the case

There is also significant variation in results for growth (versus value), high-yield (versus government), and cyclical (versus defensive) sector returns

The economy is one of three major factors impacting asset class and sector returns; the other two are overall market returns and expectations as implied in valuations of the assets and sectors



	Declining	Turning	Improving	Slowing	Below Average	Above Average	Decelerating	Accelerating
Avg	-4.5%	-6.5%	14.2%	10.9%	-5.5%	13.1%	3.3%	8.0%
Max	22.7%	30.5%	53.5%	30.1%	30.5%	53.5%	30.1%	53.5%
Min	-49.7%	-49.3%	-10.2%	-8.8%	-49.7%	-10.2%	-49.7%	-49.3%



	Declining	Turning	Improving	Slowing	Below Average	Above Average	Decelerating	Accelerating
Avg	-0.72%	1.15%	0.74%	0.36%	0.15%	0.61%	-0.17%	0.86%
Max	9.04%	11.85%	9.39%	12.22%	11.85%	12.22%	12.22%	11.85%
Min	-17.46%	-12.85%	-9.43%	-17.92%	-17.46%	-17.92%	-17.92%	-12.85%

Source: Spellman, FactSet, Barclays, Russell.

Asset class correlations vary with cycle

Large stocks and growth are most positively correlated with Cycle Model, and government bonds, gold, dollar are negatively correlated and WTI has a low correlation

	Cycle Model	GSCI	Russell 3000 Total Return	Russell 2000 Total Return	Russell 200 Total Return	Russell 2000 Value Total Return	S&P 500 Growth Total Return	Russell 3000 Value Total Return	Russell 3000 Growth Total Return	FTSE NAREIT All REITs Total Return	MSCI EM	Bloomberg Barclays US Agg Government	Bloomberg Barclays US Agg Corporate High Yield	WTI	Gold	Dollar
Cycle Model	1.00															
GSCI	0.13	1.00														
Russell 3000 Total Return	0.62	0.24	1.00													
Russell 2000 Total Return	0.53	0.33	0.87	1.00												
Russell 200 Total Return	0.61	0.17	0.98	0.77	1.00											
Russell 2000 Value Total Return	0.40	0.21	0.72	0.89	0.61	1.00										
S&P 500 Growth Total Return	0.60	0.16	0.95	0.71	0.98	0.50	1.00									
Russell 3000 Value Total Return	0.55	0.19	0.92	0.86	0.88	0.87	0.78	1.00								
Russell 3000 Growth Total Return	0.62	0.25	0.96	0.78	0.96	0.53	0.98	0.77	1.00							
FTSE NAREIT All REITs Total Return	0.34	0.25	0.56	0.68	0.45	0.81	0.35	0.72	0.37	1.00						
MSCI EM	0.42	0.18	0.30	0.44	0.23	0.37	0.20	0.30	0.27	0.52	1.00					
Bloomberg Barclays US Agg Government	(0.44)	(0.20)	(0.22)	(0.26)	(0.20)	(0.08)	(0.22)	(0.10)	(0.28)	0.52	(0.12)	1.00				
Bloomberg Barclays US Agg Corporate High Yield	0.32	0.24	0.64	0.69	0.57	0.69	0.52	0.68	0.55	0.52	0.43	0.03	1.00			
WTI	0.12	0.94	0.21	0.26	0.16	0.11	0.17	0.12	0.25	0.52	0.15	(0.30)	0.16	1.00		
Gold	(0.15)	0.48	(0.17)	(0.03)	(0.23)	(0.08)	(0.22)	(0.18)	(0.15)	0.52	0.15	0.02	0.16	0.34	1.00	
Dollar	(0.12)	(0.60)	(0.16)	(0.19)	(0.12)	(0.10)	(0.13)	(0.12)	(0.17)	0.52	(0.23)	0.06	(0.37)	(0.53)	(0.54)	1.00

Source: Spellman, FactSet, Barclays, CRB, Federal Reserve, FTSE NAREIT, MSCI, Russell, S&P GSCI, annual changes, 12/91-10/18.

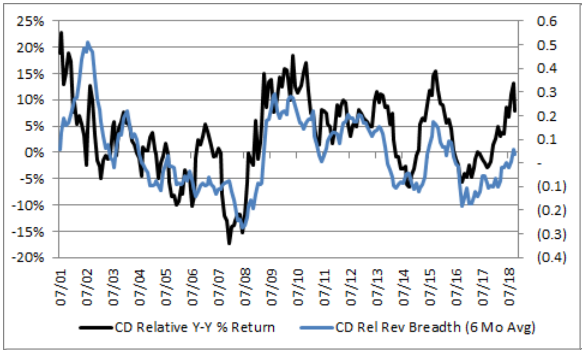
Sector correlations vary with cycle

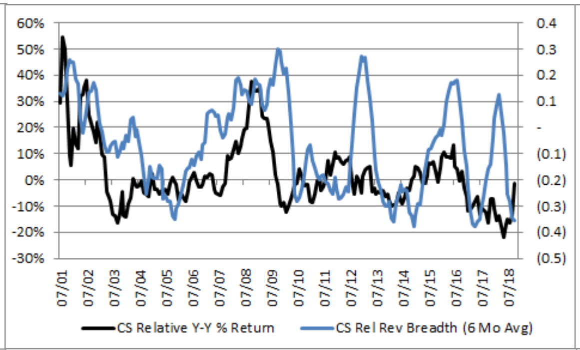
Information Technology, Industrials, and Consumer Discretionary are most correlated with the cycle model and Consumer Staples, Utilities, Energy, and Health Care are least correlated

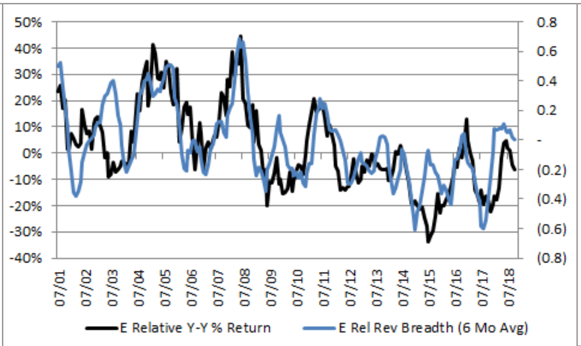
	Cycle Model	CD	CS	E	F	HC	I	IT	M	TS	U
Cycle Model	1.00										
CD	0.54	1.00									
CS	0.19	0.50	1.00								
E	0.37	0.39	0.40	1.00							
F	0.48	0.76	0.65	0.52	1.00						
HC	0.36	0.60	0.77	0.35	0.67	1.00					
I	0.54	0.80	0.62	0.71	0.86	0.64	1.00				
IT	0.55	0.66	0.26	0.41	0.53	0.54	0.66	1.00			
M	0.41	0.62	0.53	0.67	0.64	0.39	0.80	0.42	1.00		
TS	0.44	0.70	0.35	0.45	0.49	0.43	0.59	0.63	0.39	1.00	
U	0.34	0.49	0.48	0.58	0.56	0.49	0.64	0.35	0.38	0.57	1.00

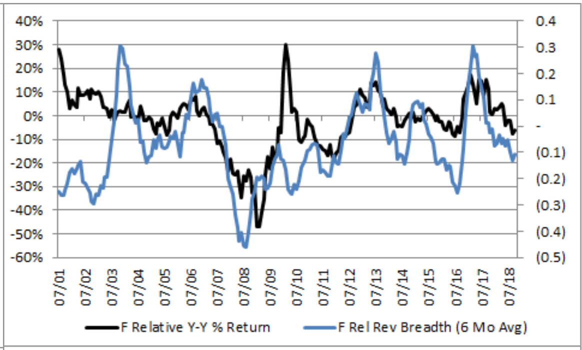
Source: Spellman, FactSet, S&P 500 sectors, annual changes, 12/91-10/18, CD = Consumer Discretionary, CS = Consumer Staples, E = Energy, F = Financials, HC = Health Care, I = Industrials, IT = Information Technology, M = Materials, TS = Telecommunications Services, U= Utilities.

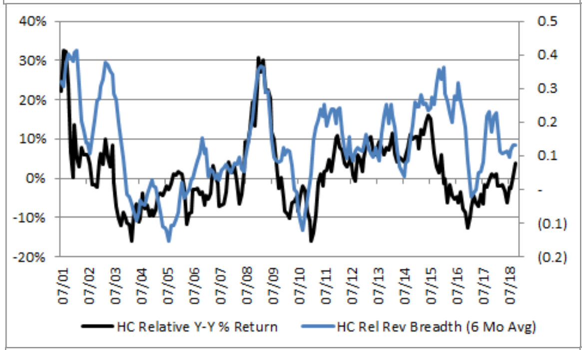
Sector revision trends

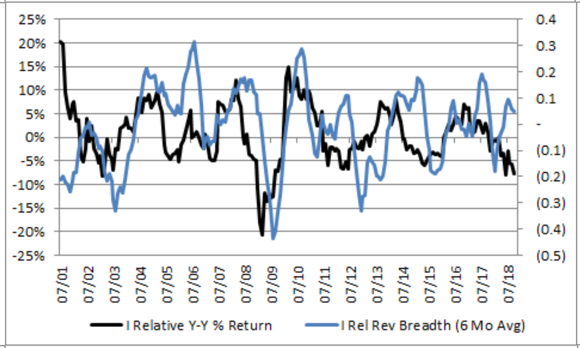


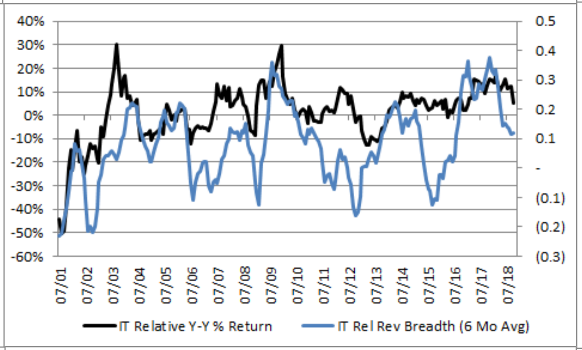


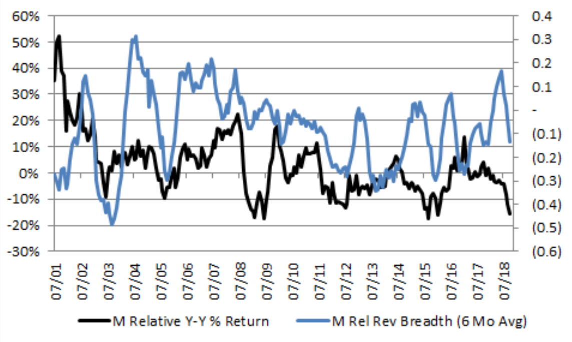


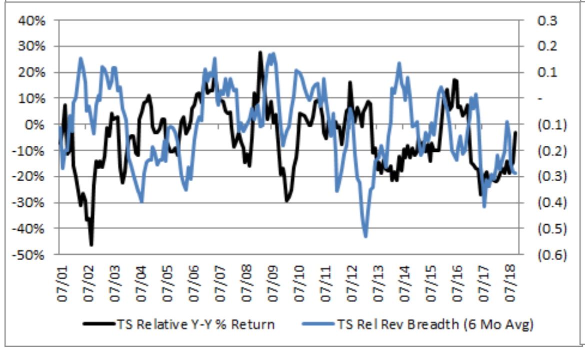


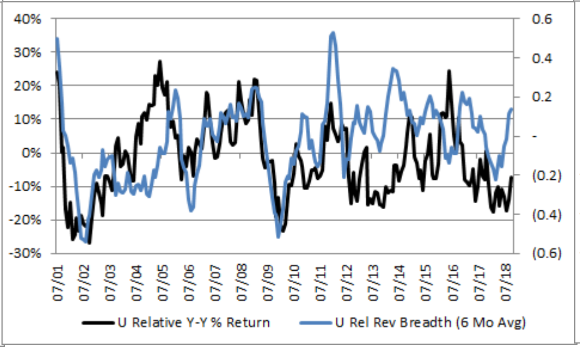


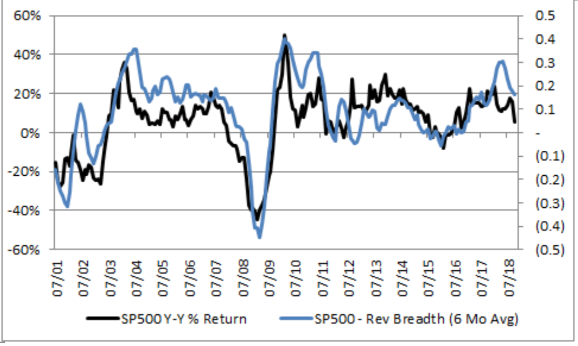






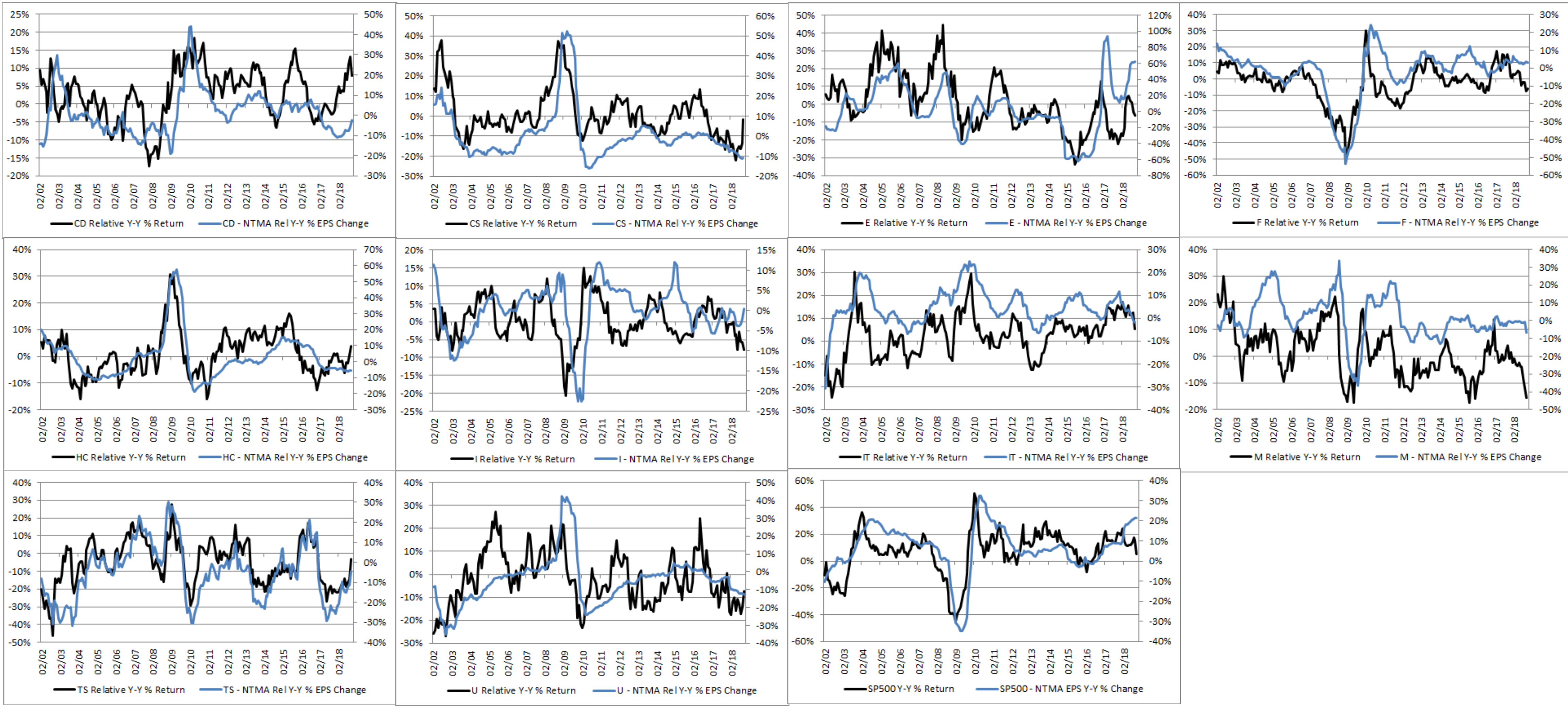






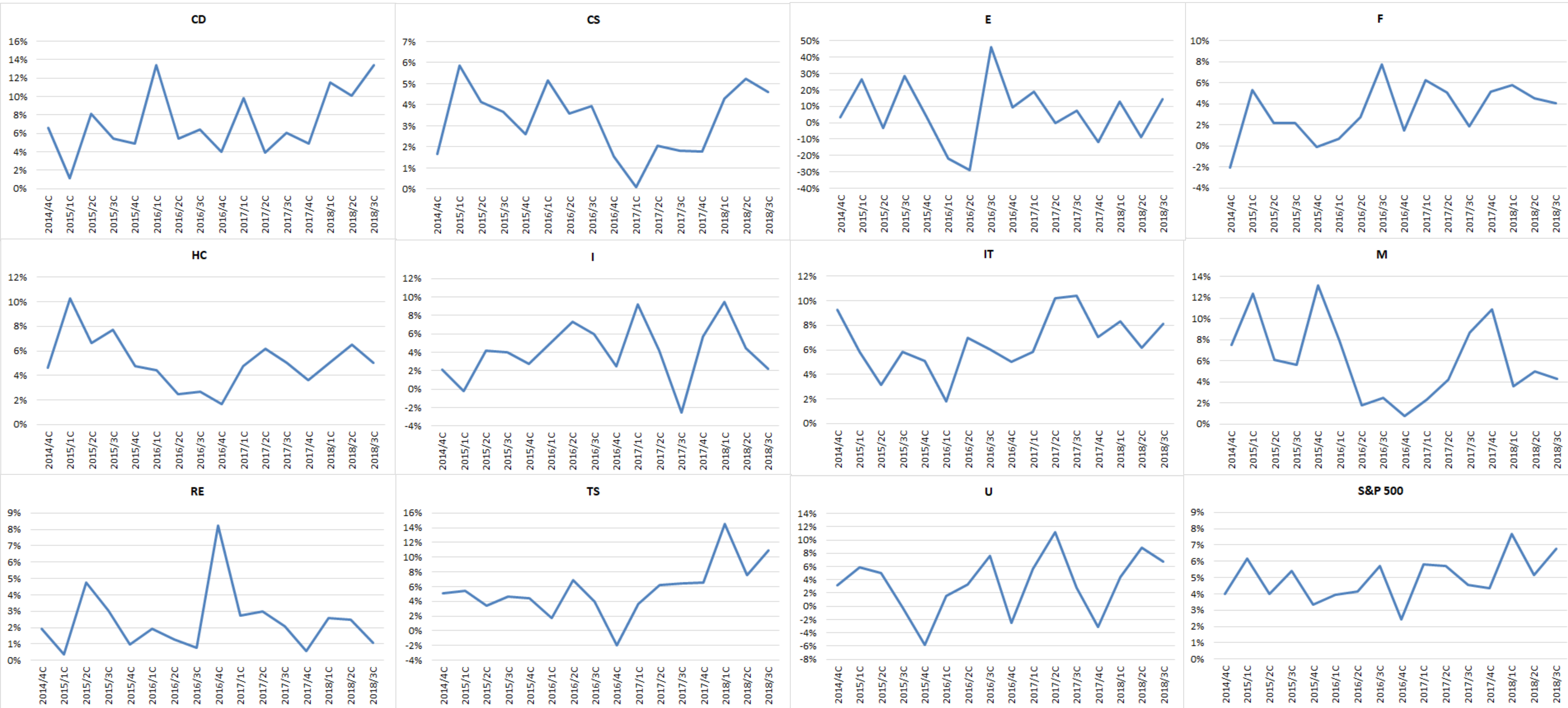
Source: Spellman, FactSet.

Sector earnings trends



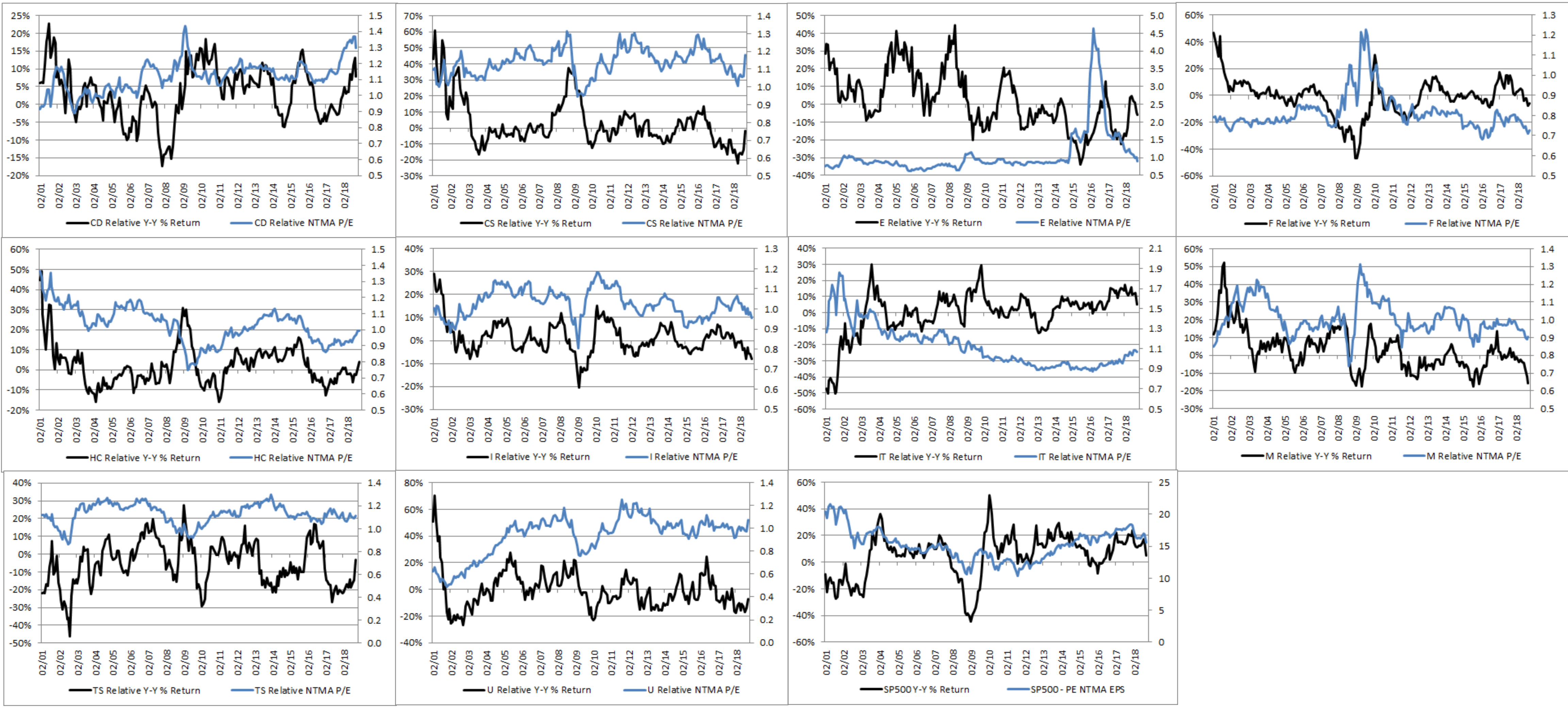
Source: Spellman, FactSet.

Sector surprise trends



Source: Spellman, FactSet, CD = Consumer Discretionary, CS = Consumer Staples, E = Energy, F = Financials, HC = Health Care, I = Industrials, IT = Information Technology, M = Materials, RE = Real Estate, TS = Telecommunications Services, U= Utilities.

Sector valuation trends



Source: Spellman, FactSet.