OptionsHawk

2018 Stock Market Outlook

Thank you for purchasing the 2018 Market Outlook. It was another fantastic year in the markets with 2017 looking to close at or near new all-time highs, but also a year that showed the importance of stock selection and closely following relative strength for shifts in sector ownership. It is important to get ahead of these sector rotations and be active with your investment allocations. I hope this 2018 outlook can serve as a resourceful guide all year to target best of breed names in these industries when trends are favorable. I do not expect you to follow every piece of advice in this report as every investor has his/her own style of investing, different risk parameters and timeframes, as well as each individual's personal outlooks that may differ with my views. The goal here is to open your eyes to names I favor in 2018 for various reasons, a guide to some key trends and themes in investing, and likely introduce you to some exciting stocks that were not on your watch-list as I have always thrived in discovering under-followed stocks that become superstar performers.

We enter 2018 with tax reform recently passing, a big boost to corporations, though still questions as to how the proceeds will be utilized. Many companies have indicated plans to repurchase shares with the proceeds while it would be better for the economy if they invested in capital expenditures. The repatriation part of the plan could play an even larger role in reviving the M&A market. We are also in a Fed tightening cycle with plans to start lowering reserves while both the ECB and BOJ are likely to end QE in 2018. Economic data has been very strong across the globe, a synchronized global recovery, while earnings end the year with positive revision trends and 2018 a year where earnings expected to drive the upside moves with limits to much further expansion of the multiples. The US Dollar is closing the year near a three year low. Inflation will need to be closely eyed in 2018 and seen as a main risk to markets as well as the possibility for the yield curve to invert. I will provide a bunch of the best charts I have seen on economic data, fund flows, sentiment, and valuation to present a clearer picture of where we are into 2018. Additional risks into the year include potential for a more hawkish Fed causing a strengthening US Dollar, the China credit situations with deleveraging, Brexit, US midterm elections in November, trade disruption from policy, and North Korea as well as other geopolitical concerns escalating. Potential upside "risks" include an Infrastructure plan spurring even greater GDP growth, Healthcare reform, a revived M&A market, and better than expected earnings growth.

The best piece of simple advice is to buy stocks in quality companies growing both the top and bottom line in attractive industries with positive tailwinds for growth. Quality meaning companies that have consistently exceeded earnings expectations in previous quarters, strong management, positive margins and efficiency ratios (ROE, ROA, ROIC), and healthy balance sheets. Attractive industry meaning an industry showing growth that has meaningful available market remaining, being involved in the secular shifts seen in economies. The 2018 themes section of this report will be helpful for finding those industries. It is important to learn sector specific ratios which I try and present in more detail in the Sector Breakdowns section. Into 2018 it looks like we could see a shift back to value from growth, though there are some indications that growth/momentum has a little more room to run before we see that shift back to value.

I did a post earlier this year on the 7 classes of great investments to pay attention to and that includes pure revenue growth stories in growing markets, sustainable MOAT, market share takers and disruptors in large TAMs, product mix shift and margin expansion stories, accelerating growth causing multiple re-ratings, new product and replacement/upgrade cycles, and consolidator stories with synergies and growth.

I do not expect you to enter all of these names on day one of 2018 and sit and wait, instead, be active and strategic in entries/exits whether taking a fundamental or technical approach, or even better, a combination. One fairly simple rule I like to use is to avoid longs in names where the 8 week EMA has crossed below the 20 week EMA, and vice versa for shorts, it will keep you on the right side of the trade more often than not. Each name mentioned in this report should also be researched further as these are brief views as I am a firm believer that less is more, and you should be able to lay out an investment thesis concisely, but more in depth due diligence always adds value and confidence to the view.

At OptionsHawk we perform fundamental, technical, ownership trends, and options activity analysis while also discovering the likely catalyst for a move, and when all of these individual analyses give the same signal, it is a worthy trade/investment. If you are interested in receiving daily research and live market coverage from OptionsHawk, please visit the website at OptionsHawk.com. For those interested in having accounts managed I recently started a new venture at Relativity Capital where I will be providing my services for stock selection, portfolio management, and risk management. For further details please visit RelativityCap.com and I also put the Hawk Alpha discovery Fund tear sheet on the very last page of this document. Relativity Capital put in a strong year and full results will be available at RelativityCap.com soon. My multi-pronged investment approach utilizing options flow for idea generation and then doing unique fundamental research while using technical analysis for timing entry/exits has been the key.

Thank you again and I hope you enjoy this year's report, it is the most extensive to date. Best of luck to everyone in 2018!

S&P 500 (SPX) Technical View and Analysis

It is always important to look at multiple timeframes when performing technical analysis, so I would start with the short-term view. We are in a strong trend since the August test of the 20 week EMA and flagging above the 8 day EMA at 2,675, all moving average sloping upward and supportive. There remains some room to extend this rally to 2,725 or higher but starting to see some negative RSI divergences. The first pullback likely tests around 2,610 as a key level, while the 2,570/2,550 zone is the next level of importance. A sharper correction could target a big volume node that aligns with the rising 200 MA near 2,475, a level that should hold, while weekly cloud support 2,365 would follow.

On a longer term weekly view we see a the upper band resistance of the Andrew's Pitchfork that played out last year stands right near the current highs at 2,700, as does the channel extension off the 2011 and 2015 high, so we enter 2018 with some potentially formidable resistance. There is plenty of room to work back to the mid-line or even lower end of the channel while remaining in an uptrend. We are extended on both the weekly and monthly Bollinger Band levels as well.

I've put together a table below that details a bunch of key levels with a variety of technical analysis techniques. I prefer to keep technical analysis fairly simple with price patterns, trend lines, and moving average crossover signals. Another useful technique I have found is using trend lines on the RSI chart, looking for inflection point trend breaks, and is especially effective on the weekly timeframe for basing stocks emerging into new trends.

Key Levels Table

In 2017 we hit every upside target level except 2,787, a 161.8% Fibonacci extension of the 2011/2015 range, and 2,940, the measured move target of the 1974-2013 bull flag breakout. Closing at record highs makes it more difficult to have resistance levels as we are in new territory but often see extensions of prior tops acts as resistance with trading channels very common throughout the last year.

Level	Description		Level	Description
3,160.00	2011/2016 Breakout Measured Move		2,476.00	200 Day MA
2,940.00	Measured Move of 1974-2013 Bull Flag Breakout		2,458.00	50 Week EMA
2,787.00	161.8% Fibonacci Extension 2011/2015 Range		2,400.00	Weekly Lower Bollinger Band
2,705.00	Weekly Upper Bollinger Band		2,380.00	20 Month EMA
2,700.00	Channel Resistance Off 2011 and 2015 Highs		2,364.00	Weekly Cloud Support
2,698.00	Monthly Upper Bollinger Band		2,345.00	Largest Volume Node Lower Support
2,673.00	Tenkan Daily		2,275.00	2016 High, Support
2,650.00	20 Day EMA		2,234.00	Monthly Kijun
2,626.00	Kijun Daily		2,145.00	200 Week MA
2,612.00	Weekly Tenkan		2,135.00	Summer 2015 Highs, Support
2,610.00	Weekly Volume Node Support		2,130.00	2016 Breakout Retest, Volume Support
2,607.55	50 Day MA		2,130.00	50 Month EMA
2,576.00	Daily IchiMoku Cloud Support		2,084.00	November 2016 Low
2,575.00	2017 Trend Support		1,992.00	Brexit Low
2,568.00	20 Week EMA		1,988.00	Monthly Lower Bollinger Band
2,555.00	6 Year Channel Up Mid-Line		1,941.00	Monthly Cloud Support
2,543.00	Weekly Kijun		1,872.00	Sep. 2015 Low
2,538.00	8 Month EMA		1,820.00	Oct. 2014 Low
2,490.00	Monthly Tenkan		1,810.00	2016 Low
2,480.00	Largest Volume Node Upper Support		1,500.00	Retest of the 2013 Range Breakout

Charts

S&P 7 Year Monthly

S&P 2018 Roadmap Scenario

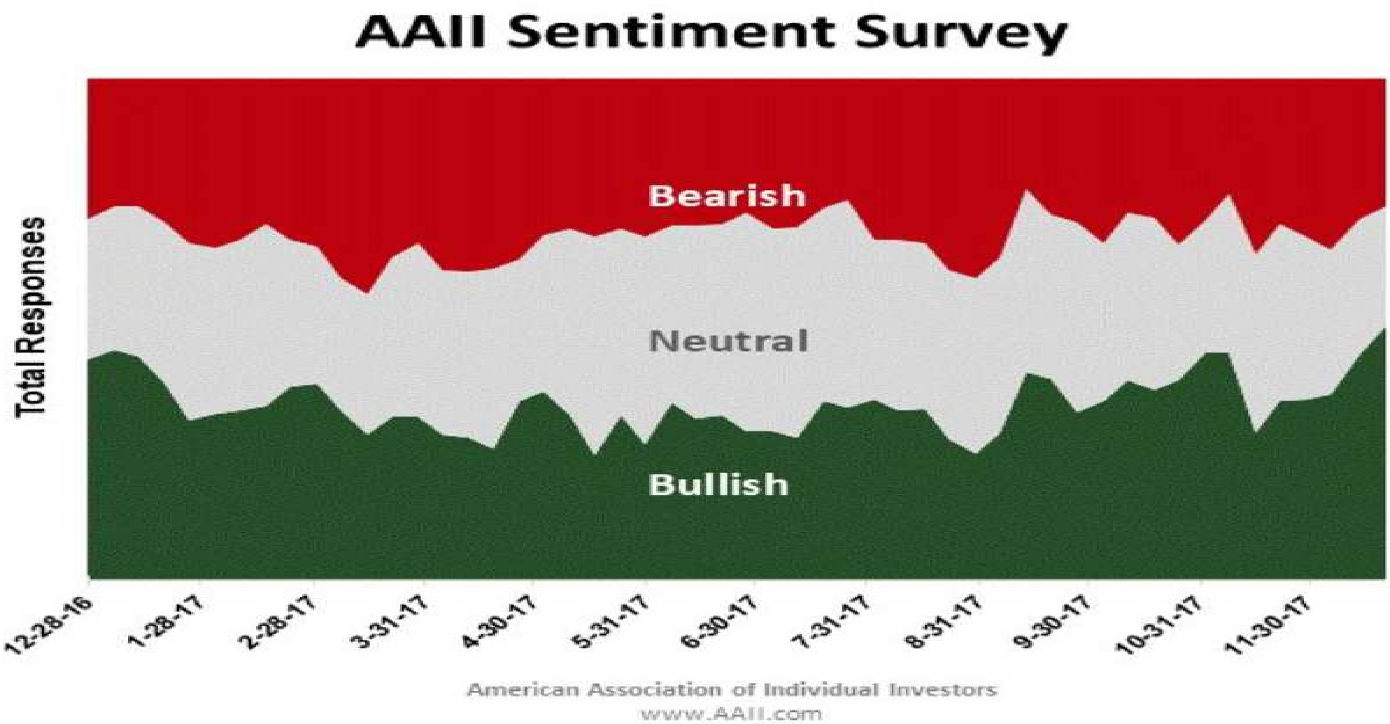
It is extremely difficult to predict where the market will trade a year in advance but I have been doing this exercise for many years and been quite accurate, while unforeseen global events are obvious disruptors. I see it unlikely we have another full year of low volatility and expect at least 2 corrections of 5-10%. I still think the bull market is alive and well and we can close the year strong due to earnings optimism with potential for 2019 to be another year of strong EPS growth.

Market Sentiment/Breadth, Macro Picture and Fundamental Analysis

Sentiment Surveys

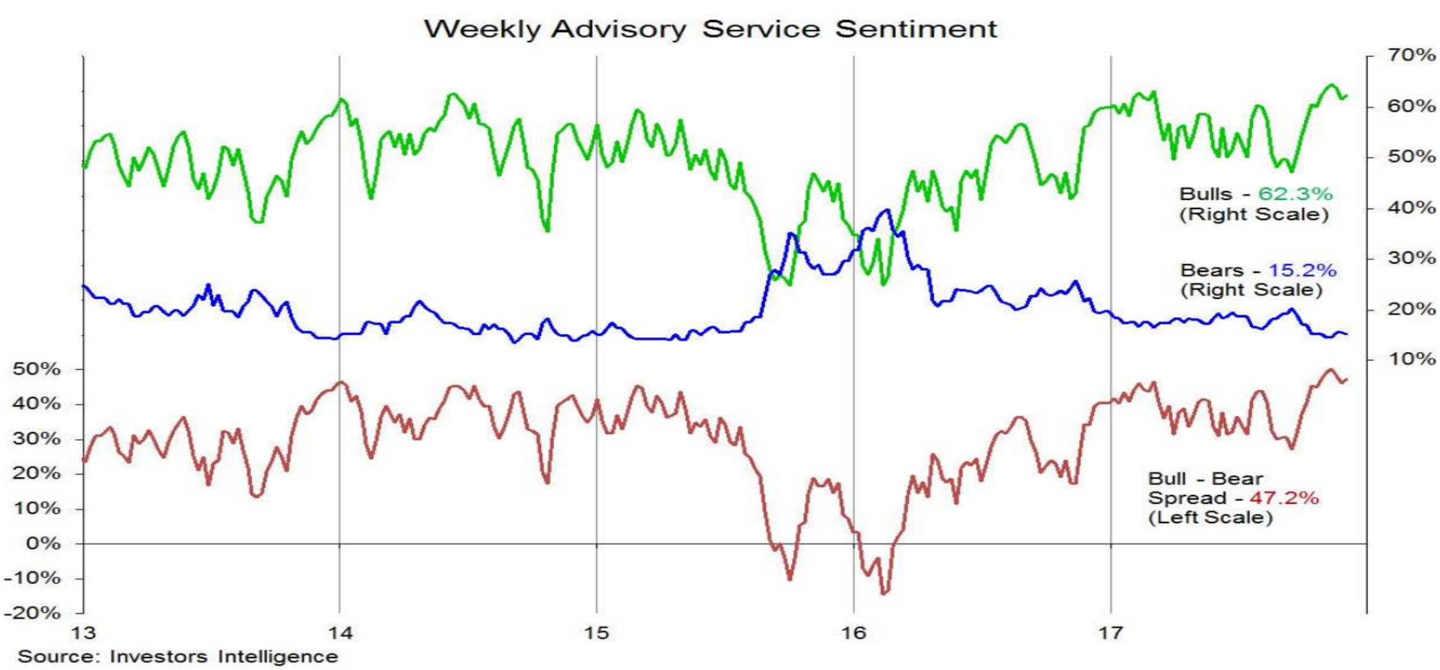
AAII Sentiment Survey

The AAII Sentiment Survey is showing excessive bullishness into year-end with 50.5% bullish and 25.6% bearish, well above the historical averages of 38.5% bullish. The survey has a tendency to follow price and can change rapidly week to week, so there is often not a lot of value other than when at extremes which the current reading is hitting the highest bullish sentiment of the year.



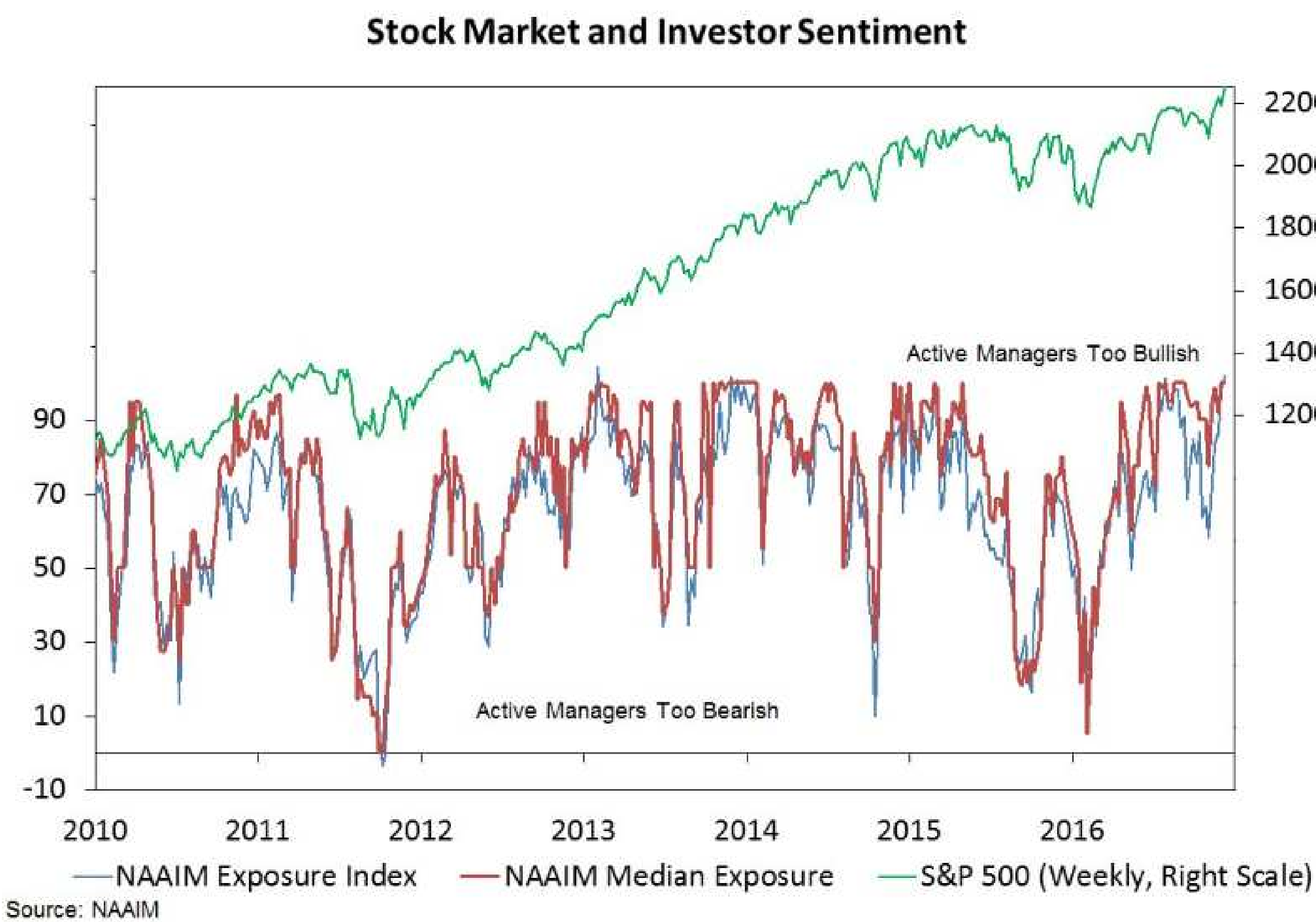
The Investors Intelligence Survey

The Investors Intelligence survey is also showing excessive bullishness as we close the year with the bull to bear spread near a multi-year high.



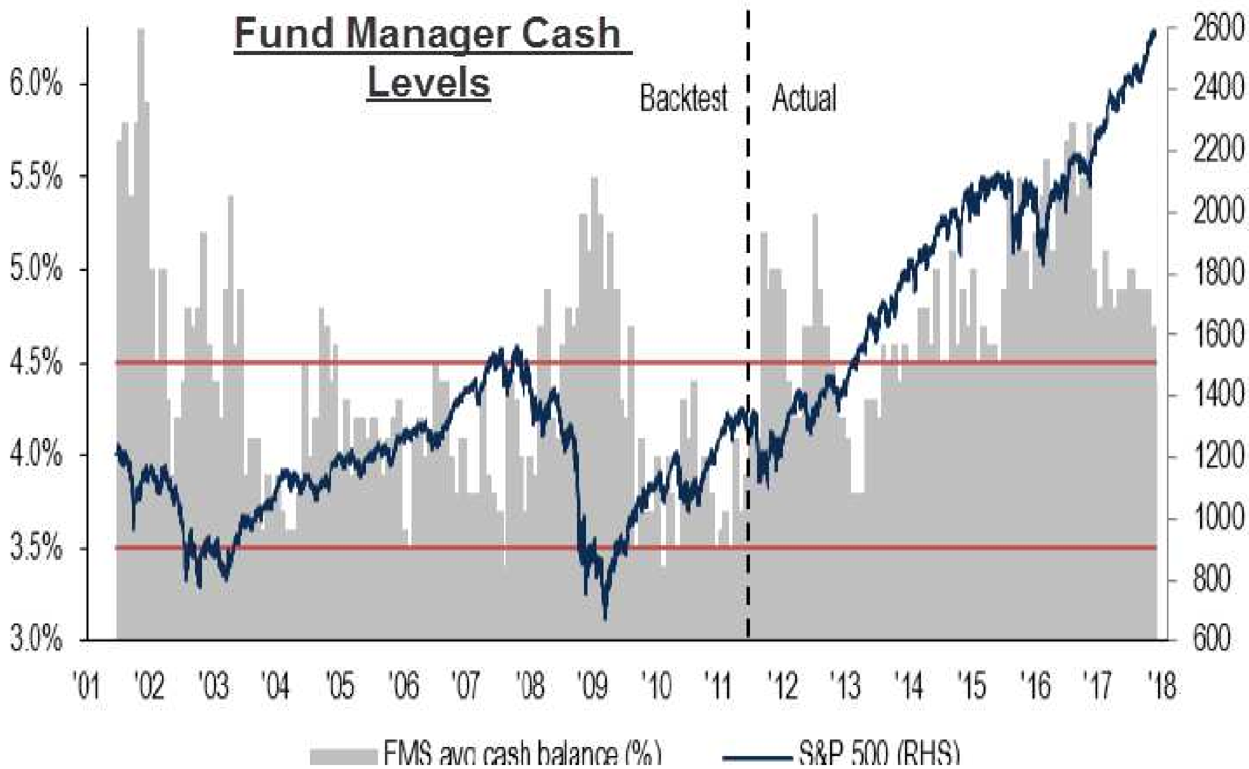
NAAIM Exposure Index

The NAAIM Exposure Index is one of the more valuable sentiment indicators as it shows active manager positioning and recently surged to a multi-year high at 109.44 but did pull back the week of 12/20 to a 75 level. Readings above 90 tend to be excessive and lead to stalling markets, while readings below 70 have tended to be buying opportunities within the broader market uptrend.



BAML's Global Fund Manager Survey

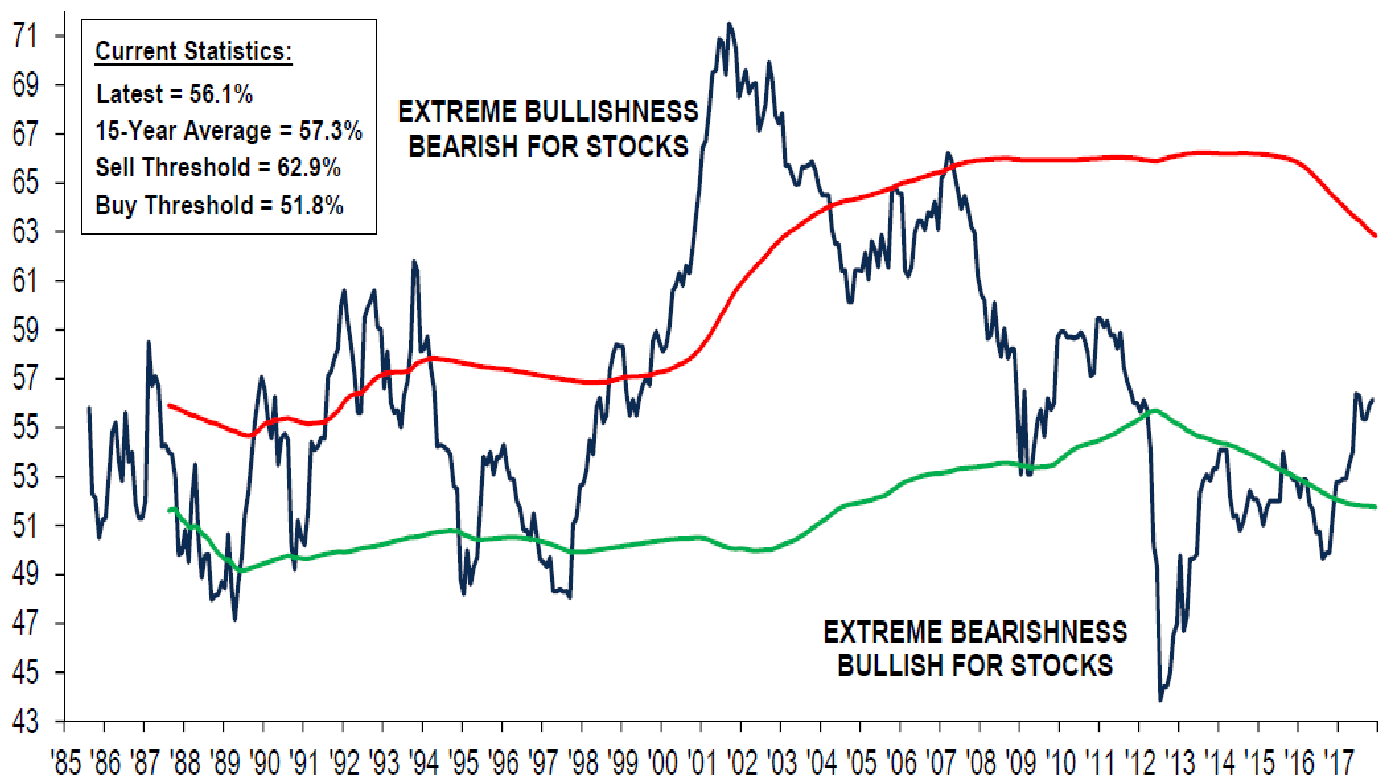
The fund manager cash level reading has been an important one and levels back above 4.5% remain supportive of the bull market, while readings below 4.2% have tended to be a reason to be cautious.



Sell-Side Survey Indicator

Wall Street strategists remain bearish on stocks with allocations, historically a bullish contrarian signal.

Exhibit 2: Strategists recommend a 56% allocation to equities (as of 11/30/17)



US Consumer Confidence

US Consumer Confidence has moved higher throughout 2017 with the Conference Board reading shown below at 17 year highs to 129.5 in November. The University of Michigan Survey in December declined to 95.9 after hitting 98.5 in November to a decade high.

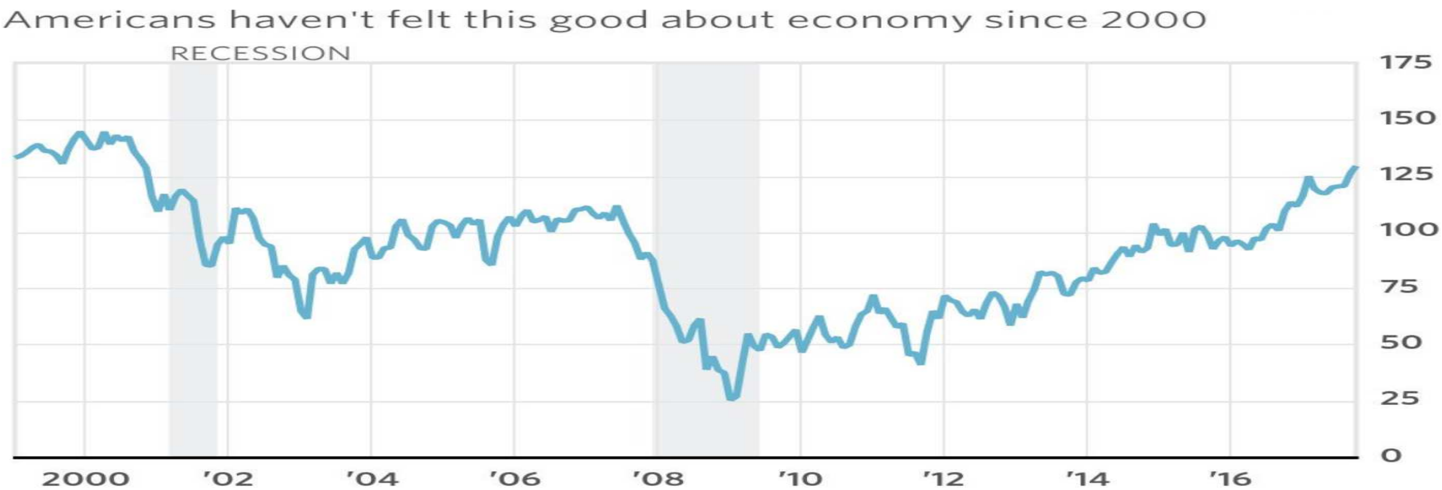
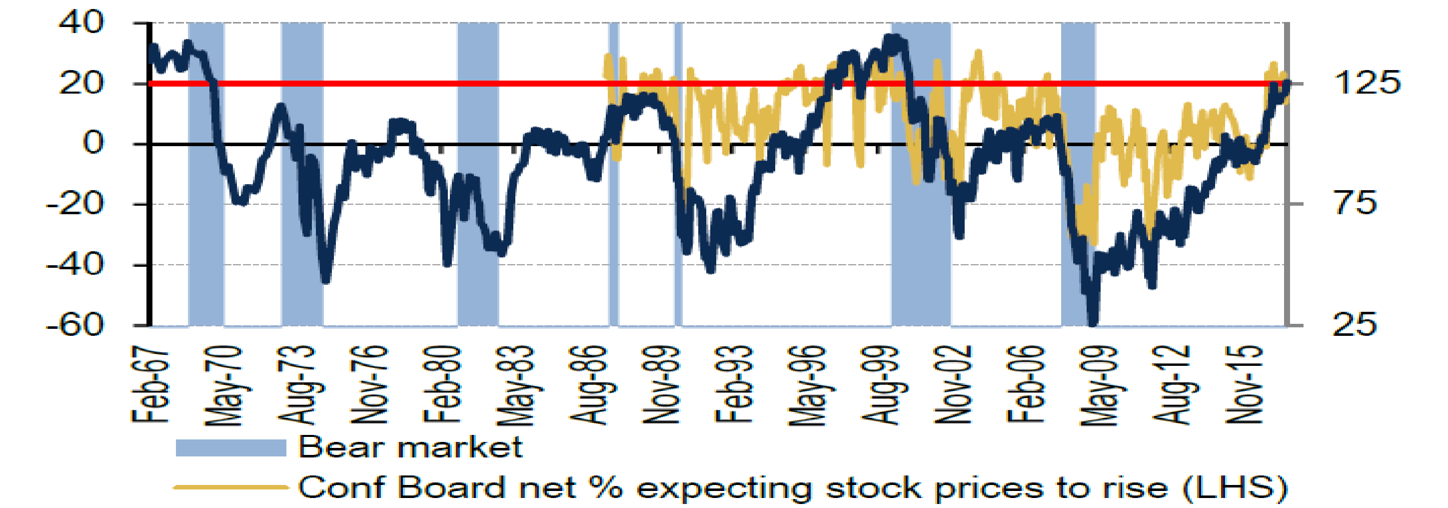
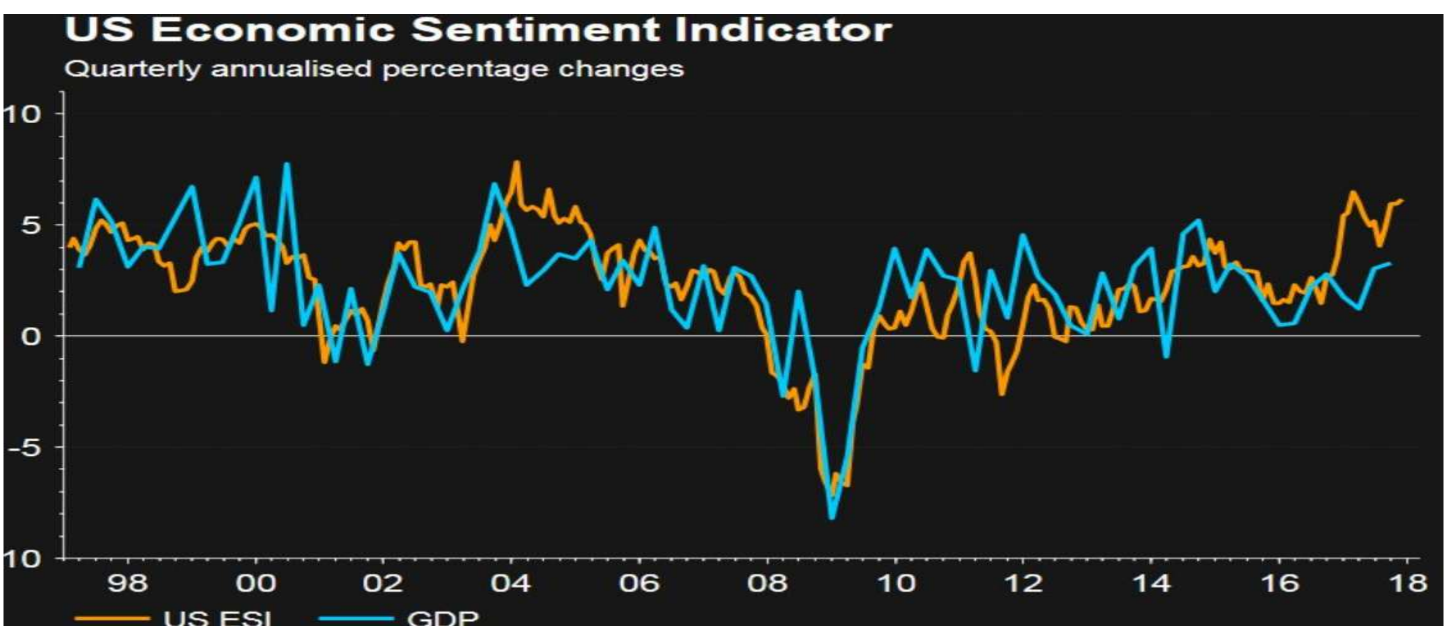


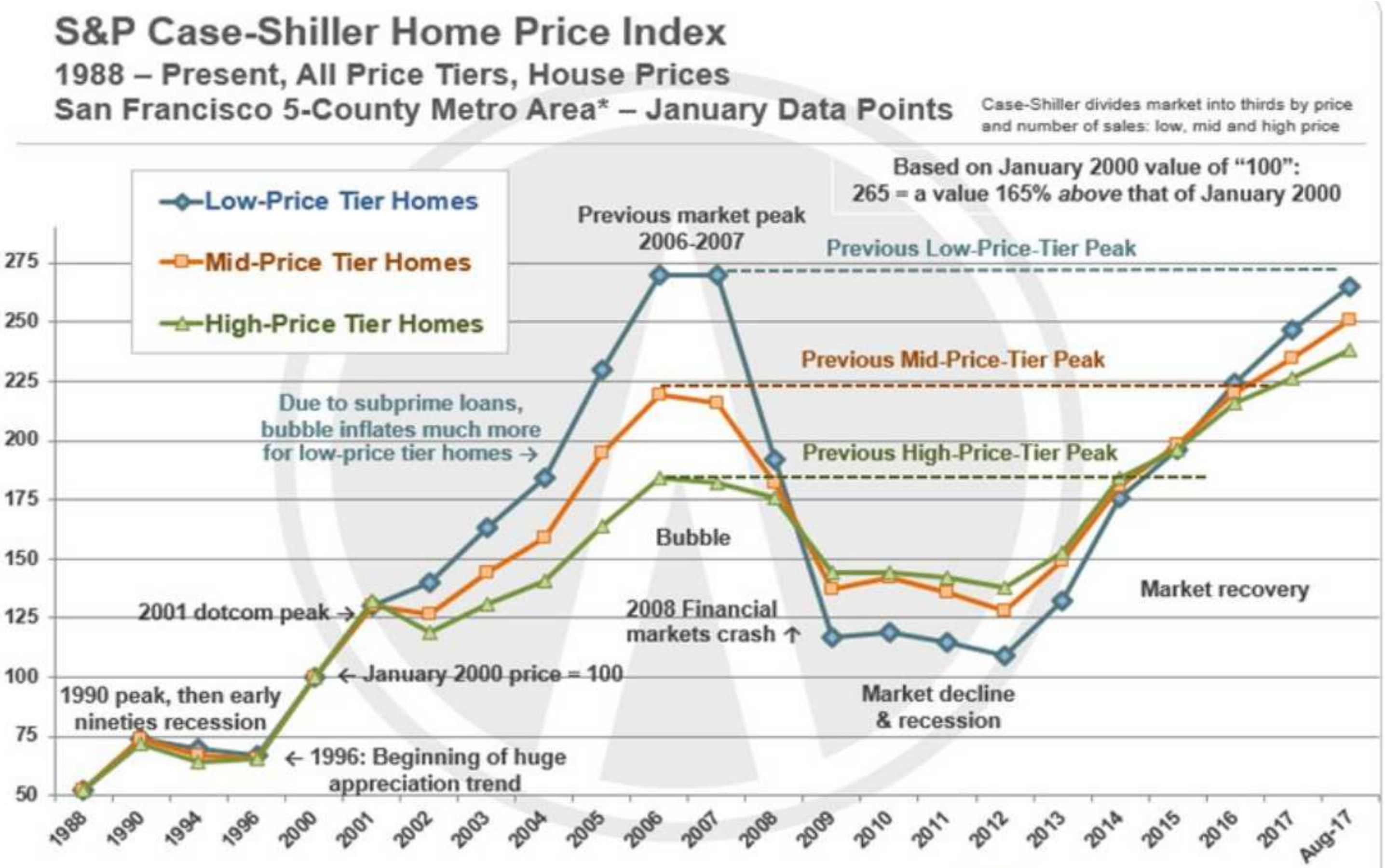
Chart 3: Conference Board consumer confidence and net % expecting stocks to rise over the next 12 months



US Economic Sentiment

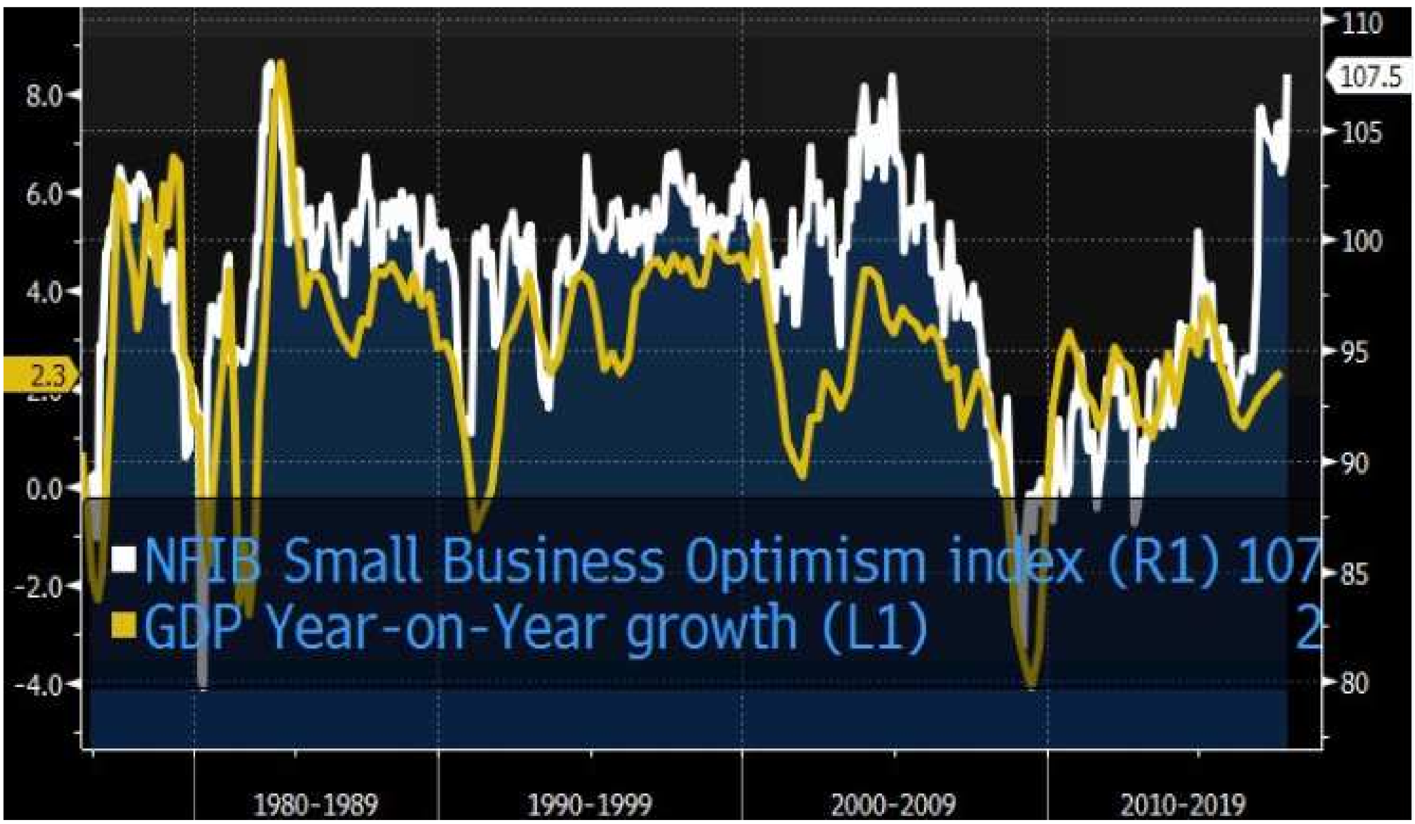


US House Prices (Leads to Consumer Confidence)



Small Business Optimism

Small Business Optimism tends to correlate and lead GDP growth, so the recent surge in optimism could be a quality indicator of a strong GDP growth environment in 2018.



Fund Flows, Short Interest and Insider Trading

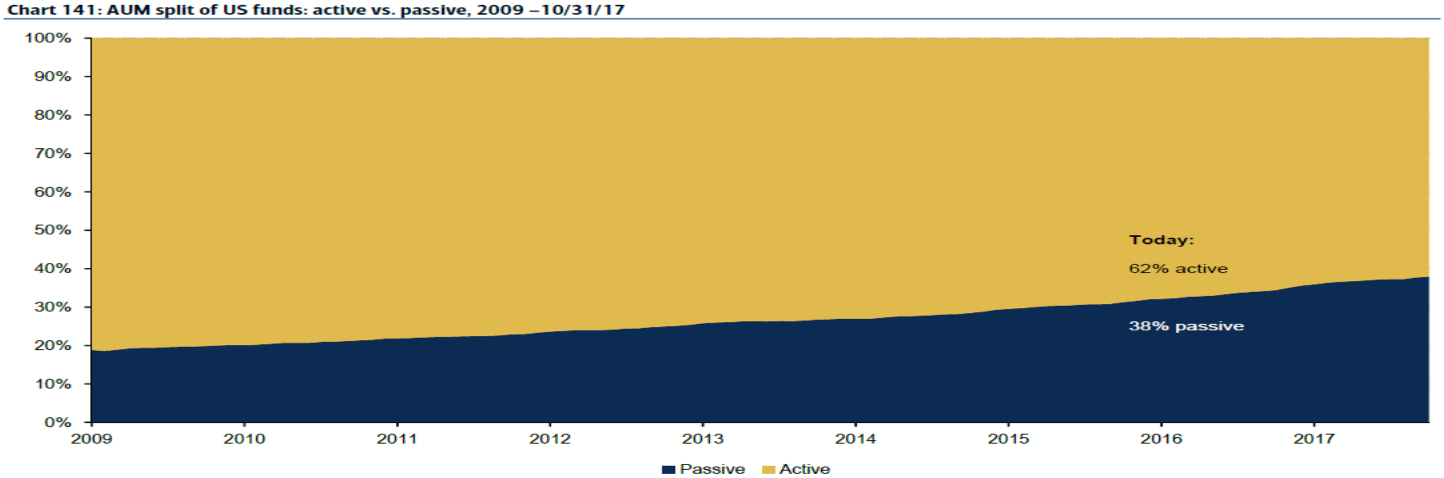
Fund Flows: The "Great Rotation" clearly has not happened to this point as Bonds continue to see strong cumulative flows. Passive investing continues to gain share of the market but at 38% of the total, likely has more to come. Pension plans remain seriously underweight equities and could be a source of incremental flows to equities. Managers continue to be overweight cyclicals and underweight defensives.

Chart 2: Cumulative flows into global equities vs. bonds since 2009 (as of 12/13/17)

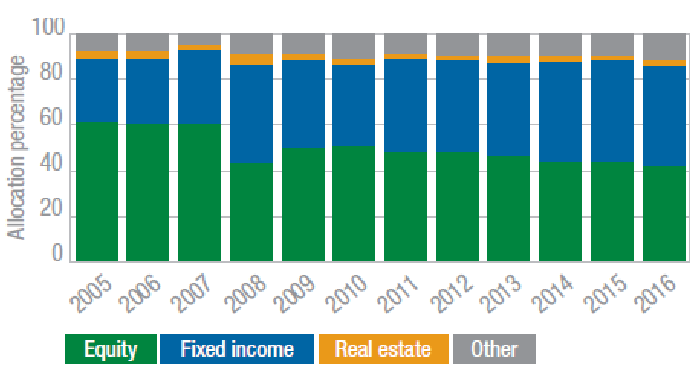
Active vs. passive: ...there is likely more to go

Still less than 40% passive

Chart 141: AUM split of US funds: active vs. passive, 2009 –10/31/17



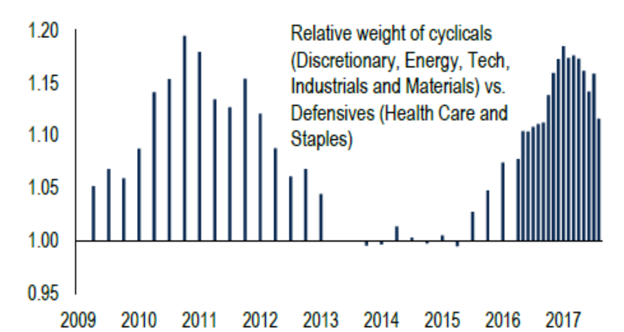
Pension plans' asset allocation, S&P 500 companies



Source: S&P Global, Retirement Research Center, August 2017.

US Fund Managers positioning

Chart 2: Cyclical vs. defensive sectors positioning

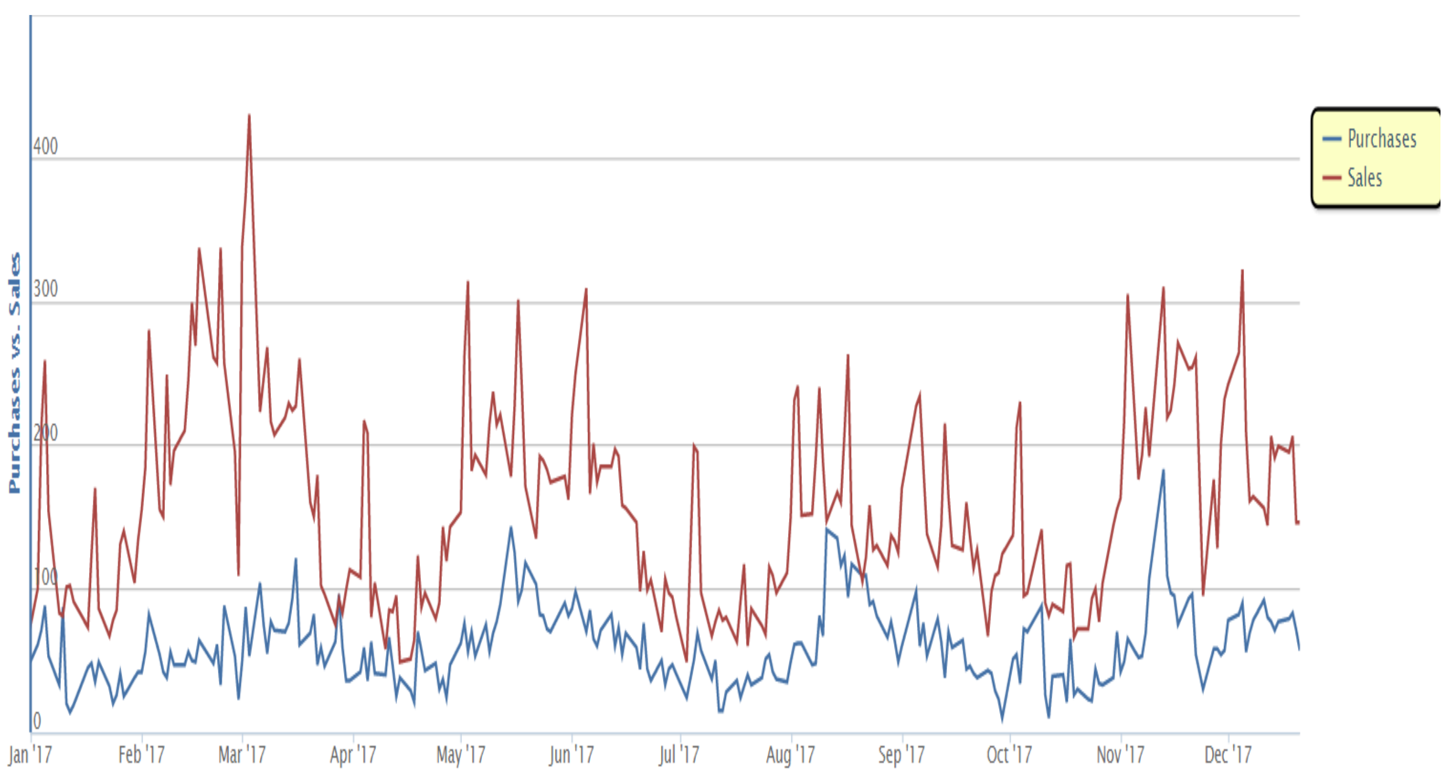


Source: BofA Merrill Lynch US Equity & US Quant Strategy, FactSet Ownership

Short Interest: Short interest has risen throughout the year after making lows early in the year, not at either end of the extremes currently.

<u>Insider Transaction Ratio</u>

Insider activity is mainly only worth following on the buying side as management only buys its stock for one reason, expectations the stock is undervalued and heading higher, often being a key inflection point for a stock in a downtrend. Tracking insider selling provides very little value as management sells stock for a variety of reasons, and it provides little historical evidence of being a signal.



Breadth Readings

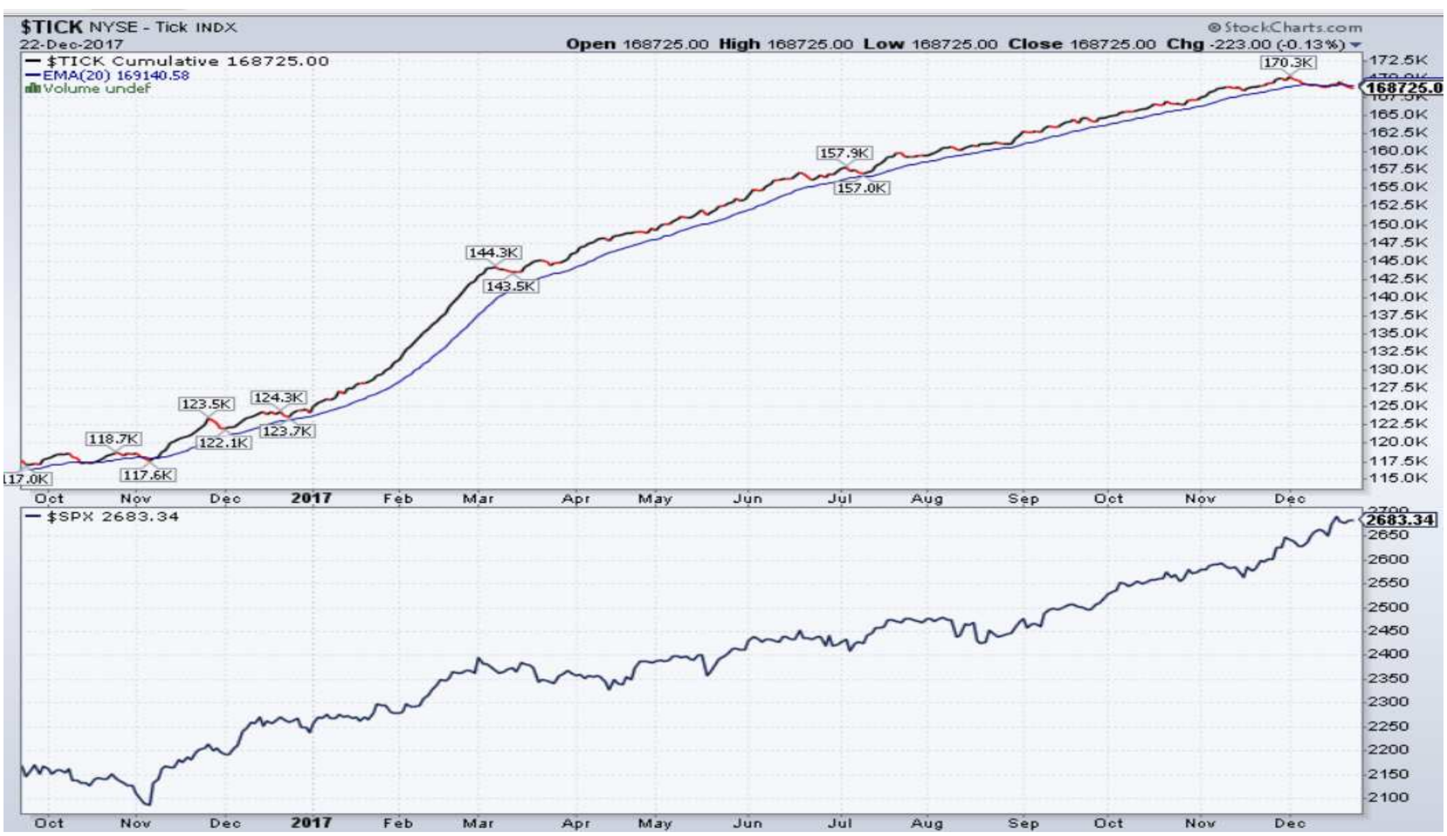
Below are a variety of the key breadth readings and some of the signals I utilize for market timing, and always am developing more indicators. One of the newer ones I noticed in 2015 was the S&P's correlation with the performance of Blackrock (BLK) stock, the latter being a slight lead indicator

NYSE Cumulative A/D – This is an overall good indicator of breadth and making new highs into year-end, supportive of the bull market the entire way and the rising 40 day EMA an indicator I like as when it touches or breaks, we tend to see pullbacks and any sustained move below that level may indicate an end to the rally.

NYSE McClellan Oscillator (NYMO) – This indicator is useful for timing short term overbought and oversold extremes and in combination with other indicators and sentiment measures can be powerful. It mainly ranges in the -60 to +60 range for and in 2017 only saw two extreme oversold readings, March and August, the market tends to then bounce at the lower Bollinger Band. Interesting in 2017 we never really saw any extreme bullish readings, a steady grind higher for markets. Readings below -30 tended to be enough to be oversold in 2017, and above 35 readings often led to sideways to lower periods for stocks.

NYSE Summation Index (NYSI) – This indicator is another one to watch for divergences while a very simple but great signal over the years has been looking for 5 or 8 day EMA crossover, above is a buyers' market and below a sellers' market, the 8 day EMA signal shown below with squares bullish crosses and circles bearish. Its best used after a multi-week trend move in the indicator as a reversal signal. This has been by far one of the greatest signals I use for timing market moves.

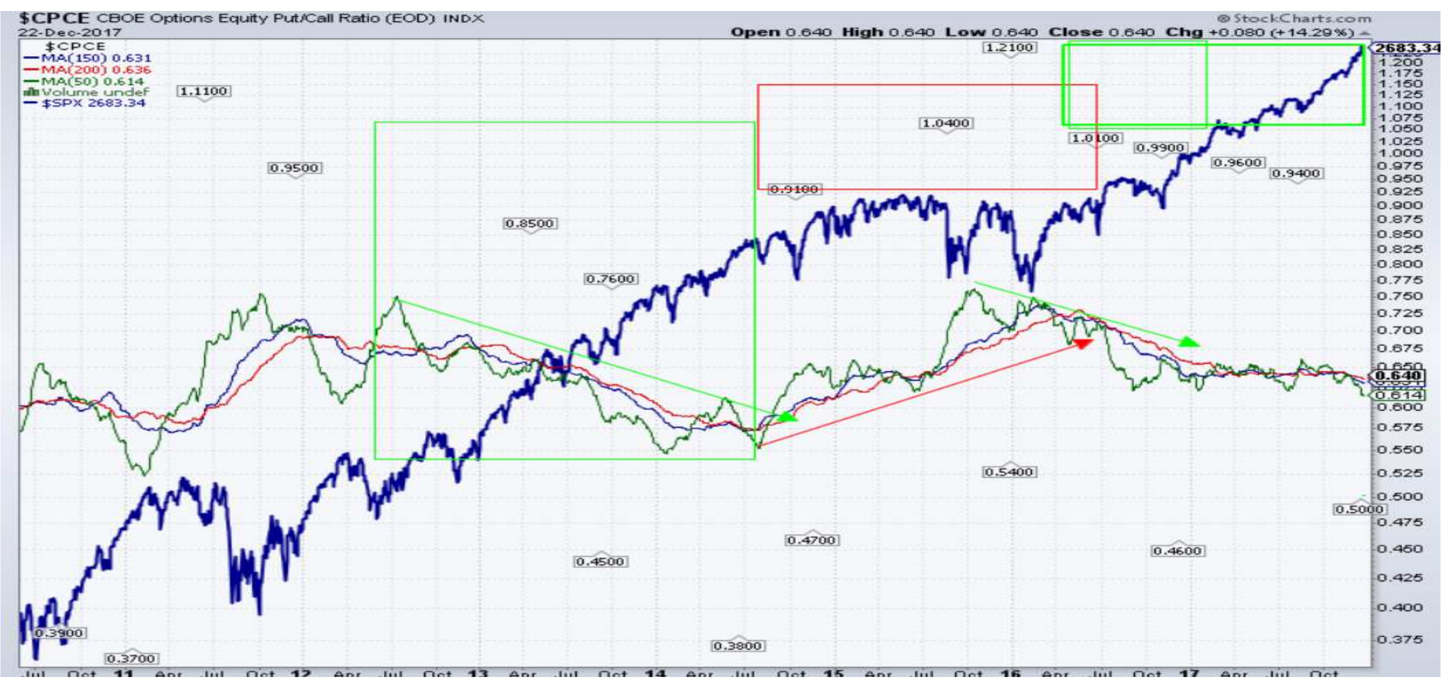
NYSE Cumulative TICK – This is an indicator I like to combine with 20 EMA crossovers for buy/sell/hold signals, *but for 2017 has been in buy and hold mode (staying above rising 20 EMA) most of the year with just some short term blips. I will be watching closely for a break under as a sell signal in 2018 which has started to happen at the end of the year.*



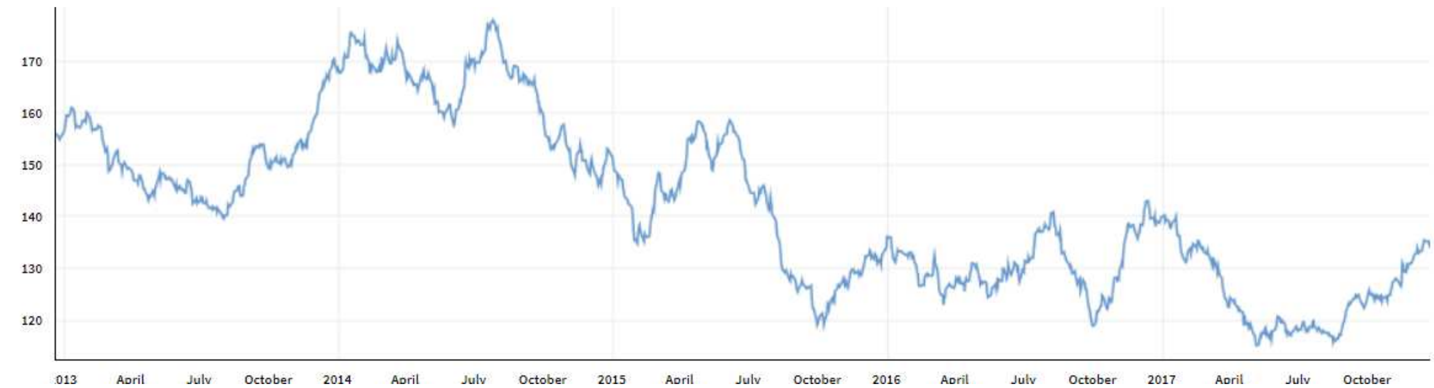
ARMS Index (TRIN) – This is another useful indicator for judging overbought an oversold conditions and I prefer using the 21 and 55 day moving averages to eliminate the daily noise. A 21 day MA above 1.2 has coincided with market bottoms although we did not see any of those readings in the second half of the year, and conversely readings below 1 have correlated with short-term peaks. We are closing the year with a 21 day MA at 0.898 nearing the lowest level since late 2016. The 55 day MA has given less signals but a sustained move above 1.2 for multiple days/weeks has been a general reading of overbought and correlated with key inflection bottoms.

Volatility and Options Sentiment

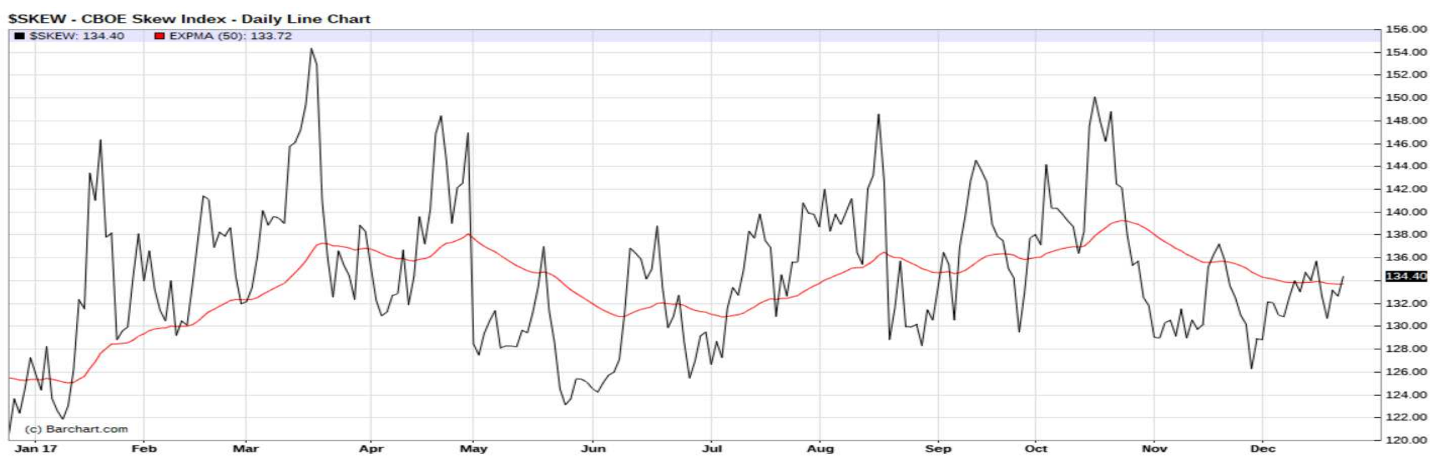
CBOE Equity Put/Call: This indicator is fairly weak due to its constant changing and overall fallacies such as not accounting for opening/closing nor initiated via a buyer or seller when opening. You can utilize longer term moving averages of the ratio to smooth out the data and come away with some perspectives. The boxes below show periods when the 50, 150, 200 day moving averages were trending down (green boxes) were strong times for markets, while when trending up (red box) markets went sideways to down. We are currently seeing all these moving averages heading lower, supportive of the bull trend.



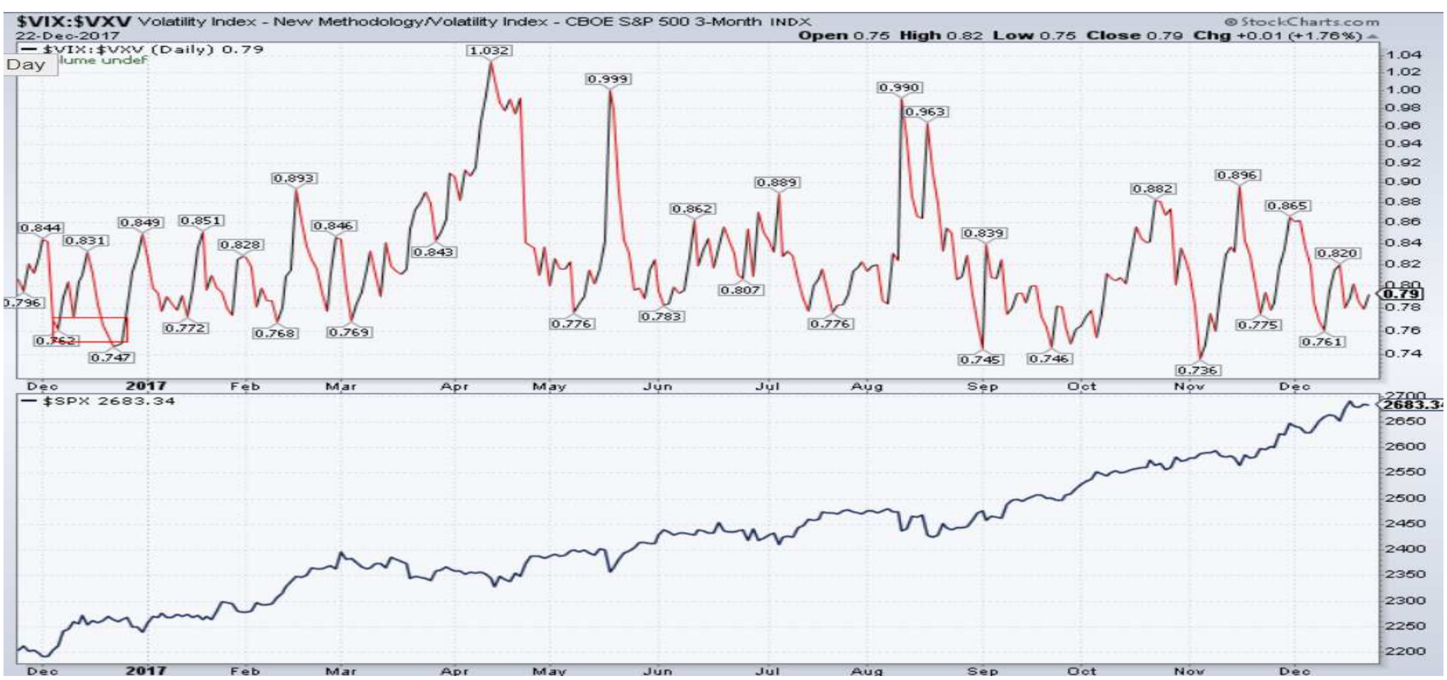
ISEE Sentiment 50 Day MA: ISEE Sentiment 50 day MA bottomed in May-August and steadily been moving higher, so the readings below 125 have tended to be good times to buy equities. The five year downtrend of this sentiment MA is breaking out to close 2017 and a reading above 140 could be seen as overly bullish.

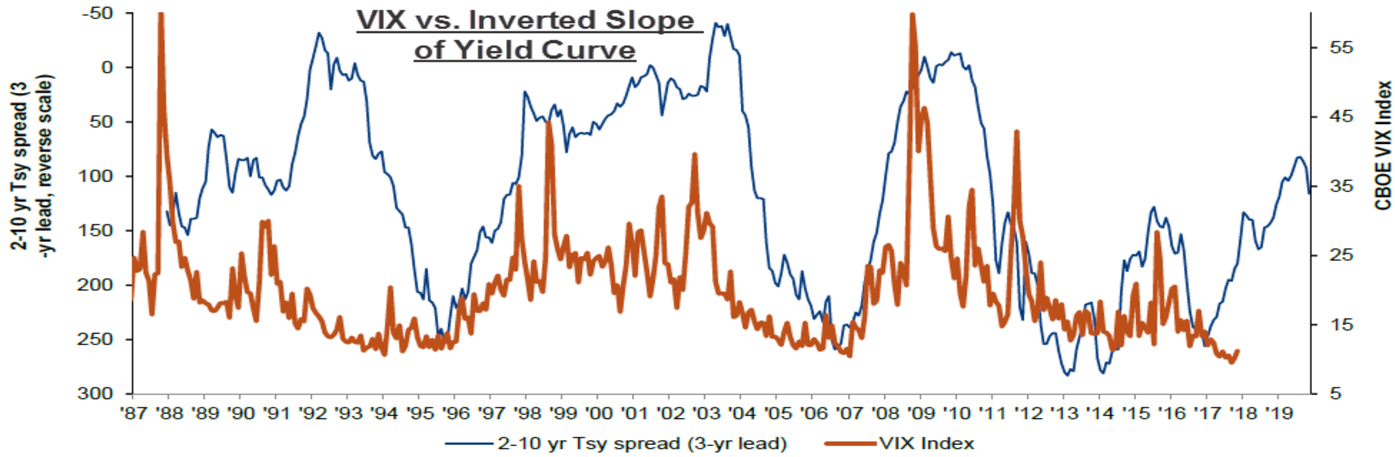


CBOE Skew: *This indicator shows we spent much of 2017 at fairly complacent levels, though the constant variance in this indicator has made it a less useful indicator for any sort of market timing. I have drawn the 50 day MA as well in red and see skew showing a bit of a surge into these recent highs as participants worry more about "fat-tail" risk.*

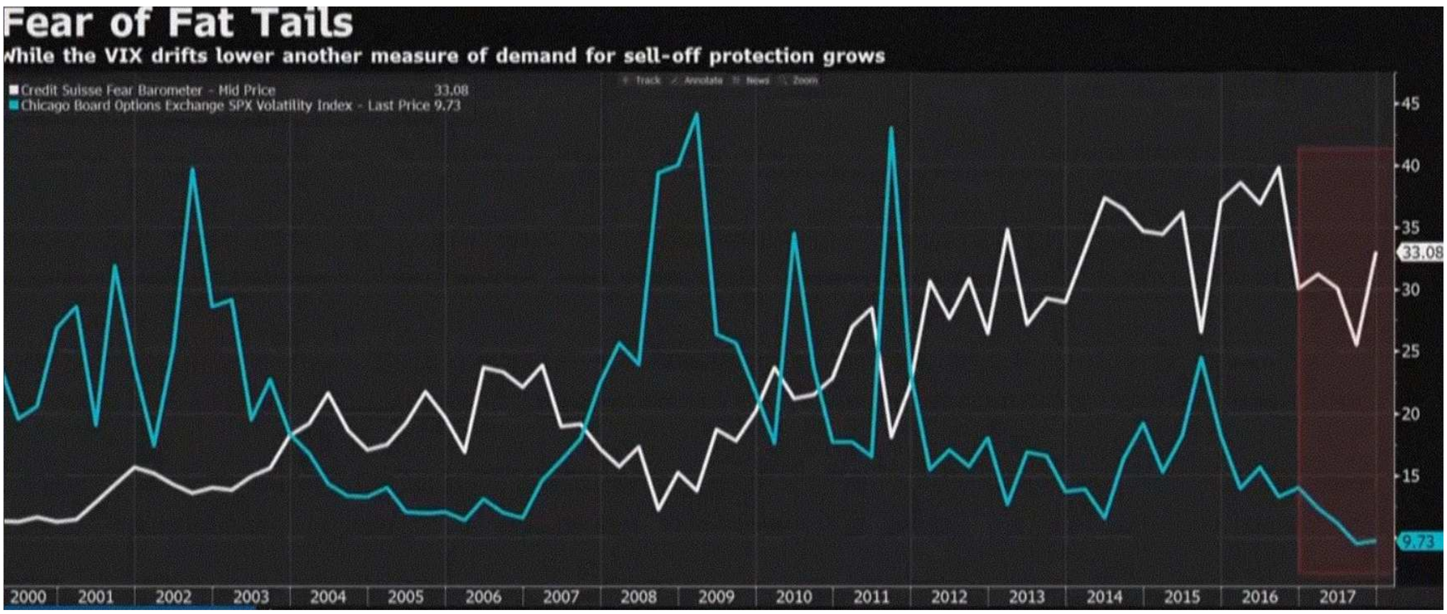


VIX:VXV Ratio: This is a great indicator of market fear, when moving above the 1 level generally indicative of an overly fearful environment though always best to let price-action confirm. On the other side, readings below 0.8 tend to lead to a sideways and topping market.





CS Fear Barometer



BAML Bear Market Signs Checklist

Indicator	Category	Current	Trigger	Triggered	Data since	Hit rate %**	Notes
Fed raising rates	Credit	100bp	>75bp	☑	1982	100%	Bear markets have always been preceded by the Fed hiking rates by at least 100bp
Tightening credit conditions	Credit	-0.085	>0%	☐	1990	100%	Each of the last three bear markets has started when a net positive % of banks were tightening C&I lending standards
Trailing S&P 500 12m returns	Returns	20.6%	>11%	☑	1936	92%	Minimum returns in the last 12m of a bull market have been 11%
Trailing S&P 500 24m returns	Returns	31.5%	>30%	☑	1936	92%	Minimum returns in the last 24m of a bull market have been 30%
Low quality outperforms high quality (last 6m)	Returns	+0.6ppt	>0ppt	☑	1986	100%	Companies with S&P Quality ratings of B or lower outperform stocks rated B+ or higher
Momentum outperforming (6m/12m)	Returns	+7ppt/+10ppt	>0ppt	☑	1986	100%	9m price return (top decile) vs. S&P 500 equalweight index
Growth outperforming (6m/12m)	Returns	+3ppt/+4ppt	>0ppt	☑	1986	100%	Consensus projected long-term growth (top decile) vs. S&P 500 equalweight index
5% pullback over prior 12m	Returns	0	>0	☐	1928	100%	In the preceding 12m of all but one (1961) bull market peak, the market has pulled back by 5%+ at least once
Low PE underperforms (6m/12m)	Returns	-1.2ppt/+2.7ppt	<0ppt	☐	1986	100%	Forward 12m earnings yield (top decile) vs. S&P 500 equalweight index
Conf Board consumer confidence	Sentiment	125.6	>100	☑	1967	100%	We have yet to see a bear market when the 100 level had not been breached at some point in the cycle
Conf Board net % expecting stocks higher	Sentiment	18.9	>20	☑	1987	100%	Similarly, we have yet to see a bear market when the 20 level had not been breached at some point in the cycle
Lack of reward to beats	Sentiment	+0.9ppt	<1ppt	☑	2000	100%	In 2000 and 2007, companies beating on both EPS & Sales outperformed the S&P 500 by less than 1ppt
Sell side indicator	Sentiment	55.90%	>63%	☐	1987	100%	A contrarian measure of sell side equity optimism
FMS cash levels	Sentiment	4.40%	<3.5%	☐	2001	100%	A contrarian measure of buy side optimism
Inverted yield curve	Sentiment	78bp	<0bp	☐	1962	88%	Does not always lead or catch every peak; all but one inversion (1989) has coincided with a bear market within 24m
Chg in long-term growth expectations	Sentiment	+3.3ppt	+0.4ppt	☐	1986	100%	While not always a major change, aggregate growth expectations tend to rise over the last 18m of bull markets
Rule of 20	Valuation	22	>20	☑	1960	100%	Trailing PE + CPI y/y% >20
VIX rises over prior 3m	Sentiment	15.6	>20	☐	1986*	100%	Market peaks have come after the VIX >20 at some point in the prior 3m
ERR rule	Growth	No***	See footnote	☐	1986	100%	Based on 1- and 3-month estimate revision trends; see footnote for more detail

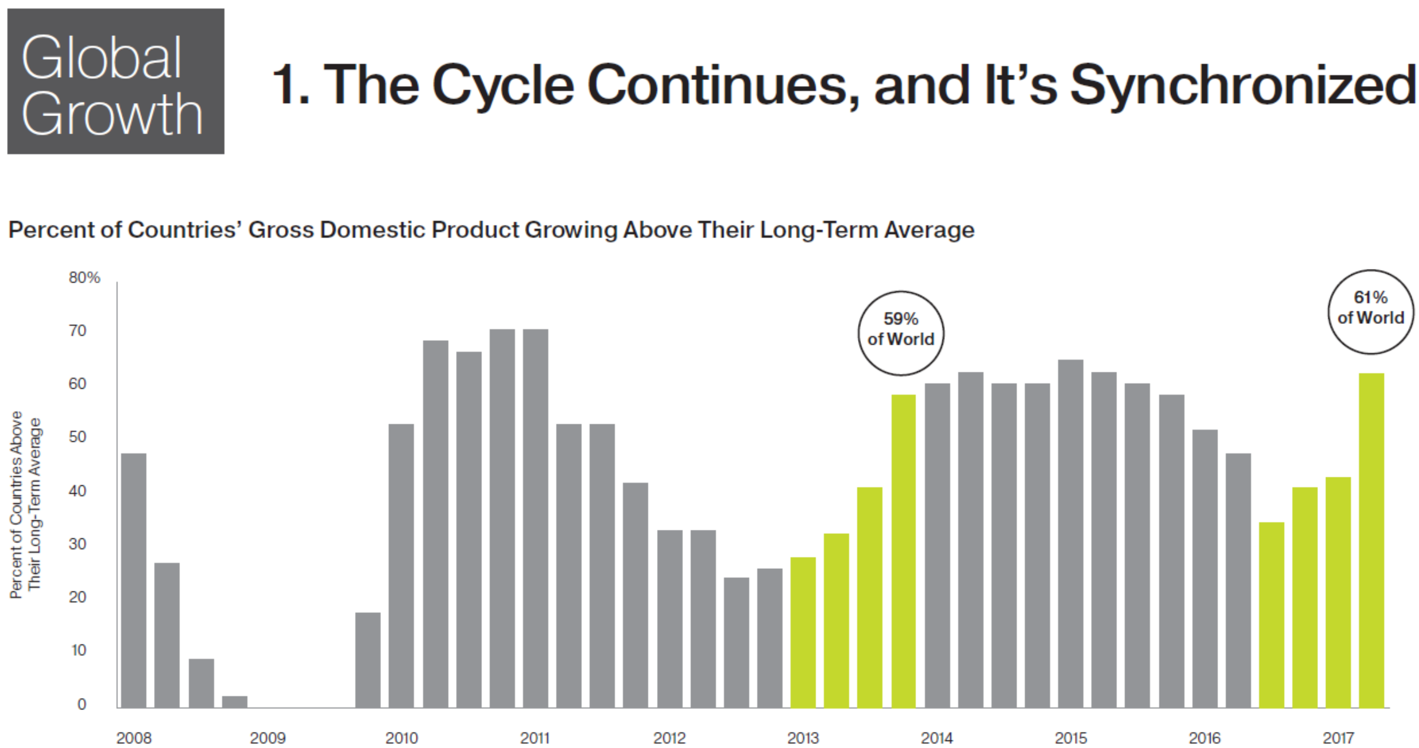
Goldman Sachs Bear Market Indicator

Event Schedule of Catalysts 2018

Q1 2018		
Spring	UK	Parliament to vote on EU withdrawal Bill
Spring	Hungary	Hungary Parliamentary elections
12-13/01/2018	Czech Republic	Czech Republic Presidential Elections
28/01/2018	Finland	Finnish Presidential Elections (first round)
February to June	Greece	ECB Stress test on Greek Banks
03/02/2018	USA	Yellen's term ends at the Fed
11/02/2018	Finland	Finnish Presidential Elections (second round)
March	USA	Debt ceiling limit
March	China	National People's Congress
March	Libya	Libya Presidential and Parliamentary Elections
18/03/2018	Russia	Russian Presidential Elections
22-23/03/2018	EU	European council summit
Q2 2018		
08/04/2018	Japan	BOJ - Kuroda's term ends
by May 20th	Italy	Italian General Elections
28-29/06/2018	EU	European council summit
22/06/2018	Global	OPEC Meeting - current production cut review
Q3 2018		
01/07/2018	Mexico	Mexico Presidential and Congress elections
20/08/2018	Greece	End of Greek economic adjustment programme
09/09/2018	Sweden	Sweden General elections
September	Eurozone	ECB plans to end QE
Q4 2018		
October	Venzuela	Venezuela Presidential elections
October	Brazil	President and National Congress elections
by October 19th	EU	(Soft) Brexit negotiation deadline
by October 19th	EU	Proposed EU/UK parliamentary ratification of withdrawal agreement
18-19/10/2018	EU	European council summit
November	Thailand	Thailand Parliament elections
by November	Ireland	Ireland Presidential elections
06/11/2018	USA	US mid term elections
13-14/12/2018	EU	European council summit
December	Global	OPEC Meeting - current production cut expires

Macro-Economic and Fundamental

The Macro picture is bright as we enter 2018 with a synchronized global growth cycle like we have never seen before. US GDP is entering an expanding growth phase, ISM Manufacturing is very strong, housing is at the strongest level in a decade, trucking/rail indications are positive, employment is strong, and inflation is contained for now. It remains a pro-growth environment but with inflation closely being eyed and a tightening cycle this could quickly flip to a pro-value market, and investors also concerned with a potential inverted yield scenario. At 34 quarters, the current economic cycle is also getting a bit "long in the tooth" compared to historical measures.



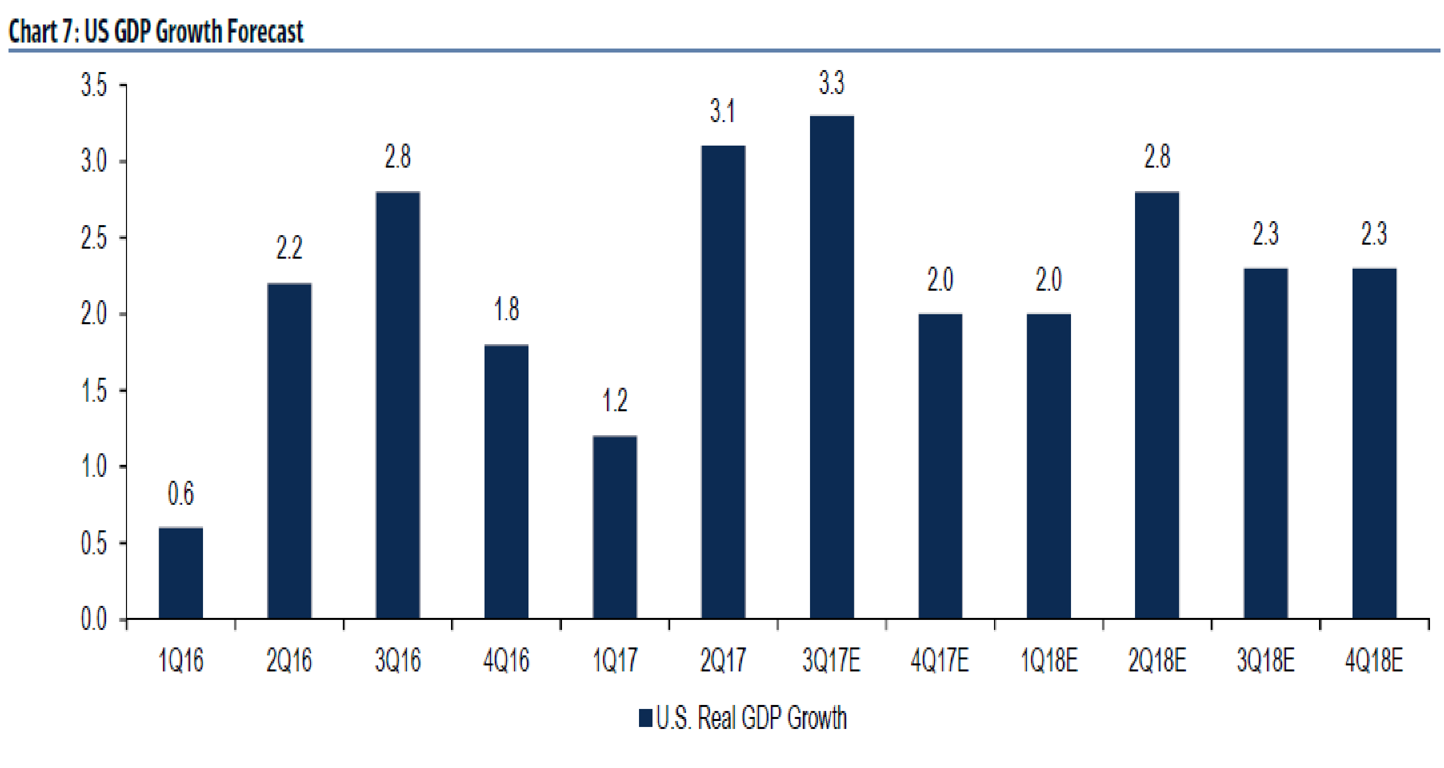
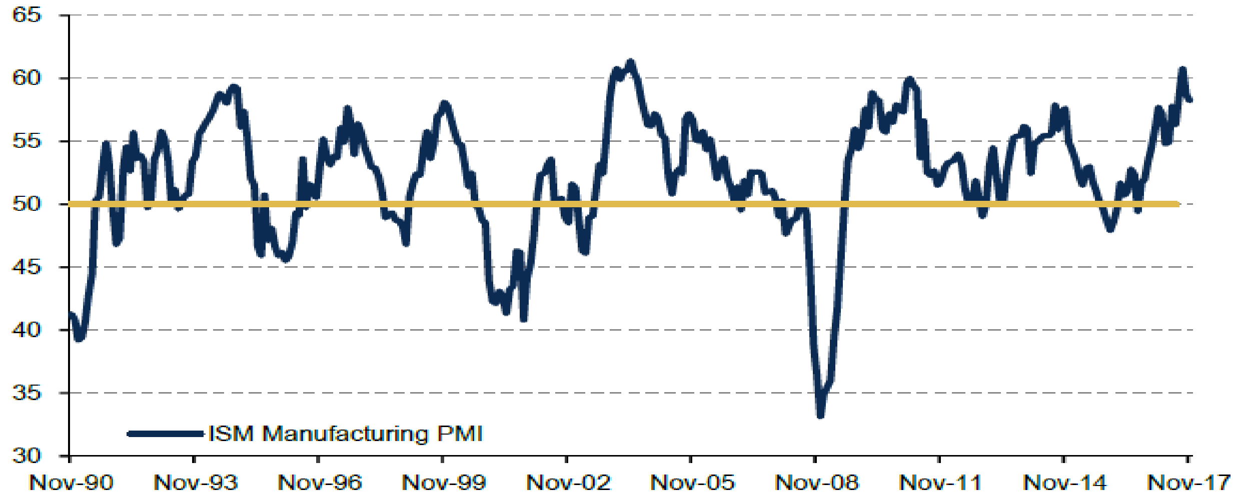


Chart 8: Manufacturing ISM at 58.2



The Global Synchronized Recovery Is Lifting Earnings Estimates

Next 12 Months Earnings Growth – MSCI Regional Indices (%, Y/Y Change)

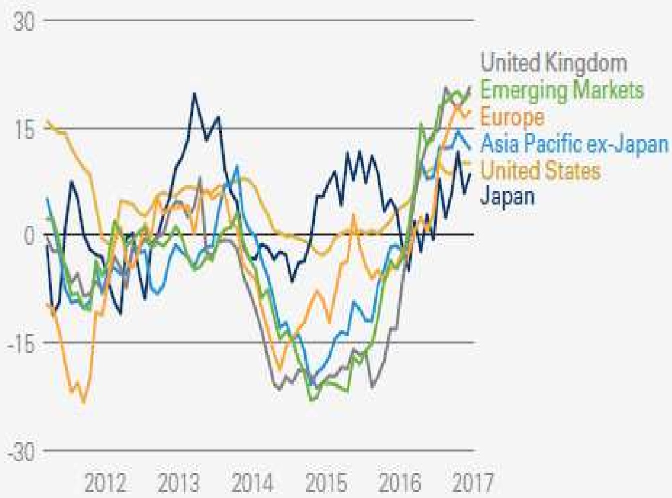
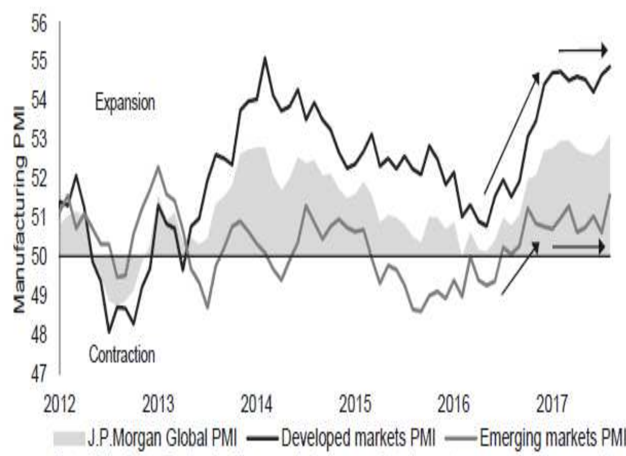
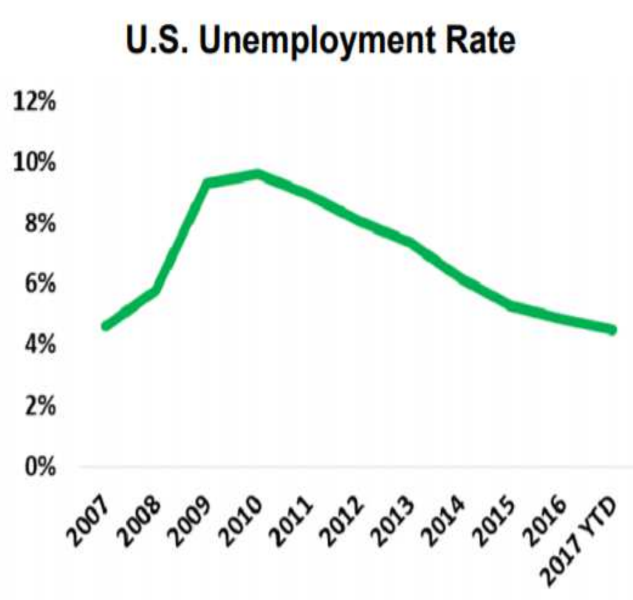


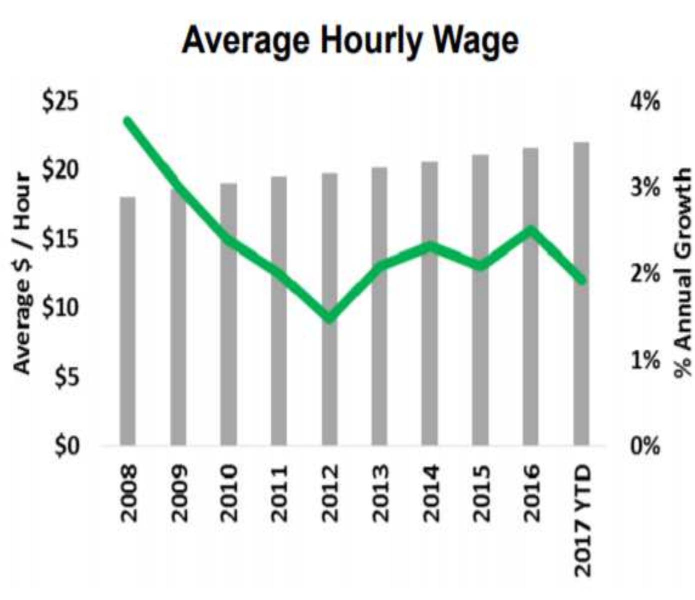
Exhibit 3: Global manufacturing expanding robustly



Note: PMI refers to Purchasing Managers Index for manufacturing sector, a measure for economic activity. Source: Haver Analytics, RBC GAM



Source: Bureau of Labor Statistics



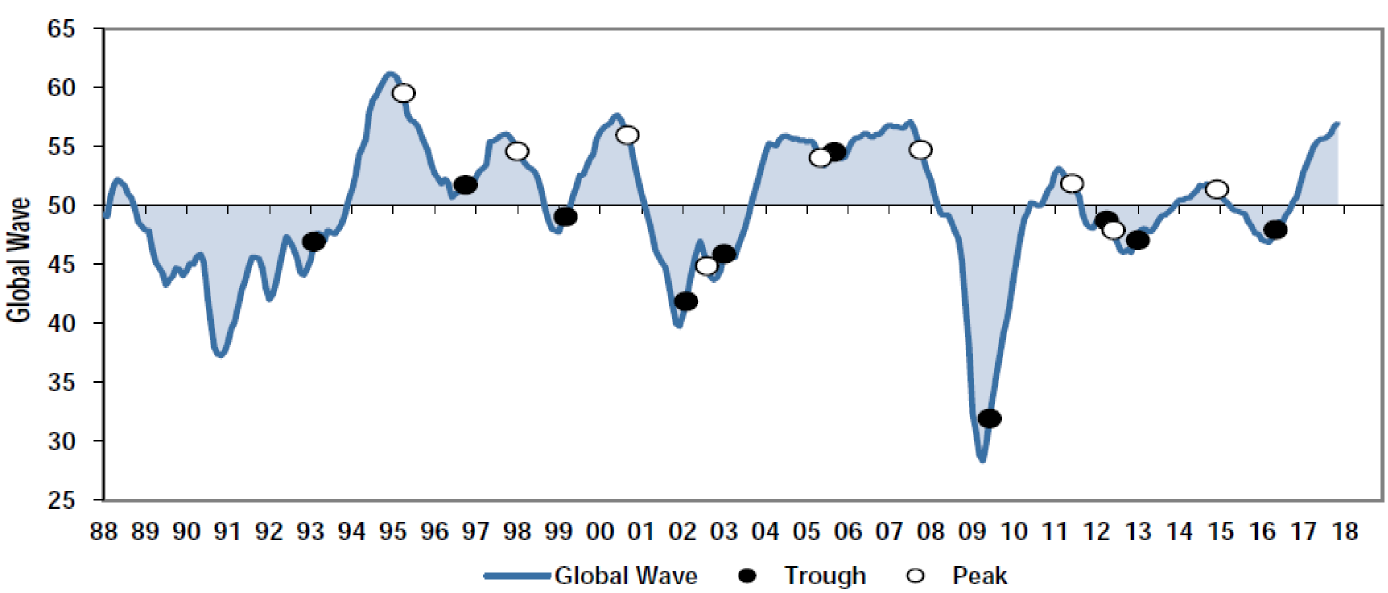
Source: Bureau of Labor Statistics

Citi US Economic Surprise Index:

BAML Global Wave Indicator

- The Global Wave is comprised of indicators around the world, such as industrial confidence, consumer confidence, estimate revisions, producer prices, capacity utilization, and credit spreads.

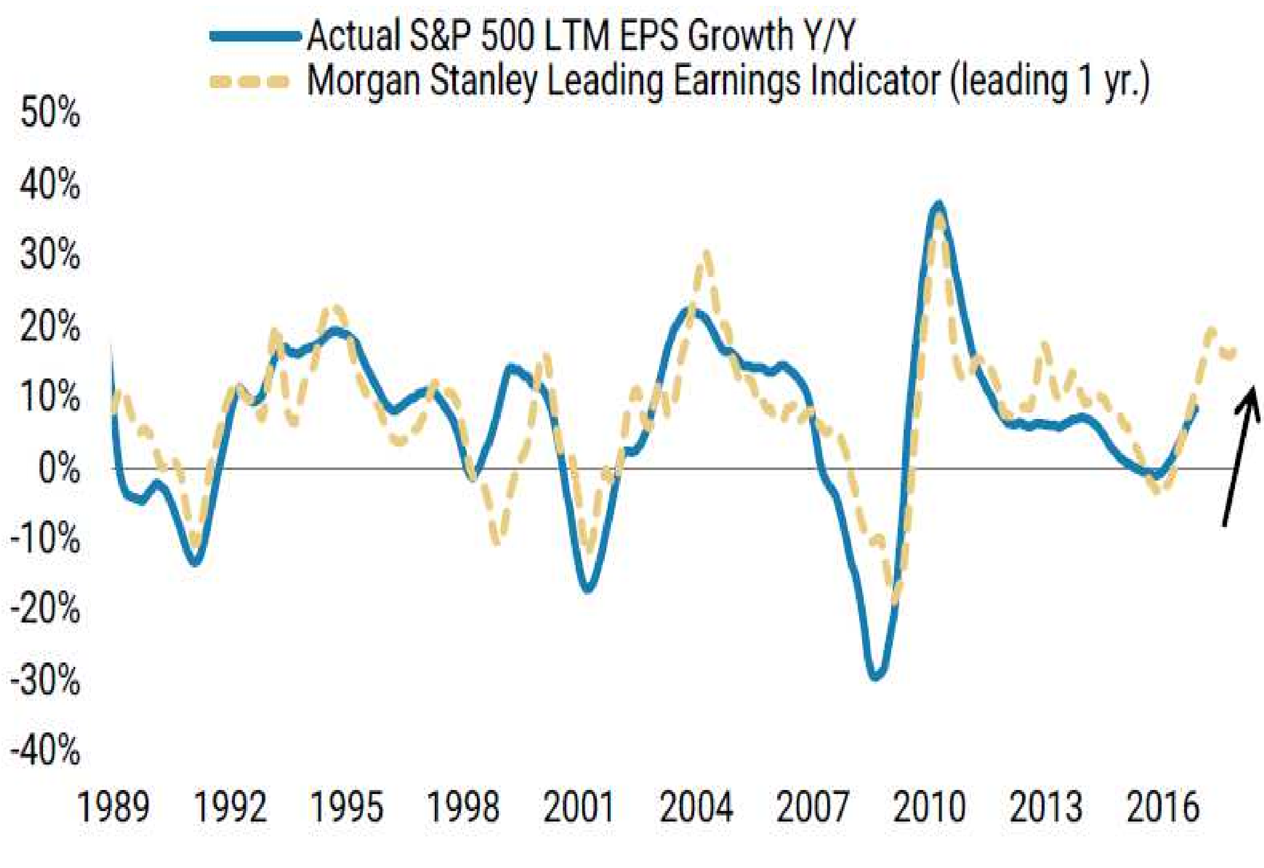
Chart 14: The Global Wave is moving higher



Morgan Stanley Business Conditions Index

	May 17	Jun 17	Jul 17	Aug 17	Sep 17	Oct 17	Nov 17
Morgan Stanley Business Conditions Index (seasonally adjusted)	**57**	**54**	**40**	**54**	**56**	**72**	**62**
MSBCI (3-month moving average)	58	55	50	49	50	61	63
Morgan Stanley Business Conditions Index	62	58	39	58	50	69	63
Manufacturing Subindex	50	54	23	50	45	56	70
Services Subindex	73	64	60	65	58	77	56
Price Index	58	52	48	50	47	53	59
Prices Paid Index	48	45	53	57	61	54	70
Composite MSBCI	**60**	**54**	**55**	**60**	**56**	**59**	**56**
Advance Bookings Index	65	46	64	89	65	55	61
Credit Conditions Index	56	46	63	53	53	60	53
Business Conditions Expectations Index	64	71	46	64	62	64	63
Hiring Index	54	54	50	42	41	60	47
Hiring Plans Index	58	50	46	50	59	52	55
Capex Plans Index	62	56	59	53	53	62	55
Memo: % reporting increase over previous 3 months							
Hiring	32	29	17	28	18	33	26
Hiring Plans	28	17	17	22	29	19	26
Capex Plans	36	25	22	17	18	24	21

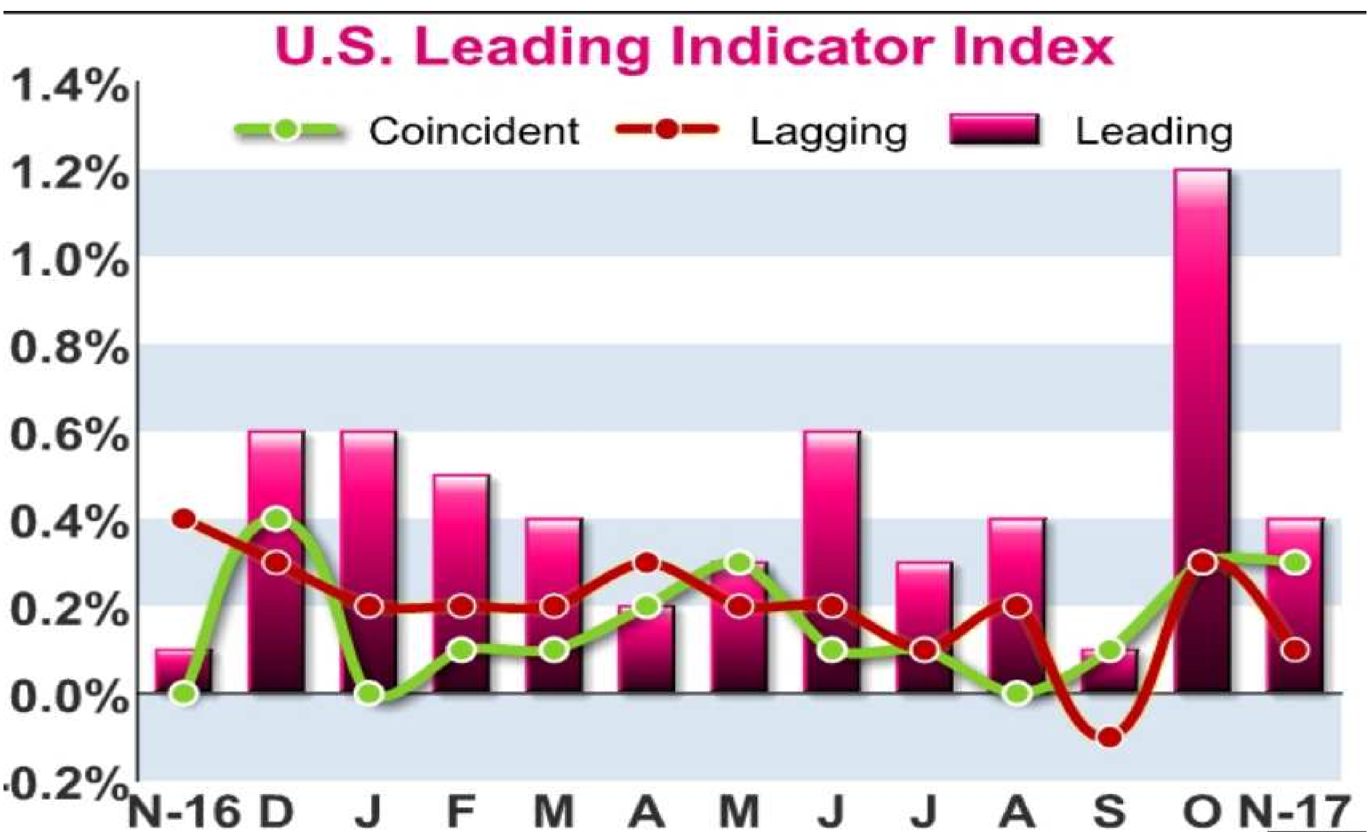
Morgan Stanley Leading Earnings Indicator



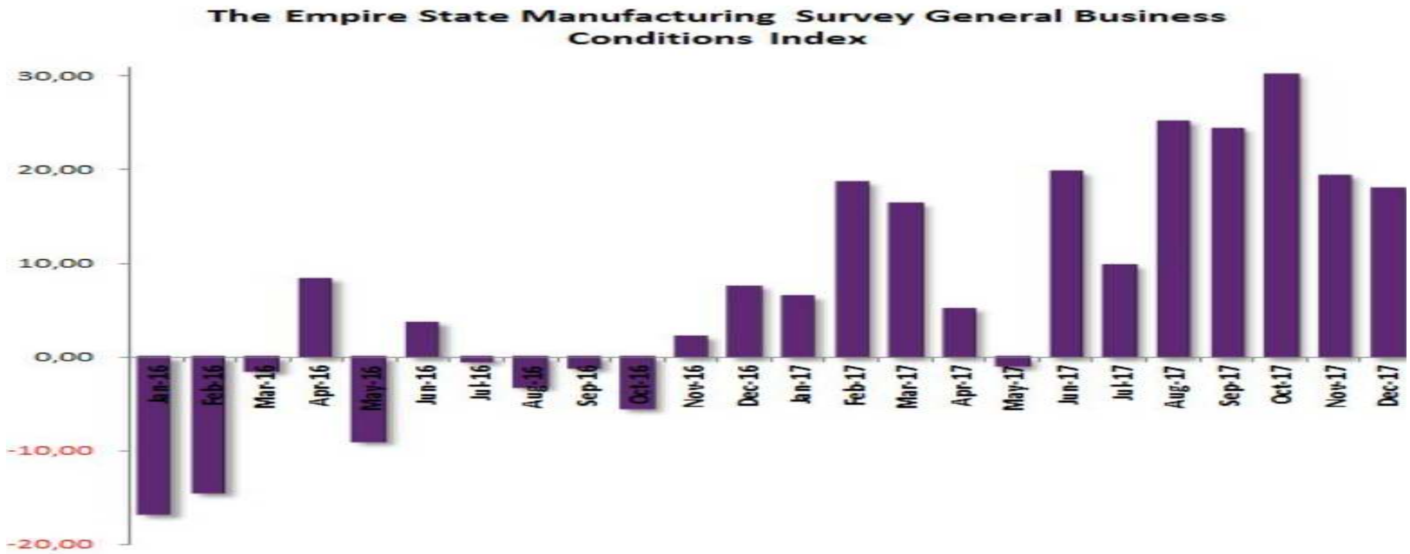
Source: FactSet, Bloomberg, Morgan Stanley Research as of October 2017.

Goldman Sachs Financial Conditions Index

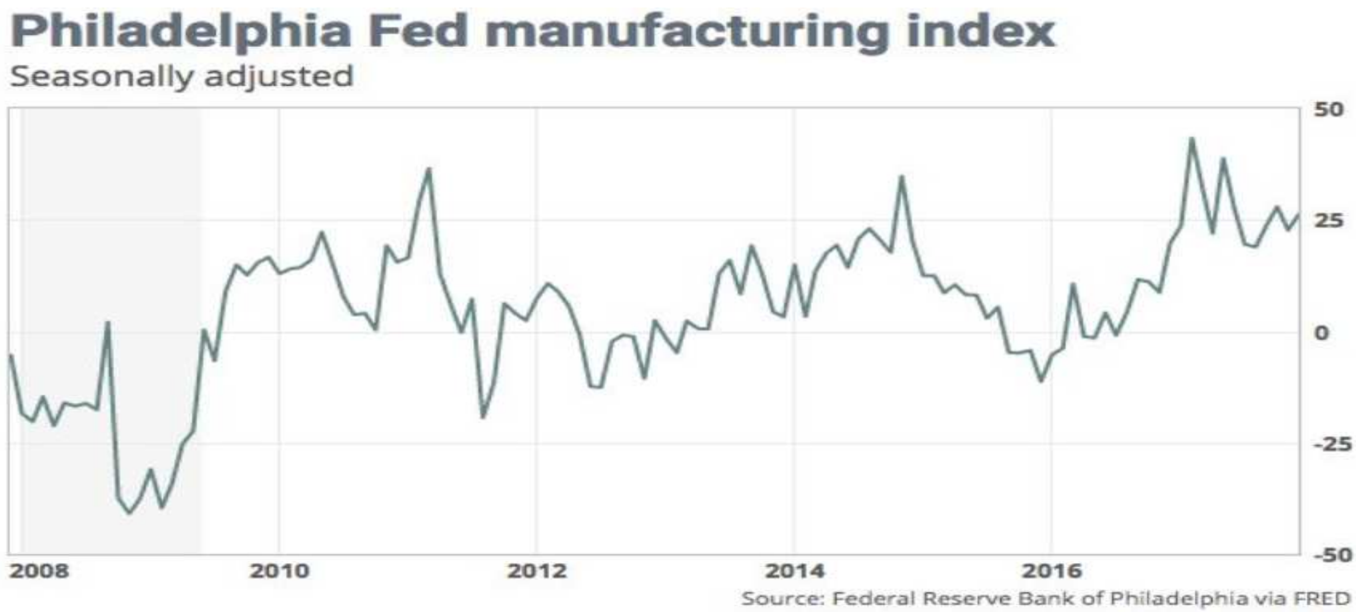
US Leading Economic Indicators



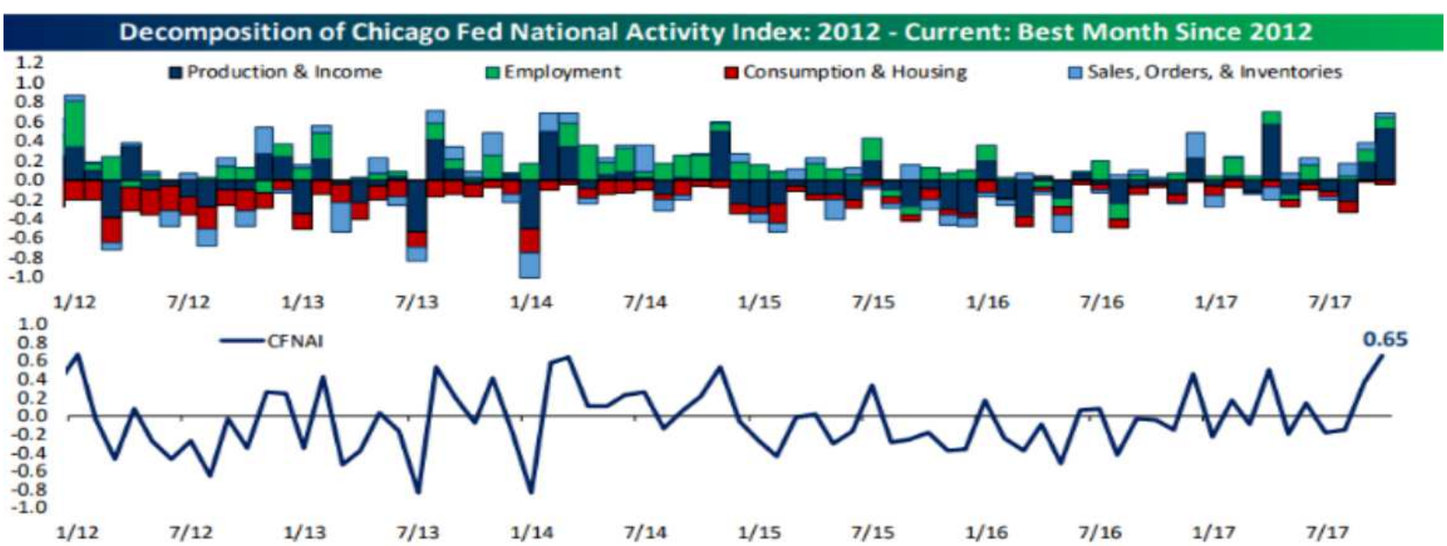
Empire State Manufacturing Survey

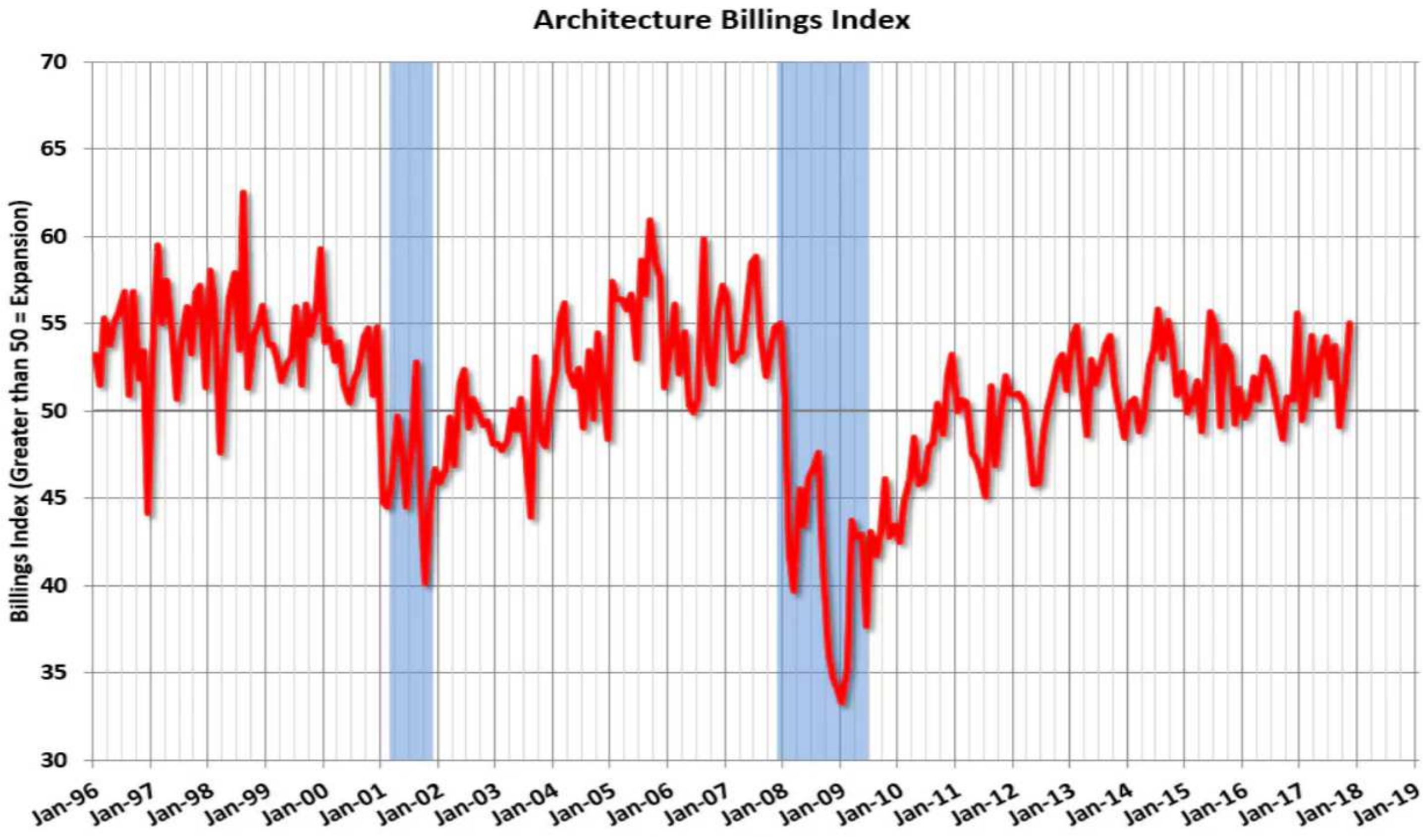


Philly Fed Index



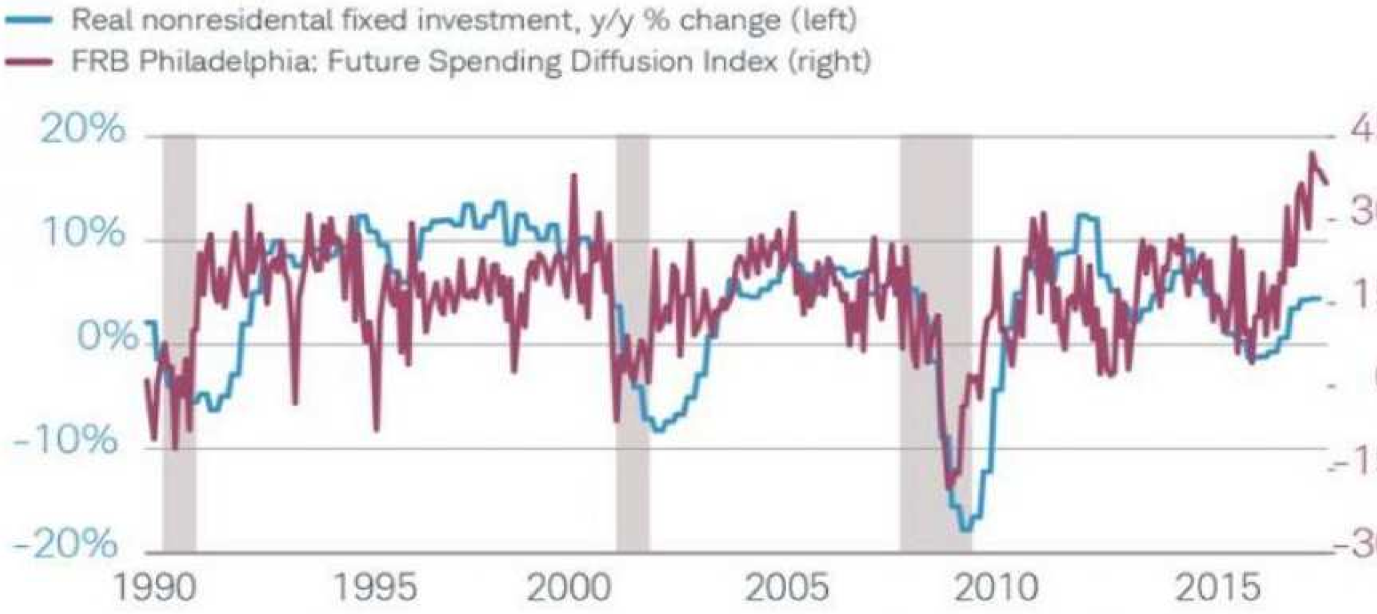
Chicago Fed Index





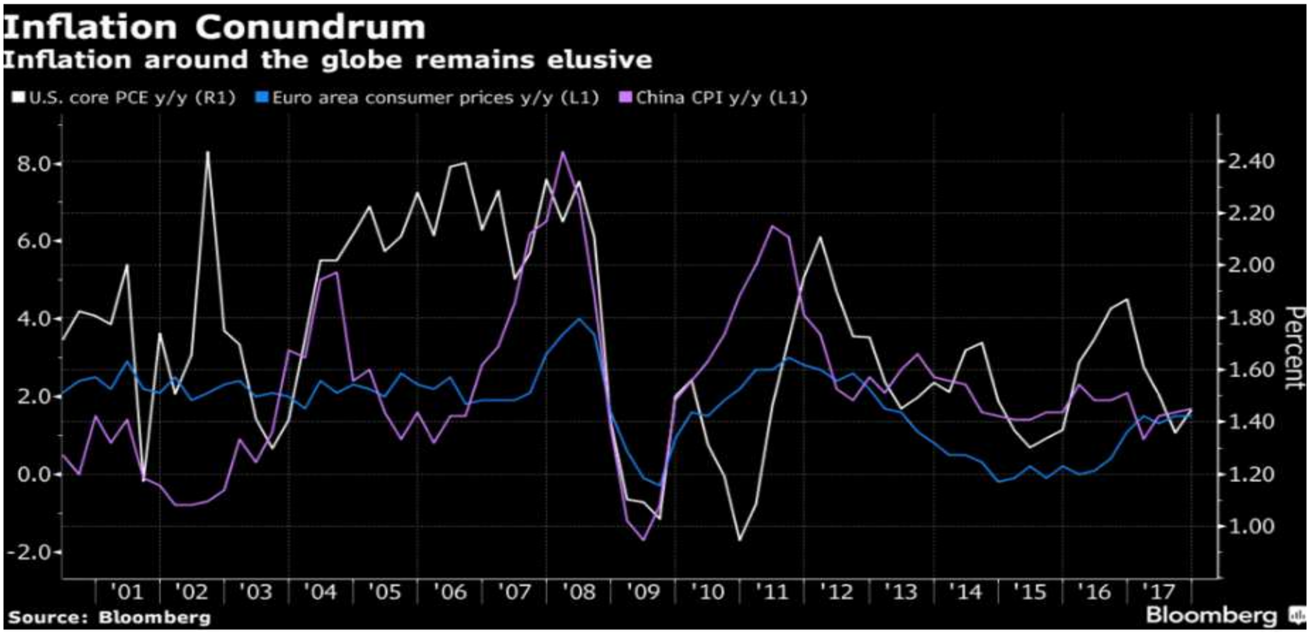
Capex Revival

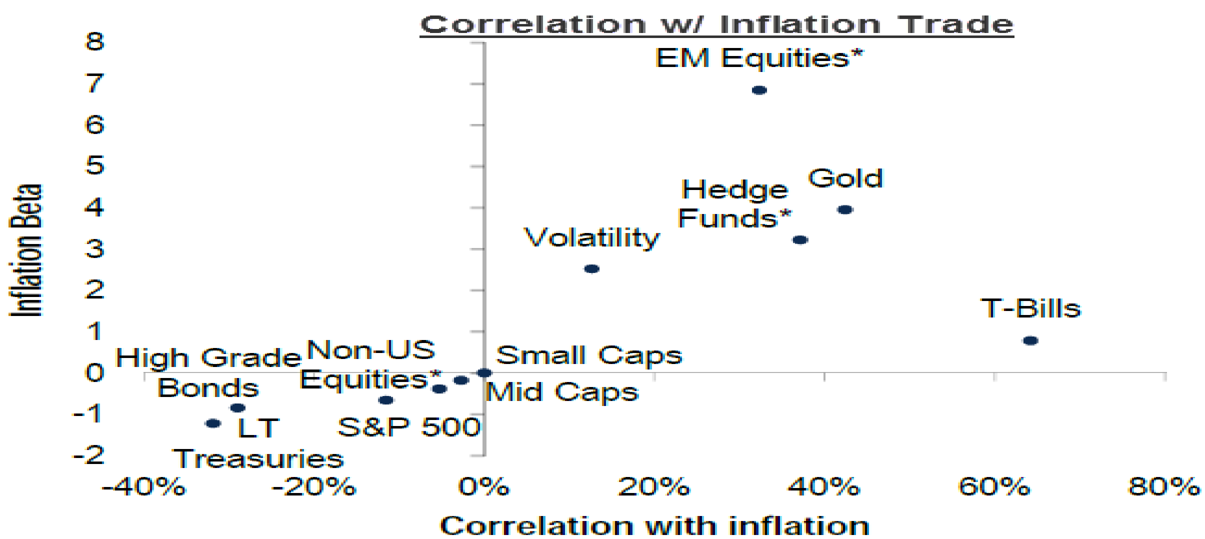
Business capital spending, a later cycle indicator, is set to further strengthen in 2018.

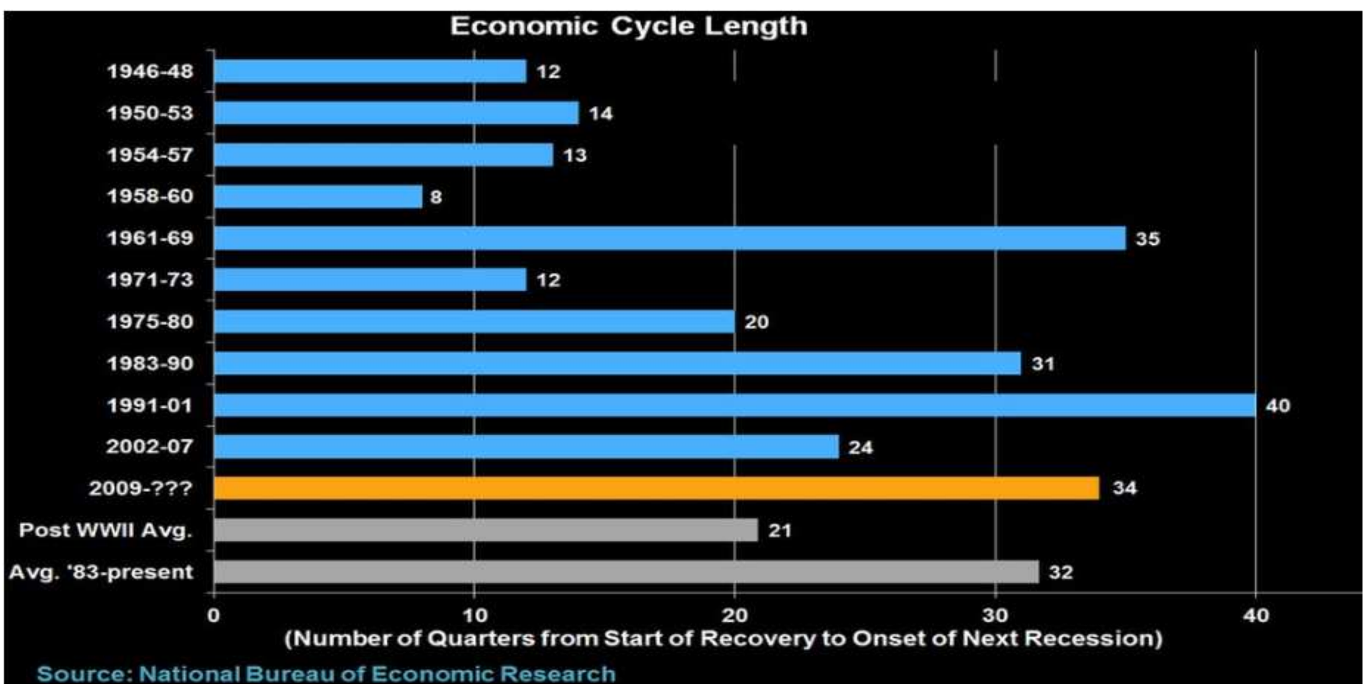


Fixed investment as of 3Q17. Future Capital Spending Diffusion Index (as of 11/17) is part of the Federal Reserve Bank (FRB) of Philadelphia's Manufacturing Business Outlook Survey and represents % of respondents indicating an increase minus those indicating a decrease in future capital expenditures over the next 6 months for reporting regional manufacturing firms. Gray-shaded areas indicate periods of recession.

Source: FactSet

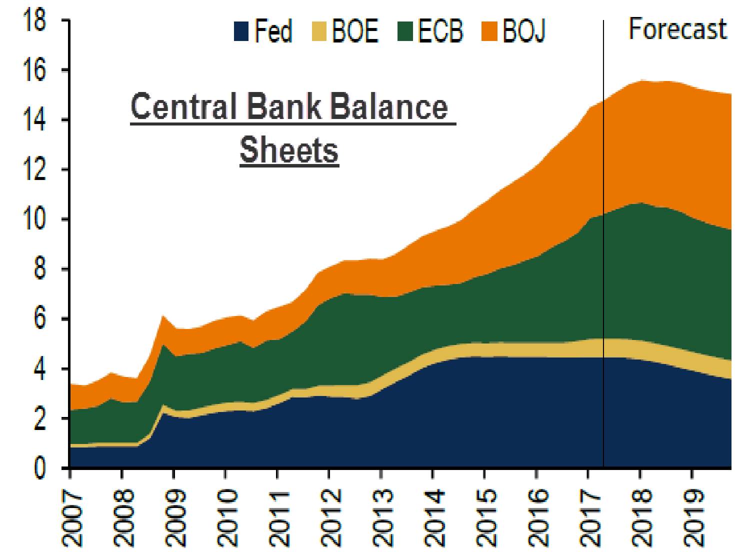

Inflation Conundrum
Inflation around the globe remains elusive
U.S. core PCE y/y (R1)
Euro area consumer prices y/y (L1)
China CPI y/y (L1)
8.0
6.0
4.0
2.0
0.0
-2.0
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
Percent
'01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17
Source: Bloomberg
Bloomberg


Correlation w/ Inflation Trade
Inflation Beta
8
7
6
5
4
3
2
1
0
-1
-2
EM Equities*
Hedge Funds*
Gold
Volatility
T-Bills
High Grade Bonds
Non-US Equities*
Small Caps
Mid Caps
LT Treasuries
S&P 500
-40%
-20%
0%
20%
40%
60%
80%
Correlation with inflation


Economic Cycle Length
1946-48 12
1950-53 14
1954-57 13
1958-60 8
1961-69 35
1971-73 12
1975-80 20
1983-90 31
1991-01 40
2002-07 24
2009-??? 34
Post WWII Avg. 21
Avg. '83-present 32
0
10
20
30
40
(Number of Quarters from Start of Recovery to Onset of Next Recession)
Source: National Bureau of Economic Research

Central Banks

Although the Fed has ended QE purchases the balance sheet continues to expand, and the same goes for the ECB and BOJ, so the global liquidity boost remains a theme. The Fed has started to gradually raise interest rates and the Fed Futures Curve below shows market expectations, and the latest meeting pointed to 3 hikes in 2018. Contrary to popular belief, the S&P 500 has seen strong returns during periods of rising interest rates historically and prior cycles are shown in the chart below. On additional chart shows correlations with rates and rising stock prices have correlated with rising rates up to the 5% level on 10-year yields. The Fed has indicated a plan to withdraw $1.4 Trillion in reserves over the next four years reducing its balance sheet by $30B this year, $381B in 2018, $425B in 2019, $337B in 2020, and $224B in 2021. Historically as the Fed reduces its balance sheet, stocks outperform bonds, large caps outperform small caps and value outperforms growth. The ECB will begin to taper QE during 2018 and the BOJ is slowing its purchases of government bonds.



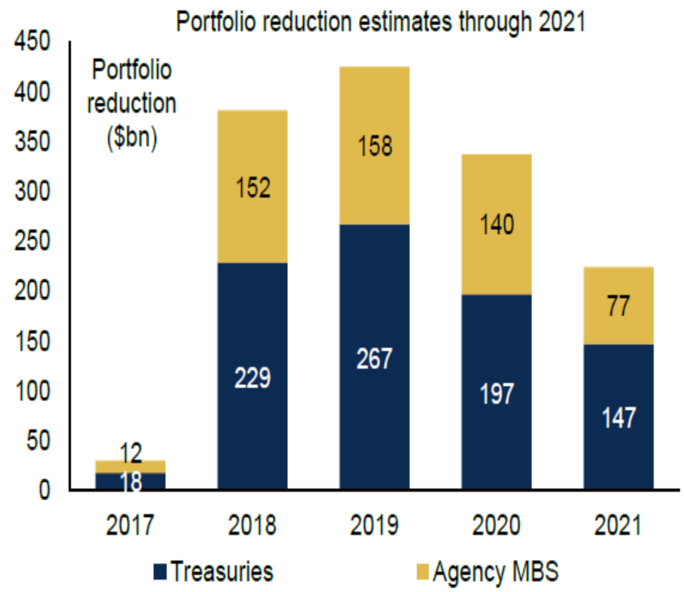
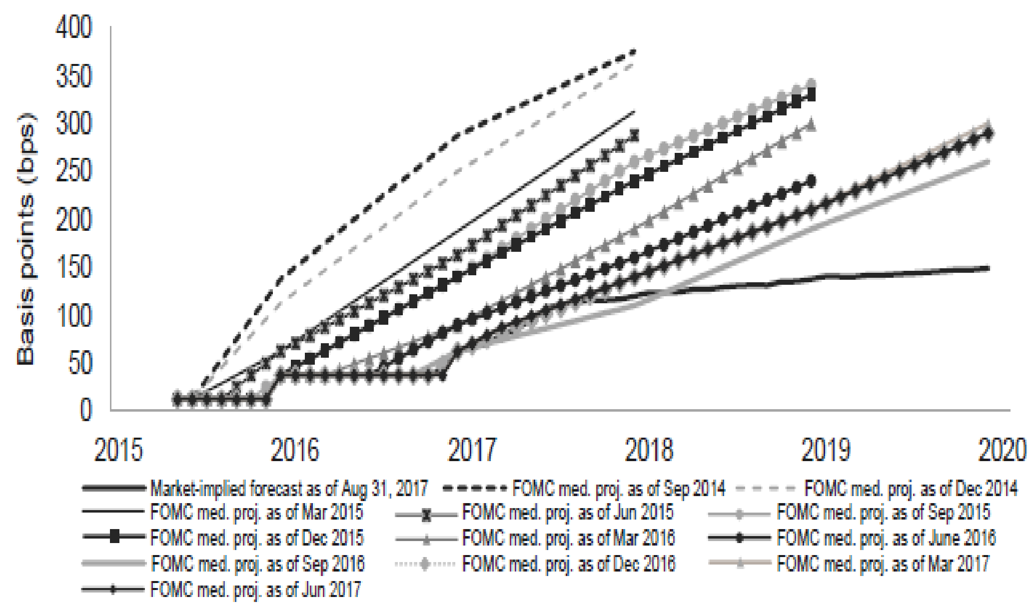


Exhibit 61: Implied fed funds rate
12-months futures contracts



Source: Bloomberg, U.S. Federal Reserve, RBC GAM

Nominal Rates	Interest rate beta	Correlation
Energy	0.7	4%
Real Estate	0.1	1%
Information Technology	0.0	0%
Materials	0.0	0%
Industrials	-0.7	-5%
Consumer Discretionary	-1.0	-6%
Health Care	-1.8	-13%
Telecommunication Services	-2.2	-15%
Financials	-2.3	-13%
Consumer Staples	-2.9	-23%
Utilities	-3.7	-29%

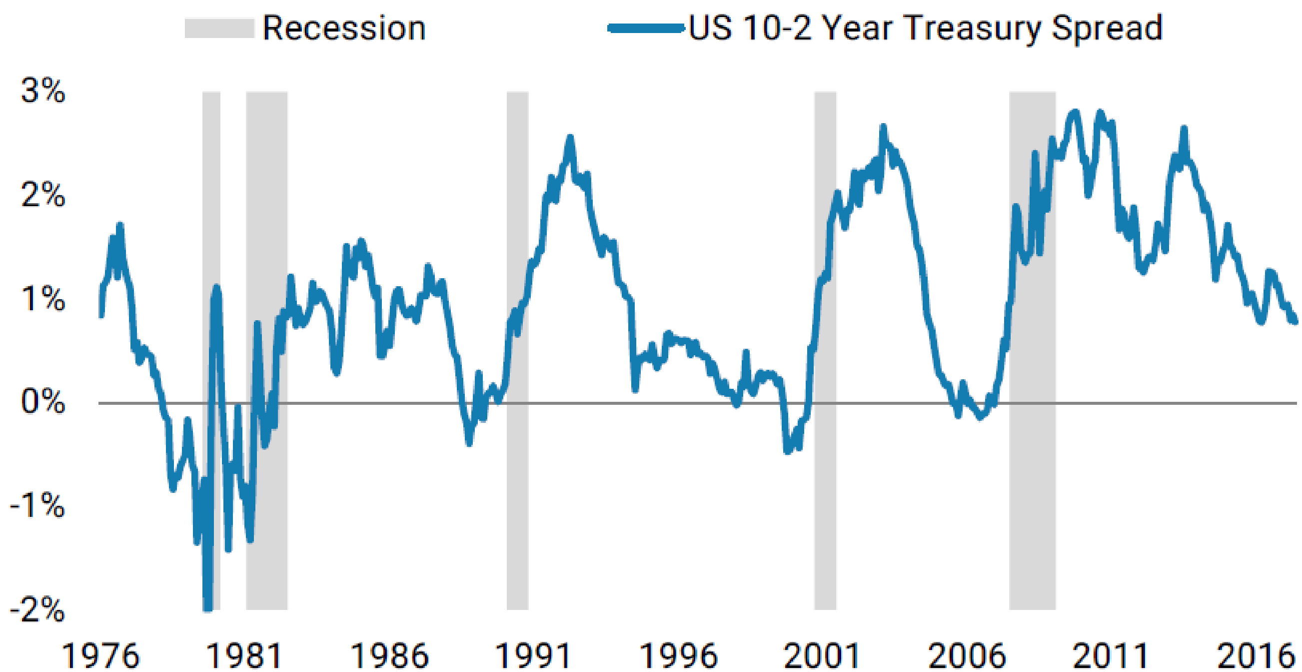
Table 36: Total return performance by asset class during periods of Fed balance sheet shrinkage

Peak	Trough	Change in Total Fed Assets	S&P 500 Index	Small caps Index (Ibbotson)	L/T (15+) Govt Bonds	Corp Bonds	Gold	WTI	Cash (3m T-bill) TR Index	Growth	Value	Large Growth	Large Value
1919	1921	-18.50%	-3%										
1922	1923	-3.50%	1%				3%						
1929	1930	-4.70%	-24%	-38%	5%	8%	0%		2%	-31%	-45%	-26%	-43%
1945	1946	-0.70%	-8%	-12%	0%	2%	0%		0%	-10%	-8%	-8%	-8%
1948	1949	-8.50%	19%	20%	6%	3%	0%	0%	1%	23%	20%	23%	19%
1952	1954	-2.30%	51%	50%	11%	9%	1%	10%	3%	47%	59%	51%	65%
1957	1958	-0.50%	44%	65%	-6%	-2%	0%	0%	2%	58%	71%	42%	72%
1959	1960	-2.00%	0%	-3%	14%	9%	0%	0%	3%	-2%	-7%	-2%	-9%
1999	2000	-8.70%	-9%	-4%	21%	13%	-5%	5%	6%	-18%	3%	-14%	6%
2008	2009	-0.20%	26%	26%	-15%	3%	24%	78%	0%	31%	55%	28%	39%
Median since 1929*			10%	8%	6%	6%	0%	2%*	2%	11%	11%	10%	12%
Median since 1948			23%	23%	9%	6%	0%	2%	2%	27%	37%	26%	29%

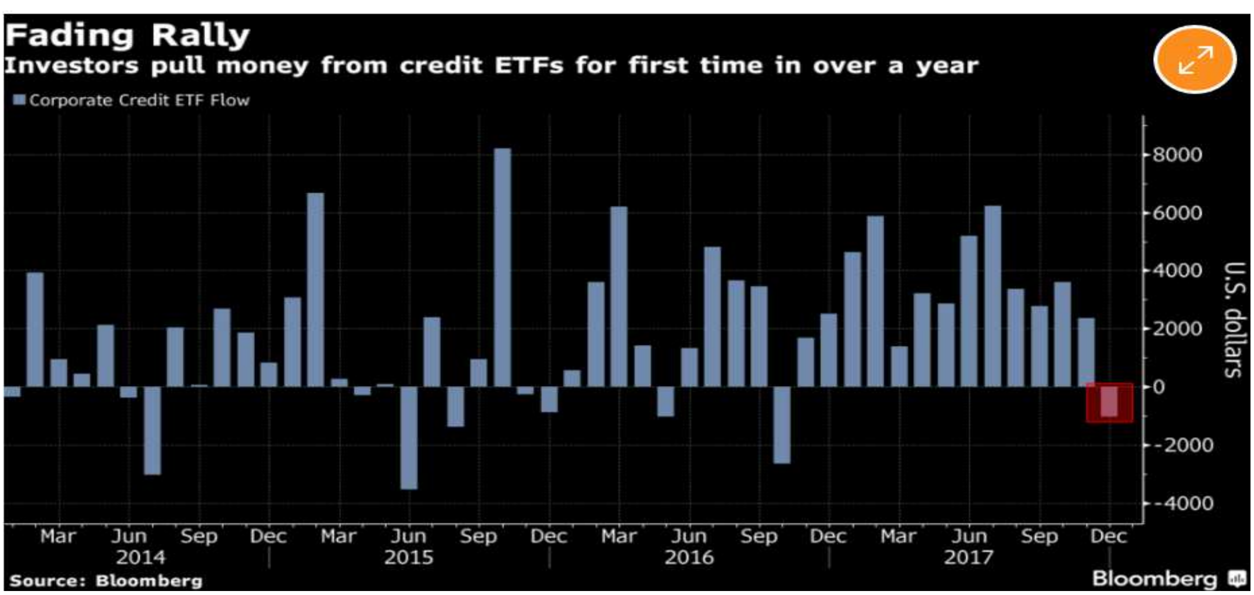
Bonds vs. Stocks

The relationship between bonds and stocks is an important one as we finally enter a movement of higher yields, and outside of cash on the sidelines and alternative investments, fund flows are meaningful to understand movement of these asset classes. A chart below shows the large movement of money from bond markets to stock markets on the anticipation of entering a stronger growth cycle. This has long been known as the "Great Rotation" when a selloff in bonds is accompanied by a powerful equity rally. Considering Bonds were in a multi-decade bull market, signs of that ending can lead to a long period of outflows. It is estimated that when/if bond yields hit 2.6% it becomes a potential negative for equities as the equity risk premium spread narrows. Although stocks appears fairly pricey to historical norms they still appear very cheap relative to bonds, both government and corporate, with low rates and tight spreads.

Exhibit 11: US Treasury Yield Curve Has Been Flattening for 4 Years and could Invert in 2018.

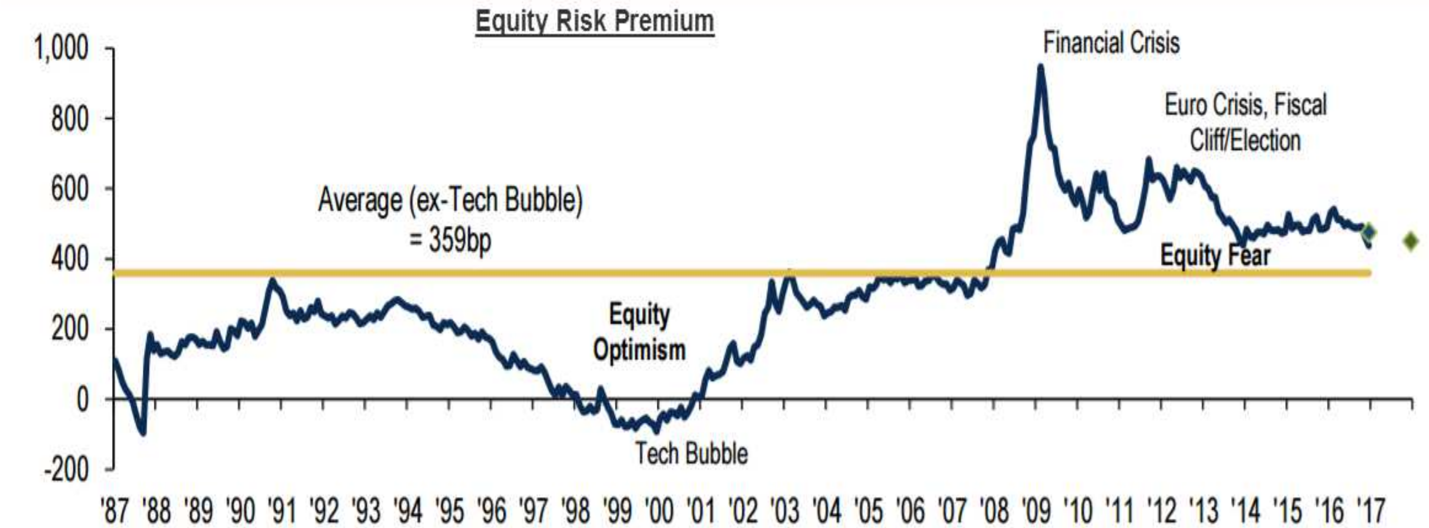


Source: Bloomberg, Morgan Stanley Research as of October 31, 2017.

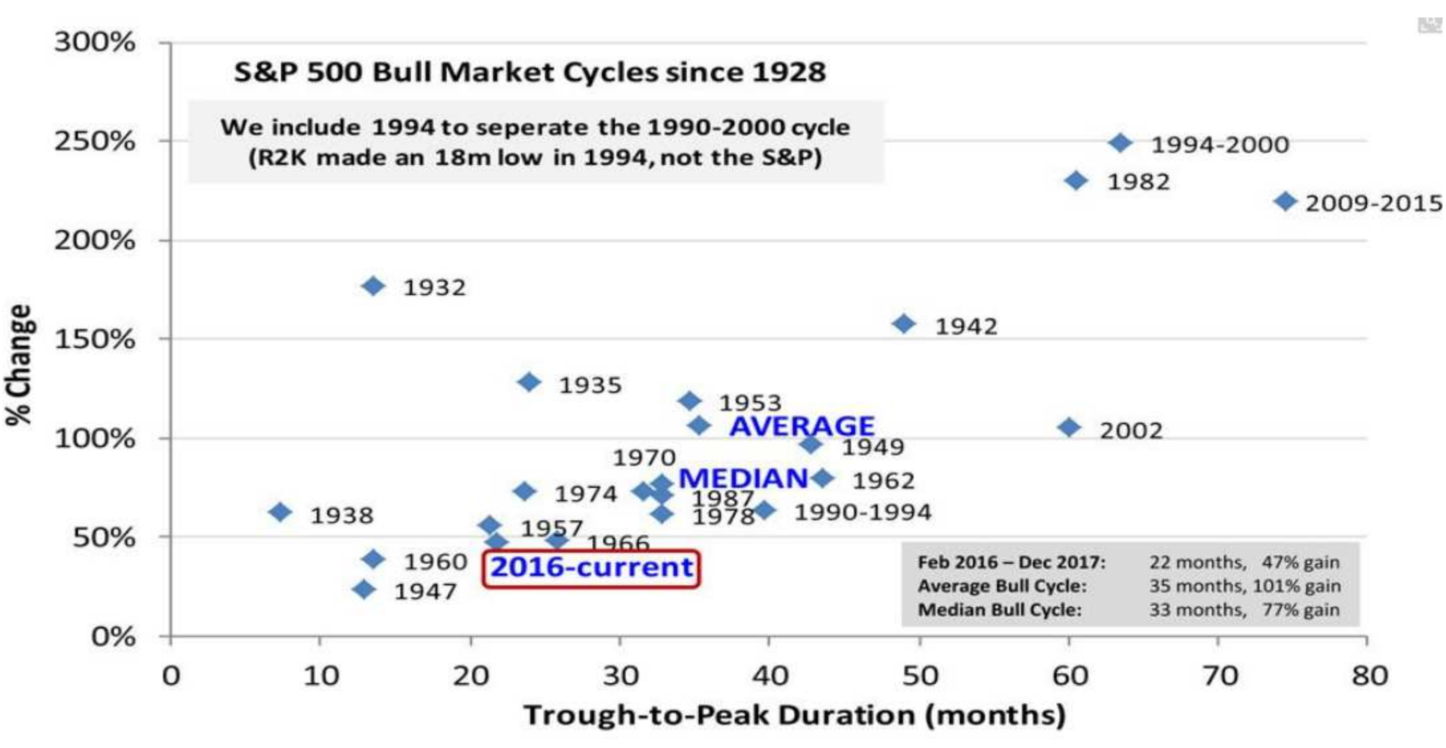


When will bond yields start to hurt equities?

	10Y bond yield* Latest	Equity risk premium (ERP) Latest	Equity risk premium Avg – 1 std dev	Rise in bond yield needed for ERP to fall 1 std dev below average (in bp)	Bond yield at which equities are rich relative to bonds
USA	2.15%	3.4%	3.0%	47 bps	2.6%
United Kingdom	1.36%	4.7%	4.3%	37 bps	1.7%
Japan	-0.03%	4.2%	1.2%	297 bps	2.9%
EMU	0.80%	4.9%	2.5%	234 bps	3.1%
Brazil	11.50%	-1.6%	-0.4%	-112 bps	10.4%
Russia	8.77%	0.6%	3.0%	-235 bps	6.4%
India	6.98%	7.0%	5.3%	168 bps	8.7%
China	2.76%	10.1%	8.3%	185 bps	4.6%



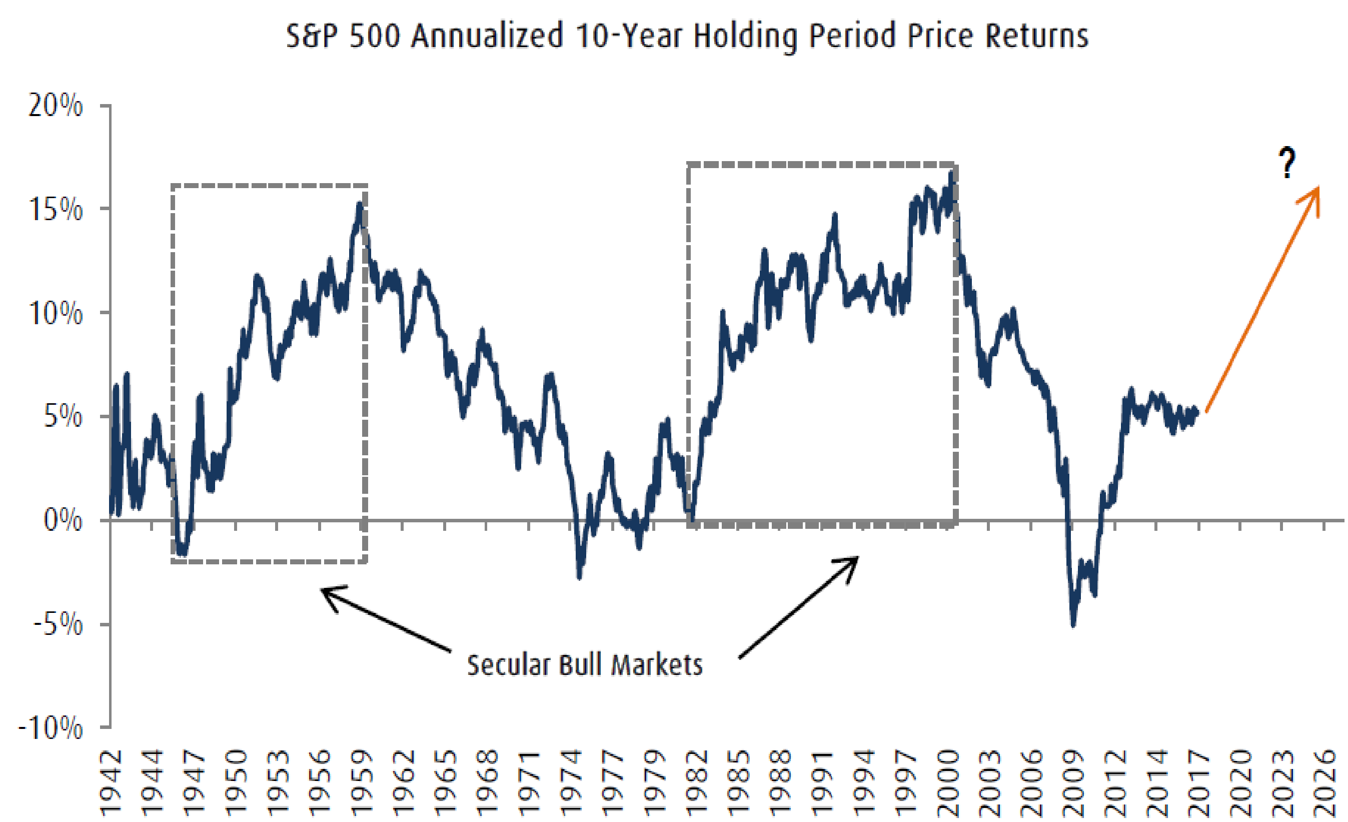
Bull Market Cycles



Market Valuation and Fundamentals

The Nasdaq led the way in 2017 set to gain around 33% for the year, the S&P up 20%, and the Russell 13.5%. 75% of $2B+ market cap stocks are positive YTD. It was another year of what has been deemed "the rolling rally" as large and often quick sector rotations cause short-term trading opportunities while indices remain fairly quiet, a stock-pickers market. These rotations into year-end have been seen with a move out of safety/yield groups like Utility and Consumer Staples which are Bond proxies, and into more cyclical industries. One of the main reasons for a relatively sideways move the last couple of years in the bull market is that earnings growth was minimal and there was a lack of sales growth, while operational efficiences have caused rising margins across most industries. Many industries are at levels where multiple expansion can no longer support higher stock prices, so it is important for the earnings growth to deliver on expectations next year which will inoranically be boosted by tax reform. A weak US Dollar should also be a positive tailwind into earnings this next reporting season. The last two years of a bull market tend to hit a euphoric stage and have averaged a 58% return, and minimum of 30%. Valuation for stocks remains above historical levels but we are in an unprecented era of technological driven efficiencies and relative to Bonds, stocks remain attractively priced especially in a synchronized global growth environment. Energy is expected to be the main driver of earnings growth as it works out of the downturn and emerging better than ever with more efficient wells and lower breakeven costs. Inflation is the real concern into 2018 and a rising rate environment is still welcomed as we move off historically low levels with just 3 Fed hikes expected in 2018, an orderly process back to normalization. The chart below shows that secular bull markets are born out of lost decades and the 2009-2017 rally in that respect has still be relatively small. There are a lot of reasons to be optimistic into 2018 and an Infrastructure package could be an added upside boost. Valuation is never a reason to sell a stock, and the same goes for the market in general, only signs of deteriorating global growth, earnings, business optimism, and global liquidity are appropriate reasons to see reason for an end to the trend. Near-term shocks will always be part of investing, the most notable current risks being North Korea and the Mueller investigations. Not all bear markets require a recessionary environment, and there are very little signs that a recession is near, though we are starting to see some more negaative signals appear, an inverting Treasury yield curve one of the big things investors will be watching out for in 2018.

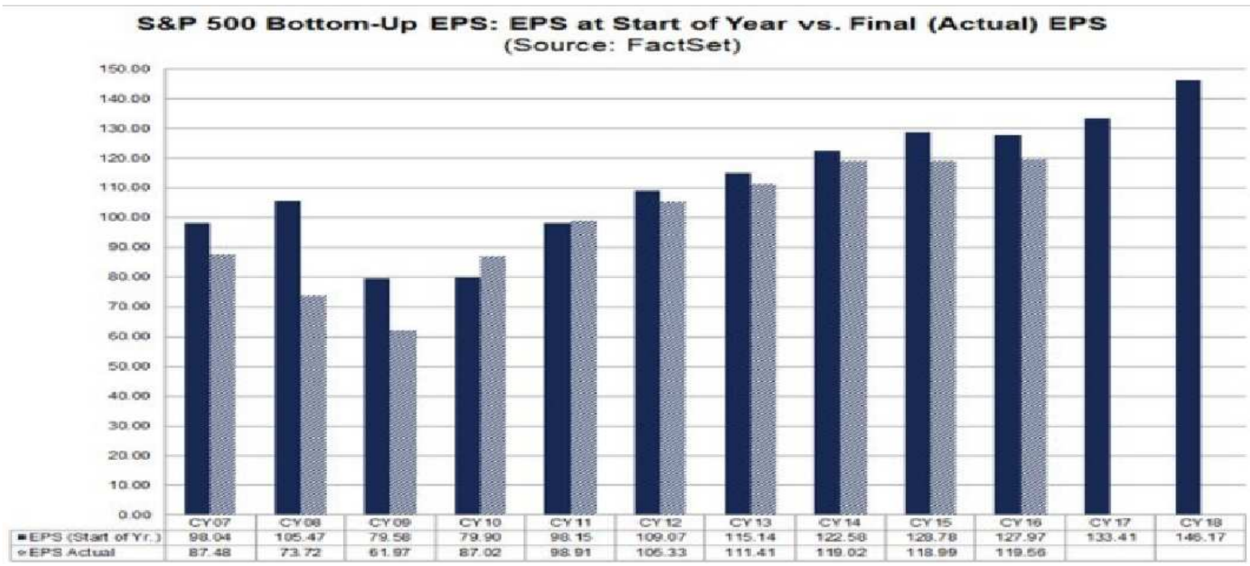
Exhibit 7: Secular Bull Markets Are Born Out of Lost Decades



Valuation

My projections for 2018 are as follows, and assign a 30% probability of the bull case, 55% probability of the base case, and 15% probability of the bear case to arrive at a year-end S&P 500 value of , a return for markets. In the second half of 2017 the FY18 estimates start to come into focus as a forward-looking market, so there can be further room for upside. The probability calculation implies a 2,764 fair value for 2018.

	EPS	Trading Multiple	S&P Value	Annual Return
Bull Case	$150	22X	3,300	22.9%
Base Case	$145	18X	2,610	-3%
Bear Case	$141	16X	2,255	-16%



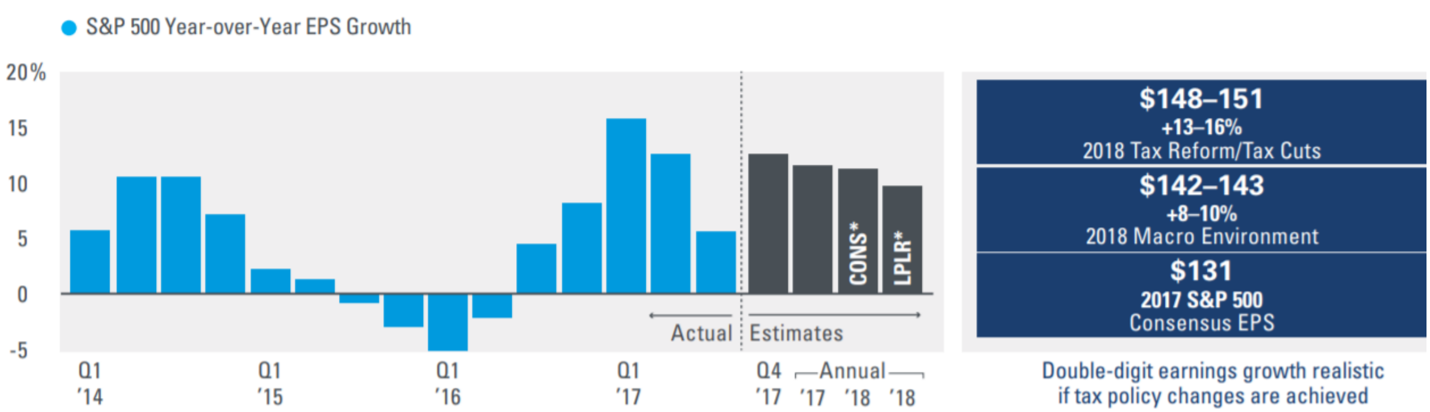
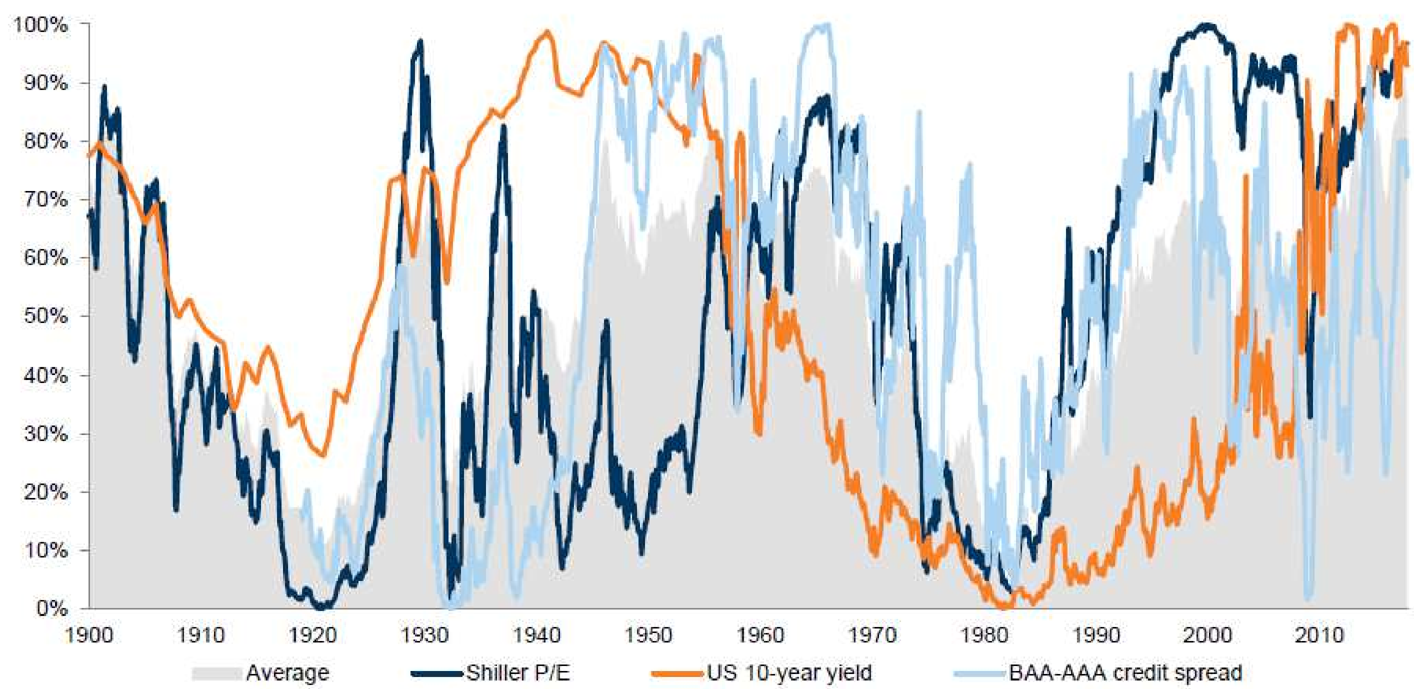


Table 7: S&P 500 valuation metrics (as of 11/30/17)

Boxes indicate valuation multiple is above its long-term average

Metric	Current	Average	Avg. ex. Tech Bubble	Min	Max	% Above (below) avg	Z-Score	History
Trailing PE	21.0	16.1	15.4	6.7	30.5	30%	1.0	1960-present
Trailing GAAP PE	24.7	19.1	18.3	6.7	122.4	29%	0.5	1960-present
Forward Consensus PE	18.3	15.2	14.2	9.8	25.1	20%	0.9	1986-present
Trailing Normalized PE	21.1	19.0	17.5	9.2	33.9	11%	0.4	9/1987-present
Median Forward P/E	18.5	15.1	14.8	10.0	20.5	23%	1.6	1986-present
Shiller PE	31.3	16.8	16.2	4.8	44.2	86%	2.2	1881-present
P/BV	3.32	2.48	2.26	0.98	5.34	34%	0.9	1978-present
EV/EBITDA	12.2	10.0	9.6	6.0	15.0	22%	1.0	1986-present
Trailing PEG	1.52	1.45	1.43	0.93	2.21	4%	0.3	1986-present
Forward PEG	1.32	1.22	1.20	0.82	1.67	8%	0.5	1986-present
P/OCF	14.6	10.5	9.7	5.4	19.0	39%	1.4	1986-present
P/FCF	25.0	28.3	24.9	12.9	65.7	-12%	-0.3	1986-present
EV/Sales	2.54	1.84	1.74	0.86	2.91	38%	1.4	1986-present
ERP (Market-Based)	702	469	485	136	880	50%*	1.3	11/1980-present
Normalized ERP	410	292	337	-96	947	40%*	0.6	1987-present
S&P 500 Div. Yld. vs. 10yr Tsy. Yld.	0.8	0.6	0.6	0.2	2.3	24%*	0.4	1953-present
S&P 500 in WTI terms	46.7	23.6	20.9	2.7	109.0	98%	1.4	1960-present
S&P 500 in Gold terms	2.07	1.58	1.33	0.17	5.48	31%	0.4	1968-present
S&P 500 vs. R2000 Fwd. P/E	0.95	1.00	0.94	0.76	1.71	-5%	-0.3	1986-present
S&P 500 Market Cap/GDP	1.16	0.59	0.55	0.22	1.29	97%	2.1	1964-present

Valuation percentile (since 1871 for S&P 500 & US 10-year yields, 1919 for BAA spreads)



Operating margins: only Discretionary, Tech, Materials at/near peak

Discretionary most at risk of more compression, Tech margins likely more sustainable

Table 23: S&P 500 Operating (EBIT) Margins (based on current constituents, 1995-present)

EBIT Margin - LTM	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Avg.	Max	Min
Consumer Discretionary	10.2%	10.0%	11.2%	10.6%	9.8%	10.2%	6.6%	9.4%	9.7%	10.6%	10.4%	9.0%	9.9%	8.3%	9.3%	10.7%	10.9%	10.5%	11.0%	10.9%	11.7%	11.3%	10.1%	11.7%	6.6%
Consumer Staples	10.0%	10.1%	10.9%	10.6%	10.6%	10.6%	10.7%	10.8%	10.5%	10.2%	10.0%	10.4%	9.8%	9.6%	10.0%	10.2%	9.7%	9.6%	9.9%	9.3%	9.5%	9.4%	10.0%	10.9%	9.3%
Energy	8.1%	10.1%	10.4%	5.5%	7.1%	13.4%	11.8%	7.8%	10.7%	12.6%	14.1%	16.7%	15.3%	13.8%	6.8%	10.7%	12.6%	11.6%	10.9%	10.0%	-5.6%	-1.9%	9.0%	16.7%	-5.6%
Health Care	14.9%	15.2%	14.5%	14.0%	13.6%	13.5%	13.0%	13.7%	13.1%	14.3%	13.2%	12.4%	12.4%	12.3%	12.6%	13.2%	13.4%	12.5%	11.9%	11.8%	11.7%	11.9%	13.0%	15.2%	11.7%
Industrials	11.3%	11.5%	11.0%	11.3%	11.2%	13.6%	12.8%	12.6%	12.1%	12.6%	13.5%	14.2%	14.9%	13.4%	10.9%	12.8%	12.9%	12.5%	12.8%	12.9%	13.8%	13.4%	11.9%	14.9%	10.9%
Information Technology	15.8%	14.2%	16.5%	15.7%	17.8%	16.7%	9.2%	12.7%	14.2%	17.5%	18.6%	17.3%	18.6%	19.1%	20.3%	23.6%	24.3%	22.9%	22.2%	23.0%	23.3%	22.9%	16.3%	24.3%	9.2%
Real Estate	14.2%	12.6%	13.1%	12.0%	12.0%	11.6%	8.4%	9.1%	8.7%	10.7%	12.5%	12.7%	14.0%	7.6%	11.2%	13.7%	14.1%	13.5%	11.9%	12.4%	9.4%	12.6%	11.6%	14.2%	7.6%
Materials	20.1%	17.9%	18.9%	22.6%	28.5%	25.7%	22.1%	20.7%	19.9%	22.0%	21.7%	22.5%	23.9%	21.4%	19.9%	25.9%	26.6%	26.7%	27.2%	28.1%	27.4%	27.0%	19.7%	28.5%	17.9%
Telecommunication Services	22.4%	22.6%	22.4%	24.5%	23.3%	20.4%	21.5%	18.9%	18.1%	17.4%	16.6%	16.2%	17.3%	18.5%	17.7%	16.8%	12.5%	11.6%	24.3%	13.4%	20.6%	17.2%	19.2%	24.5%	11.6%
Utilities	25.2%	22.0%	18.3%	17.3%	15.6%	8.4%	19.0%	19.1%	17.1%	17.1%	15.5%	17.2%	17.8%	17.9%	18.8%	19.8%	19.7%	19.4%	19.5%	18.5%	19.0%	20.5%	20.1%	25.2%	8.4%
S&P 500	**13.1%**	**13.2%**	**13.8%**	**13.1%**	**13.5%**	**13.8%**	**12.8%**	**12.8%**	**13.3%**	**14.4%**	**14.5%**	**15.0%**	**14.4%**	**10.8%**	**12.0%**	**14.6%**	**15.0%**	**14.4%**	**15.1%**	**14.7%**	**14.0%**	**14.2%**	**13.1%**	**15.1%**	**10.8%**
S&P 500 ex. Financials	**12.7%**	**12.5%**	**12.9%**	**12.1%**	**12.5%**	**12.8%**	**11.6%**	**11.9%**	**12.0%**	**13.0%**	**13.3%**	**13.6%**	**13.8%**	**12.9%**	**12.0%**	**13.6%**	**13.9%**	**13.3%**	**13.7%**	**13.3%**	**12.4%**	**12.9%**	**12.4%**	**13.9%**	**11.6%**
S&P 500 ex. Financials & Energy	**13.4%**	**13.3%**	**13.6%**	**13.1%**	**13.6%**	**13.1%**	**11.6%**	**12.6%**	**12.5%**	**13.4%**	**13.3%**	**13.3%**	**13.9%**	**12.8%**	**13.1%**	**14.6%**	**14.6%**	**13.8%**	**14.5%**	**14.0%**	**14.5%**	**14.3%**	**11.4%**	**14.6%**	**11.6%**
S&P 500 ex. Financials Energy & Tech	**13.0%**	**13.1%**	**13.1%**	**12.7%**	**13.0%**	**12.5%**	**11.9%**	**12.5%**	**12.2%**	**12.8%**	**12.6%**	**12.6%**	**13.2%**	**11.8%**	**11.9%**	**13.0%**	**12.8%**	**12.2%**	**13.0%**	**12.2%**	**12.8%**	**12.7%**	**10.8%**	**13.2%**	**11.8%**
S&P 500 ex. Financials & Tech	**12.3%**	**12.7%**	**12.6%**	**11.8%**	**12.3%**	**12.6%**	**11.7%**	**11.9%**	**11.9%**	**12.8%**	**13.0%**	**13.2%**	**13.6%**	**11.9%**	**11.0%**	**12.8%**	**12.9%**	**11.9%**	**12.4%**	**11.5%**	**10.3%**	**11.0%**	**12.2%**	**13.6%**	**10.3%**

Chart 8: Mentions of "better" vs. "worse" or "weaker" on earnings/guidance calls, 2003-3Q17

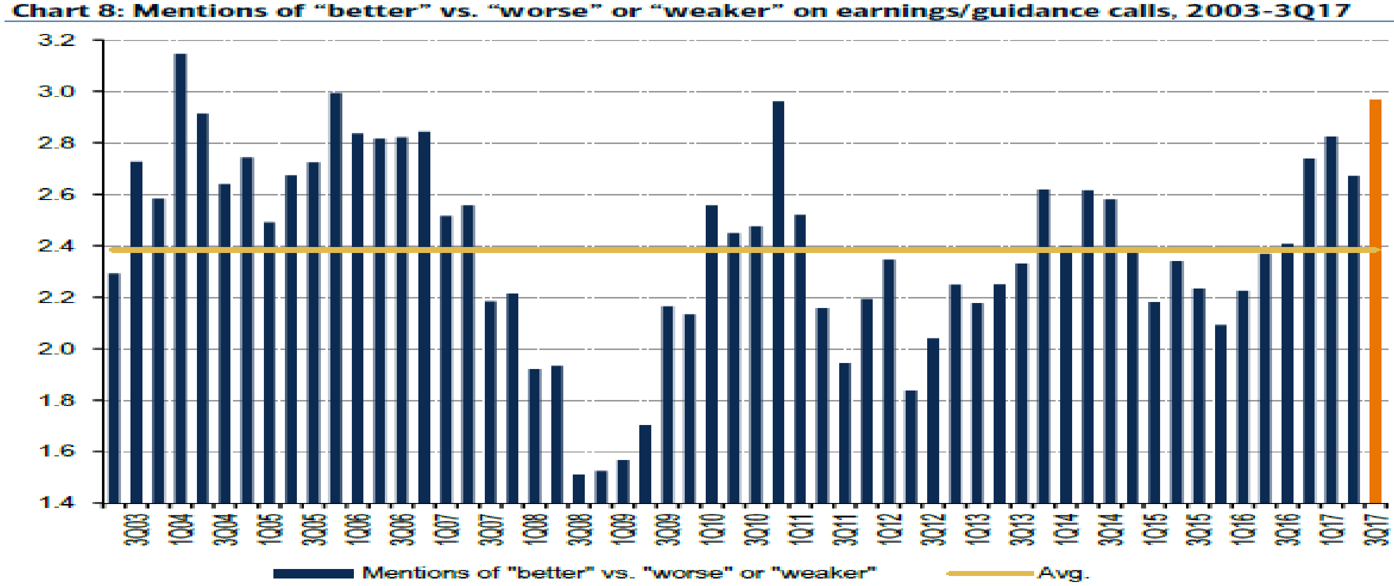


Chart 7: S&P 500 management guidance ratio (instances of above-consensus vs. below-consensus earnings guidance), 2000-11/30/2017

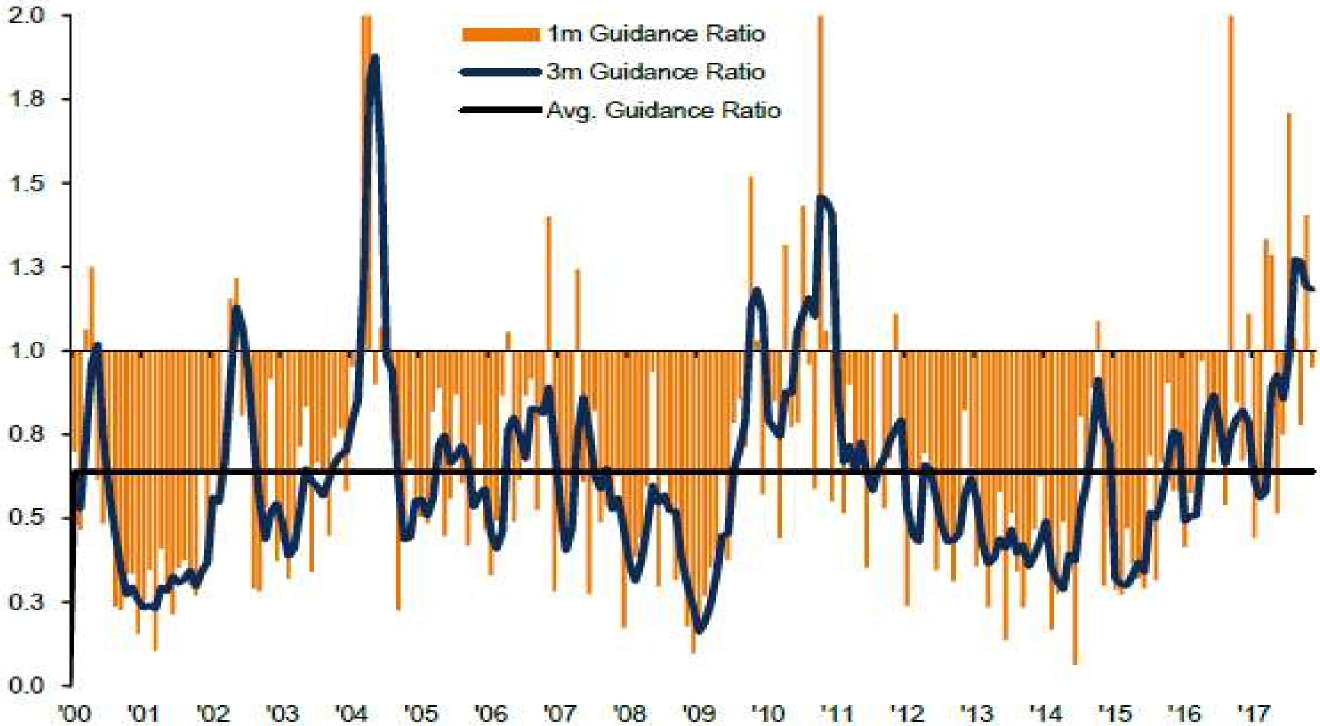
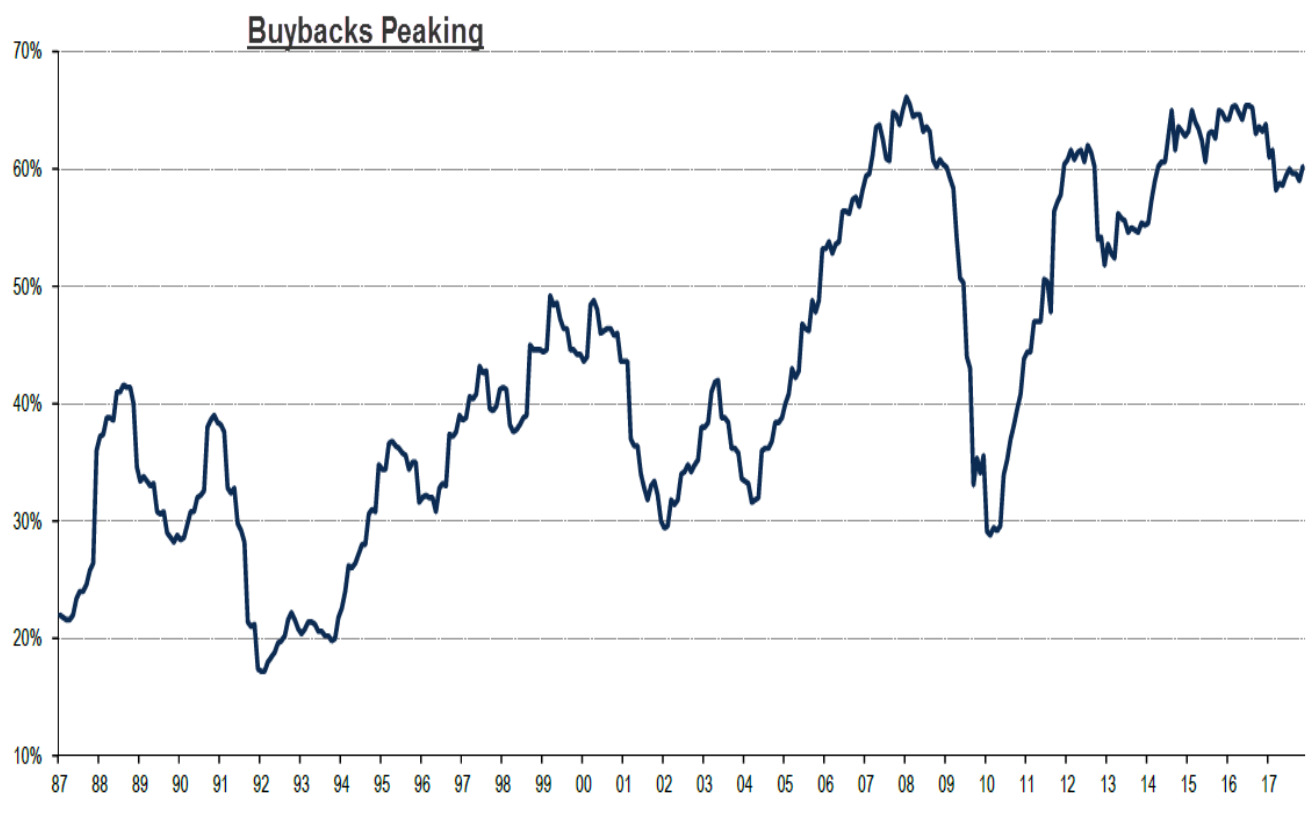


Chart 12: Percentage of S&P 500 companies with a net YoY reduction in share count, 1987-11/30/2017



Sell-Side 2018 Market Projections

HSBC: S&P target 2,650. Expects a pickup in M&A and increased CAPEX.

Citi: S&P Target 2,675. Sees tax cuts stimulating S&P 500 EPS.

Morgan Stanley: S&P target 2,750. Expects a return to a higher volatility environment with one or several 10% or more drawdowns in 2018. The EPS outlook Y/Y for 2019 could disappoint in 2H18.

Morgan Stanley S&P 500 Price Target: Year End 2018

Landscape	Earnings	Multiple	Price Target	Upside / Downside
Bull Case	$150	20.0x	3,000	15.4%
Base Case	$150	18.3x	2,750	5.8%
Bear Case	$135	17.0x	2,300	-11.5%
Current S&P 500 Price as of:		11/21/2017	2,599	

Bank of America: S&P Target 2,800. Thinks 2018 could be the year of "Euphoria."

Canaccord: S&P Target 2,800. Sees no evidence of a weakening fundamental backdrop and earnings direction looks positive for the next few years.

Goldman Sachs: S&P Target 2,850. Sees bull market continuing with above-trend US and Global economic growth, low and rising interest rates, and profit growth expanding with tax reform.

Deutsche Bank: S&P target 2,850. Sees 11% EPS growth in 2018 with a range-bound USD, stable to robust US and Global growth, and expects more regular 3-5% pullbacks with multiples remaining fairly flat.

Jefferies: S&P Target 2,855. Sees potential for Europe flows from 2017 to return to the US with relative valuations in-line.

CSFB: S&P Target 2,875. Recessionary risks are well contained and sees financials outperforming while bond proxies underperforming.

UBS: S&P Target 2,900. Sees 3,300 upside potential which outweighs downside potential by 2X, and sees opportunities to position for risk-adjusted growth plus yield with a focus on four broader themes: 1) demographics; 2) corporate vs. consumer spending; 3) margins; 4) tax impacts.

BMO Capital: S&P target 2,950. 2018 will be the true test of the recovery with stretched valuation levels and moves now driven more by earnings expansion rather than multiple expansion. Expects double digits EPS growth, and historically markets perform well in that environment.

Scenario	Price	EPS	Rationale
Bull Case	3,250	$150	Corporate reinvestment and consumer spending accelerates: • EPS growth surprises to the upside vs. current expectations offsetting higher interest rates valuation impact • Risk premiums drop sharply • Revision trends accelerate to the upside
Base Case	2,950	$145	Steady as she goes, with bumps in between: • Risk premiums remain largely static and path of interest rates grinds higher, but slower than expected • EPS growth matches current optimistic expectations providing a layer of support • Policy questions/debate persist creating periods of elevated volatility surrounding the rhetoric
Bear Case	2,200	$130	Fundamental momentum stalls leading to market consolidation: • Rhetoric wins and nothing gets done in DC • Strong growth rebound does not materialize + higher interest rates = double whammy of earnings disappointment and multiple contraction

Source: BMO Capital Markets Investment Strategy Group, Bloomberg.

Oppenheimer: S&P Target 3,000. Sees tax reform leading to further margin expansion and buybacks, a relative favorable reward/risk into 2018 with low inflation.

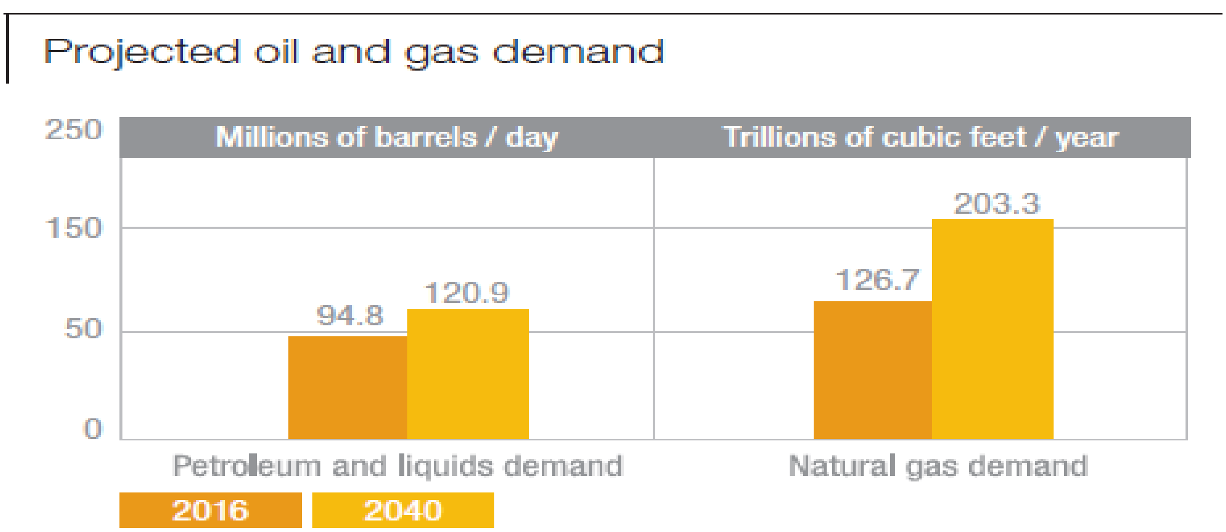
JP Morgan: S&P Target 3,000. Sees reduction in tax rates as one of the biggest positive catalysts in this cycle to result in a rotation from bonds to equities, from International to US, and from growth to value stocks.

Gold Technical View and Analysis

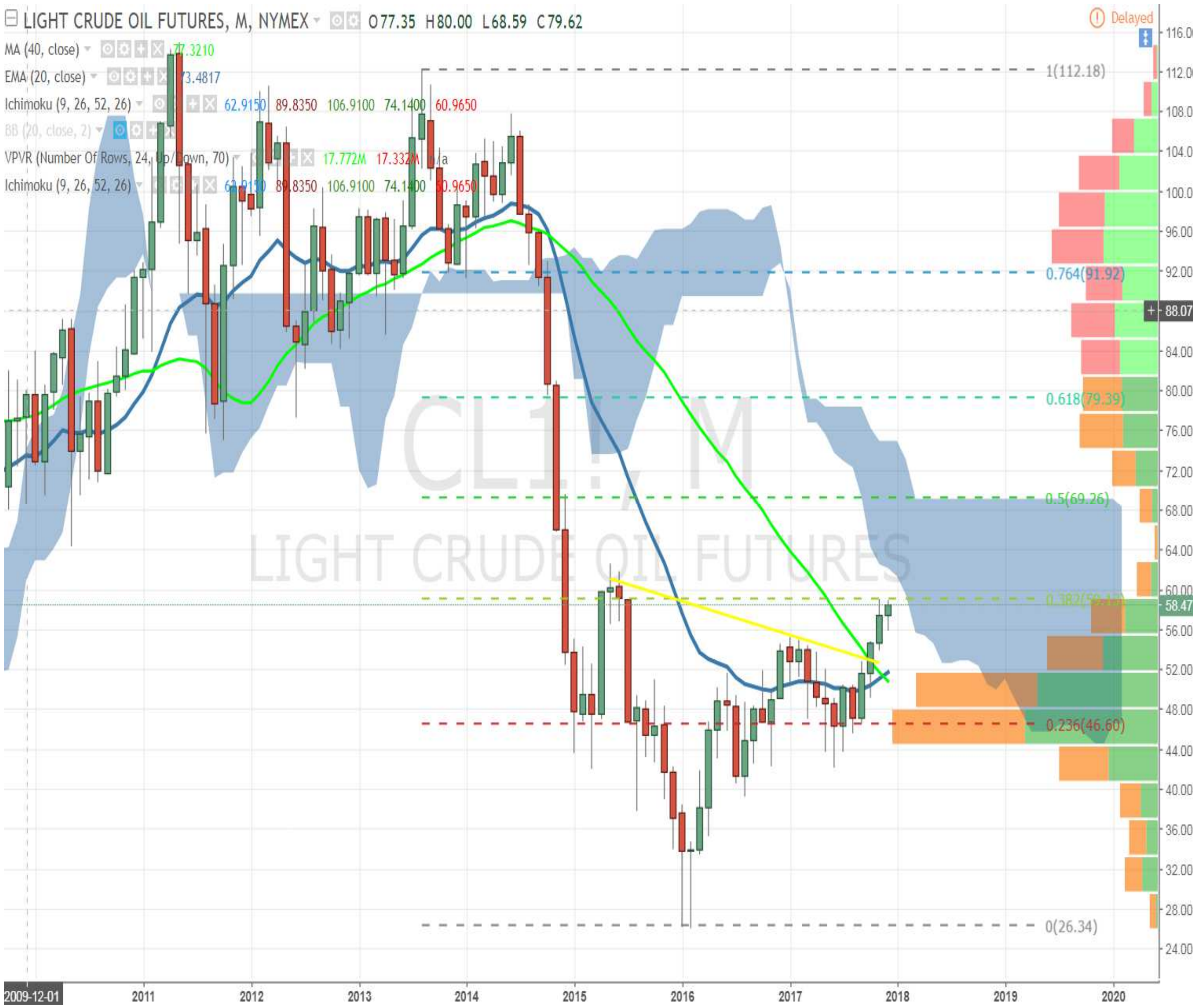
Gold, as measured by GLD, is +9.75% YTD after selling off sharply in Q4 2016. GLD is currently making higher highs and higher lows with the weekly cloud showing a supportive nature. The longer term monthly view below shows a potential massive bottoming pattern forming with $128.65 resistance. A move above that resistance would measure to upside around $155, while a 50% Fibonacci retracement is the $143 level and 61.8% at $153 of the 2011 high to 2015 low. On the other hand, a failed breakout, and move below current trend and volume support at $114 could spark a sharp move lower with support back near $93.5.

Oil Technical View and Analysis

Crude Oil enters 2018 with strong momentum, breaking out in October at the $51.60 level and currently trading near $58.50, a 38.2% Fibonacci level. A move above that level leaves room to the 50% retracement at $69 while the bottoming pattern itself measures to an $81 target. The more recent $43/$53 high volume zone breakout targets a move to $63 which is near the 2015 resistance where a bounce eventually faded back to new lows. The technical pattern is sound and $75-$80 looks achievable over the next 24 months, while the fundamental picture has improved as well with OPEC supply cuts while global growth has demand stable to growing.



Source: US Energy Information Association, International Energy Outlook 2016.


LIGHT CRUDE OIL FUTURES, M, NYMEX O77.35 H80.00 L68.59 C79.62
MA (40, close) 77.3210
EMA (20, close) 73.4817
Ichimoku (9, 26, 52, 26) 62.9150 89.8350 106.9100 74.1400 60.9650
BB (20, close, 2)
VPVR (Number Of Rows, 24, Up/Down, 70) 17.772M 17.332M n/a
Ichimoku (9, 26, 52, 26) 62.9150 89.8350 106.9100 74.1400 60.9650
Delayed
1(112.18)
0.764(91.92)
0.618(79.39)
0.5(69.26)
0.236(46.60)
0(26.34)
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2009-12-01
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2020

Top 25 Long Investment Ideas for 2018 in Large/Mid Cap Stocks

Overview: Snapshot of Top 25 with Entry Levels for 1/2 and Full Positions as Well as a Target, and Stop. These are optimal levels for those who are price sensitive but the charts are always changing. The names will be discussed in more detail within the Sector Breakdowns section. Around 300 names that missed the Top 20 cut will also be discussed in the Sector Breakdown area of this report. I am looking for a balance of growth and value.

2018 Desired Weightings: *Energy/Metals/Chemicals 17.5%, Tech 17.5%, Financials 15%, Utility/Telecom 5%, Consumer Staples 5%, Consumer Discretionary 12.5%, Industrials 15%, Healthcare 12.5%*

Portfolio

Ticker	Company	Market Cap	P/E	FY18 EPS Growth	Entry 1/2	Entry 2/2	Target	Stop
WTR	Aqua America	$6.8B	26.7X	6%	$36	$33	$43	$31
CGNX	Cognex Corp.	$10.7B	43X	3%	$60	$53	$80	$50
GOOG	Alphabet Inc.	$725B	25.7X	28.50%	$1,020	$935	$1,250	$890
CRM	Salesforce.com	$74B	60X	29%	$100	$96	$125	$87
ANET	Arista Networks	$17B	27X	16%	$212	$193	$275	$169
NOW	Service-Now Inc.	$21B	72X	50%	$120	$110	$160	$100
OLED	Universal Display	$8.3B	53.6X	36%	$170	$150	$220	$135
CMCSA	Comcast Corp.	$188B	18.5X	7%	$39	$37	$50	$35.50
WYNN	Wynn Resorts	$17.2B	25X	26%	$160	$150	$200	$135
DLTR	Dollar Tree	$25B	20X	10%	$100	$93	$130	$88
FDX	Fed-Ex Corp.	$66B	16X	21%	$238	$223	$300	$205
TDY	Teledyne Tech	$6.3B	26X	15%	$168	$158	$225	$144
DHI	DR Horton	$19B	14X	14%	$47	$44	$60	$41
JNJ	Johnson & Johnson	$375B	18X	8%	$135	$125	$175	$100
VRTX	Vertex Pharmaceuticals	$36.5B	50X	55%	$140	$130	$200	$115
ISRG	Intuitive Surgical	$40B	39.3X	7%	$320	$305	$425	$270
PYPL	PayPal Inc.	$87B	32.7X	21%	$70	$65	$100	$57
BLK	BlackRock Inc.	$81.5B	20X	14%	$490	$470	$650	$445
FLT	FleetCor Technologies	$17B	19.5X	15.50%	$180	$165	$250	$155
CSGP	CoStar Group	$10.5B	48X	33%	$285	$270	$400	$250
GM	General Motors	$60B	7.2X	-7%	$41	$38	$55	$33.50
CHD	Church & Dwight	$12.35B	23.6X	9%	$47	$44	$62	$39
CLR	Continental Resources	$19.3B	51X	197%	$46	$43	$65	$41
APD	Air Products	$35.7B	21.3X	9%	$160	$150	$220	$140
RIO	Rio Tinto PLC	$90B	11.2X	-7%	$48	$45	$70	$38

Top 20 Short Ideas for 2018

With Each Short I Provide a "Better Option" of a Similar Market Cap Stock in a Related Industry for those Interested in a Pairs Trades as the Environment for Shorting has been Difficult

Ticker	Company	Market Cap	P/E	FY18 EPS Growth	Entry 1/2	Entry 2/2	Target	Stop	Better Option (Long)
AGN	Allergan	$55.6B	10.6X	-2.29%	$180	$198	$140	$205	Zoetis (ZTS)
AN	AutoNation	$4.7B	12.75X	7.61%	$55	$60	$45	$64	Lithia Motor (LAD)
AYI	Acuity Brands	$7.2B	17.7X	7.78%	$180	$200	$140	$212	Cree (CREE)
CHRW	CH Robinson	$12.1B	23.5X	11.67%	$88	$92	$75	$98	ZTO Express (ZTO)
CRUS	Cirrus Logic	$3.3B	10.9X	-0.56%	$54	$58	$37	$63	Monolithic (MPWR)
DISCA	Discovery Corp.	$8.9B	10.4X	14.43%	$24	$27	$18	$29	CBS Corp (CBS)
ENR	Energizer	$2.9B	15.1X	5.39%	$51	$54	$37	$57	Spectrum (SPB)
EPC	Edgewell Personal Care	$3.5B	15.1X	4.64%	$65	$69	$45	$74	Estee Lauder (EL)
GME	GameStop	$1.87B	5.65X	-2.42%	$20	$23	$15	$26	Take Two (TTWO)
HBI	Hanesbrands	$7.3B	9.65X	7.78%	$21	$23	$12	$25	Gildan (GIL)
HOG	Harley Davidson	$8.8B	13.85X	9.04%	$52	$55	$35	$60	Thor (THO)
HSIC	Henry Schein	$11.1B	18.25X	8.30%	$75	$80	$60	$83	Align (ALGN)
K	Kellogg's	$23.4B	15.9X	5.33%	$68	$72	$55	$77	JM Smucker (SJM)
LSI	Life Storage	$4.1B	31X	24.39%	$92	$96	$70	$102	ProLogis (PLD)
MNK	Mallinckrodt	$2.22B	3.35X	-2.29%	$26	$30	$15	$33	Pacira (PCRX)
NWL	Newell Rubbermaid	$15B	10.4X	5.01%	$32	$35	$22	$37	Helen of Troy (HELE)
OMC	Omnicom	$17.2B	13.65X	6.58%	$75	$78	$52	$83	Facebook (FB)
O	Realty Income	$15.45B	44X	6.21%	$57	$61	$46	$64	Macerich (MAC)
PEGI	Pattern Energy	$2.15B	54.7X	766.70%	$23	$24	$15	$26	Next-Era (NEE)
SKT	Tanger Factory Outlet	$2.36B	23.2X	42.28%	$28	$30	$21	$33	Digital Realty (DLR)

Allergan (AGN) shares are down 20% in 2017 and there are still plenty of issues, and despite shares trading just 10.4X Earnings it will likely see another year of downward revisions, already guiding for Y/Y declines in revenues and EPS. It also will now face competition down the rose for its crown jewel Botox franchise from Revance (RVNC), though likely a few years for that to play out. AGN faces headwinds such as eroding drug pricing power, market share losses, destructive M&A and a lack of an exciting pipeline. Analysts remain overly bullish with 12 Buy ratings and no Sell ratings. A Director did just buy $500K worth of stock at $164.77. I much prefer a name like **Zoetis (ZTS)** which has a dominant position in the healthier animal health industry and an exciting pipeline as well as positive M&A optionality.

Auto-Nation (AN) has a $4.7B market cap and also appears cheap at just 12.75X Earnings but a levered balance sheet and concerning Quick/Current ratios as well as a no topline growth outlook. I see a lot of structural headwinds coming to the car dealer market, notably online threats like CARS, CVNA, and CARG. A slowing US auto market nearing its first decline since the depression will continue to cause downward revisions to AN numbers and it has had its fair share of execution problems as well. Vehicle ownership numbers could also come under pressure in the future with the advent of mobility services. We are also seeing average used vehicle prices start to roll over according to NADA and faces a supply/demand imbalance in coming years especially for higher priced SUVs & Trucks. Although I am not a big fan of the group overall, I prefer **Lithia (LAD)** in the group as a much better operator.

Acuity Brands (AYI) has a $7.2B market cap trading 17.7X Earnings, 2.1X Sales and 32X FCF and a re-rating story as its 2014-2016 period of 13-22% annual revenue growth is now closer to 4-6%. AYI recently gave a cautious outlook with labor shortages in the construction market and Hurricane disruptions. AYI is a combination of declining volume growth and weakening pricing, and although a market share gainer it faces a tough year ahead and could continue to see its multiple re-rate lower for the slower growth. I prefer **Cree (CREE)**, though much less for its LED business, and more for the Wolfspeed acquisition.

CH Robinson (CHRW) is a $12B logistics company trading rich at 23.9X Earnings, 0.86X Sales and 115X FCF but is in a strong industry and shares +20% YTD showing positive price-action, so not typically the style of short I prefer but see it eventually cracking. CHRW is seeing revenue growth in 2017 at its best level since 2013 but sees it quickly decelerating the next two years and posted negative EPS Y/Y. It also operates with terrible EBITDA margins at 5.8%. Structural changes in its market with increased competition and pricing transparency may make it difficult to achieve lofty 2018 expectations. **ZTO Express (ZTO)** is a newer play in China that I see a lot of opportunity for as a growth name in the industry, and prefer it to CHRW.

Cirrus Logic (CRUS) is a $3.3B Semi trading 10.85X Earnings, 2.1X Sales and 8.6X FCF with a clean balance sheet, appearing very cheap on the surface. CRUS operates with some of the worst margins in the entire industry and after a few years of strong topline growth it faces much tougher years ahead with difficult comps, and reflected with shares down 7% this year in an ultra-bullish market for Semiconductors. CRUS also is likely seeing lower content in the new generation of iPhones and despite efforts to expand to more OEM's, Apple remains its most important customer at 82% of sales. I like a name like **Monolithic Power (MPWR)** much better, and for reasons discussed later in the Sector Breakdowns.

Discovery (DISCA) has a $9B market cap trading 10.6X Earnings and 1.6X Book and I have concerns with its large deal for Scripps (SNI), essentially doubling down in a struggling television media industry. Although there will be synergies from the deal DISCA still has plenty of industry headwinds that could make consensus expectations far too high. I like a name like **CBS Corp. (CBS)** the best operator that is also cheap and has upside potential on a takeover much better.

Energizer (ENR) is a $3B consumer name as a top maker of batteries, trading 15.2X Earnings and 28.75X FCF with a 2.36% yield. ENR has a low growth forecast and I continue to worry about market share erosion from both Duracell and private label brands. ENR did see a good amount of insider buying at recent lows and shares have rebounded. I do not see a great bull case for ENR and prefer peer **Spectrum (SPB)** to it.

Edgewell Personal Care (EPC) is a $3.5B maker of personal care products trading 15X Earnings, 1.5X Sales and 15.3X FCF. EPC has seen negative EPS Y/Y each of the last three years and limited outlook for any return to growth. EPC faces increasing competitive pricing resulting in weak pricing/margins and see it remaining in a tumultuous period next year. **Estee Lauder (EL)** is the best of breed name in personal care, the resilient cosmetics industry where it dominates with strong growth.

GameStop (GME) now with just a $1.86B market cap trading 5.6X Earnings and 4.1X Cash, another one of these "cheap for a reason" names. GME faces continuing challenges from weak mall traffics as well as the entire videogame industry shifting to downloadable games. It has been maintaining EPS via buybacks and sees Y/Y EPS declining next year. Hardware sales are also unlikely unable to sustain the current rate until a next generation of consoles is released, and that next cycle likely sees Amazon and Wal-Mart online sales taking more share from GME. There are much better opportunities in the Software names, notable **Take Two (TTWO).**

Hanesbrands (HBI) has a $7.37B market cap trading 9.75X Earnings, 1.15X Sales and 16.6X FCF with a 2.95% yield, another "cheap for a reason" name, seeing a theme here. HCI has a ton of leverage from a spree of acquisitions and faces growing competitive threats from premium/private brands. It faces margin pressures from a weak price environment and overall declining retail traffic trends. HBI has no organic growth and can't sustain any more deals. **Gildan (GIL)** is a much better apparel name, and will detail it further in the Sector Breakdown section.

Harley Davidson (HOG) is an $8.8B company trading 13.9X Earnings and 12X FCF, a short based on declining brand awareness among peak spenders. HOG has been posting weak shipment outlook numbers and sees very little growth ahead. HOG has building inventory and utilizing promotional prices which will weigh on margins. An LBO has long been thought of as an eventual risk to the short thesis, but seems unlikely considering the declining fundamentals from a demographic shift that is unlikely to reverse. I prefer a name like **Thor (THO)** in recreational vehicles as RV trends are extremely healthy.

Henry Schein (HSIC) is an $11.15B dental supplier trading 18.2X Earnings and 24X FCF with steady 5-7% topline growth and 8-10% EPS growth. It operates with extremely low margins, and increased competitive threats to its market it is the clear leader are coming from Amazon, a major risk. HSIC is seeing weakening price/mix and volumes and see it re-rating to a much lower multiple. **Align Tech (ALGN)** is far and away to best way to have long exposure to the dental market.

Kellogg's (K) is a $24B packaged goods company trading 16X Earnings and 48X FCF with a 3.17% dividend yield. K saw revenues down Y/Y each of the last three years and sees very little organic growth ahead. K is one of the main names at risk to a growing presence of private label brands and also faces risks of rising commodity costs. With 67% exposure to North America and 41% to a struggling breakfast cereal segment I see K remaining a low growth name with market share erosion. I prefer a name like **JM Smucker (SJM)** which has stronger brands, operates better, and has diversified into pet foods.

LSI Storage (LSI) is a $4.1B storage REIT trading 31.6X Earnings and 2X Book with a 4.5% yield. Overall the REIT sector is facing pressures in a rising yield environment and see little room for better metrics at LSI. Pricing power is eroding as new supply comes onto the market and it trades rich to peers despite weaker growth. The storage market is over-supplied and LSI has seen shares run up due to the Hurricane in Houston, unlikely to sustain that move and more a result of a short squeeze, while broader fundamentals continue to deteriorate. REITS are a tough group for 2018 but I do favor **Prologis (PLD)**, an excellent industrial REIT operator set to benefit from industrial automation and factory upgrade trends.

Mallinckrodt (MNK) has a $2.2B market cap trading 32.5X FCF and seeing topline pressures while EPS expected down 10% Y/Y in 2018. MNK's Acthar remains at the center of the pricing controversy and is unlikely to end well for the company. Acthar accounts for 39% of total revenues and is seeing sequentially lower sales and there is no clear upside to MNK's pipeline. MNK has no real upside catalysts in 2018 and could see an INOmax competitor emerge. **Pacira (PCRX)** is a more interesting long name to me due to its relation to the ongoing Opioid crisis in the US.

Newell Rubbermaid (NWL) with a $15B market cap trades 10.4X Earnings and 0.99X Sales with revenues seen stalling after growth in 2017, but this has been more of an acquisition growth story rather than organic. NWL has been cutting guidance in the second half of this year without seeing any real positive commentary for 2018. NWL is heavily exposed to the secular challenges in Retail including the Toys R' Us bankruptcy. Sluggish growth and building inventories are also red flags, a name to at least avoid, and favor **Helen of Troy (HELE)** as a higher quality name in this space with a healthier balance sheet.

Omnicom (OMC) has a $17B market cap trading 13.55X Earnings and 22.8X FCF, and a name facing the secular downtrend in traditional advertising. Growth prospects remain muted and I do not see any reason for that to change with the shifting industry dynamics. We could see consolidation in the industry to try and strengthen itself, but I much prefer being exposed to the digital ad leaders **Google (GOOG) & Facebook (FB).**

Realty Income (O) is a $15.6B REIT trading 44X Earnings with a 4.57% yield. O's top 20 tenants account for 53% of revenues, notable top tenants are Walgreens, Fed-Ex, LA Fitness, Dollar General, and AMC Theaters. Although it has fairly secure tenants occupancy rates appear to have peaked and same-store rent growth has been under pressure in 2017. I prefer **Macerich (MAC)** with Third Point an activist and the space under consolidation.

Pattern Energy (PEGI) is a $2.15B wind power Utility trading 2X Book with a 7.75% yield and a high level of debt. PEGI is coming off a weak quarter and facing adverse effects from the Puerto Rico grid outage. PEGI could face issues financing in 2018 and may need to reduce its dividend. PEGI also faces challenges from the tax bill impact on renewable energy projects. **Next-Era (NEE)** is the preferred alternative energy Utility.

Tanger Factory Outlets (SKT) is a $2.6B shopping center REIT trading 23.2X Earnings and 21.8X FCF with a 5.4% yield. SKT faces increasing risks of retail bankruptcies and could struggle in a rising rate environment. I much prefer the Tech & Data Center REIT names like **Digital Realty (DLR)** as opposed to Retail, much healthier trends.

Top 25 Small Cap ($1B to $5B) Buys for 2018

Ticker	Company	Market Cap	P/E	FY18 EPS Growth	Entry 1/2	Entry 2/2	Target	Stop
BOX	Box Inc.	2.70B	-	53.30%	$20	$19	$28	$17.5
BPMC	Blueprint Medicines	3.01B	-	-26.80%	$70	$63	$100	$55.0
ENV	Envestnet	2.32B	32.16	26.80%	$50	$47	$65	$43.0
EV	Eaton Vance	6.56B	17.22	11.59%	$53	$50	$70	$46.0
FIVE	Five Below	3.58B	32.04	16.12%	$60	$55	$80	$50.0
FND	Floor & Décor	4.31B	53.05	29.12%	$41	$38	$60	$35.0
GSM	Globe Specialty Metals	2.87B	13.96	835.94%	$16	$14	$25	$12.5
IDTI	Integrated Devices	4.02B	16.77	19.42%	$28	$26	$40	$23.5
IRTC	iRhythm Tech	1.17B	-	12.80%	$49	$44	$75	$40.0
JAG	Jagged Peak Energy	3.29B	25.89	117.69%	$15	$14	$24	$12.0
MC	Moelis Co.	2.60B	22.25	-7.53%	$46	$43	$64	$40.0
MMSI	Merit Medical Systems	2.10B	29.51	15.67%	$41	$38	$65	$35.0
NOVT	Novanta	1.67B	28.2	14.92%	$46	$40	$75	$35.0
ORA	Ormat Tech	3.21B	24.91	14.21%	$63	$60	$75	$55.0
PAYC	Paycom Software	4.73B	52.96	22.38%	$77	$72	$105	$64.0
PRLB	Proto Labs	2.72B	40.89	19.18%	$95	$88	$135	$80.0
PUMP	ProPetro	1.64B	11.3	156.50%	$19	$17	$30	$15.0
QLYS	Qualys	2.27B	50.85	11.94%	$57	$53	$80	$49.0
RP	Real Page	3.52B	36.97	29.21%	$43	$40	$53	$37.0
SAM	Boston Beer Co.	2.22B	29.62	2.33%	$185	$175	$300	$165.0
SEDG	Solar Edge Tech	1.59B	17.66	-5.57%	$35	$32	$50	$28.0
SUM	Summit Materials	3.52B	21.18	57.81%	$30	$28	$39	$26.0
TEN	Tenneco	3.01B	7.98	9.77%	$58	$55	$72	$50.0
TMHC	Taylor Morrison	2.86B	11.03	19.27%	$24	$23	$35	$21.7
TREX	Trex Corp.	3.21B	30.51	13.92%	$100	$90	$140	$84.0

Top 35 Attractive Micro Caps for 2018 ($500M to $1B)

Ticker	Company	Market Cap	P/E	FY18 EPS Growth	Sales Q/Q	Gross Margins	ROI
ASMB	Assembly Bio	750.00M	-	-	-	-	-
AXGN	AxoGen	925.35M	-	40.60%	42.90%	84.50%	-
CAI	CAI International	572.34M	8.45	34.36%	14.90%	79.40%	2.60%
CHUBA	Commerce-Hub	909.62M	35.13	30.52%	9.30%	79.40%	16.80%
CLXT	Calxyt	701.33M	-	-22.20%	-58.10%	-	-92.40%
CMCO	Columbus McKinnon	903.42M	16.34	22.11%	40.10%	31.40%	2.70%
CMTL	Comtech	532.34M	35.12	42.51%	-10.50%	39.90%	4.10%
CSWI	CSW Industrials	721.32M	21.57	9.74%	12.90%	40.20%	3.50%
CTRL	Control4	$795.1M	25.63	8.50%	17.20%	9.90%	51.10%
CUTR	Cutera	640.31M	50.44	75.00%	26.10%	56.90%	3.70%
CWST	Casella Waste Systems	895.73M	31.99	5.76%	6.10%	32.70%	6.30%
DQ	Daqo New Energy	531.29M	9.3	-30.45%	64.60%	37.50%	11.30%
ENVA	Enova	508.25M	9.29	27.16%	11.20%	54.30%	11.00%
ESIO	Electro Scientific	702.60M	15.38	-21.18%	139.10%	36.30%	-23.80%
EVBG	Everbridge Tech	768.13M	-	12.50%	37.20%	69.50%	-25.50%
EVRI	Everi Holdings	505.41M	-	76.50%	11.30%	35.00%	-14.80%
GDEN	Golden Entertainment	887.11M	17.03	211.08%	3.90%	28.50%	4.40%
INST	Instructure	984.48M	-	32.50%	42.50%	71.20%	-535.40%
ITRN	Ituran Location	728.71M	16.16	4.88%	16.70%	50.80%	33.30%
MTRN	Materion Corp.	979.02M	23.36	31.37%	17.90%	18.50%	5.50%
NL	NL Industries	665.31M	8.74	51.96%	-4.90%	32.20%	1.00%
NVEE	NV5 Global	583.10M	19.45	20.47%	51.90%	49.90%	6.60%
PGTI	PGT Innovations	791.90M	23.37	26.39%	-2.20%	30.30%	11.50%
PRSC	Providence Corp.	771.67M	32.3	29.29%	-0.70%	7.60%	-2.80%
QURE	UniQure	557.41M	-	-8.20%	-48.90%	-	-87.20%
RPD	Rapid-7	854.08M	-	23.30%	25.30%	72.70%	-116.70%
SEND	Send-Grid	877.26M	-	-200.00%	42.10%	74.10%	13.30%
SPAR	Spartan Motors	613.69M	33.11	30.00%	27.20%	12.30%	5.50%
SPLP	Steel Partners LP	507.28M	-	-	12.10%	30.00%	1.50%
STAA	STAAR Surgical	652.51M	1993.75	116.70%	16.90%	71.40%	-27.60%
TRUP	Trupanion	899.88M	595.1	200.00%	30.40%	17.80%	-13.60%
TUSK	Mammoth Energy	888.31M	14.98	5700.00%	135.90%	23.30%	-20.10%
USAT	USA Technologies	519.97M	54.47	179.69%	18.50%	25.60%	0.10%
WIFI	Boingo Wireless	941.63M	-	27.60%	31.60%	32.60%	-21.50%
WLH	William Lyon Homes	897.59M	10.92	43.93%	43.10%	17.00%	3.30%

Top International Stocks to Own In Each Sector for 2018

Ticker	Company	Sector	Market Cap	P/E	FY18 EPS Growth	Entry 1/2	Entry 2/2	Target	Stop
ABB	ABB Ltd.	Industrial	58.21B	18.44	17.22%	$26	$25	$30	$24
EDU	New Oriental Education	Consumer Services	14.57B	29.76	35.64%	$90	$83	$135	$75
HDB	HDFC Bank	Financial	83.67B	25.1	23.90%	$98	$95	$140	$88
NVO	Novo Nordisk	Healthcare	106.53B	20.29	9.00%	$51	$48	$70	$44
PAM	Pampa Energia	Utility	4.98B	15.37	70.04%	$65	$58	$85	$52
SNE	Sony Entertainment	Consumer Goods	57.09B	17.4	-4.04%	$44	$41	$55	$38
TECK	Teck Resources	Basic Materials	14.58B	9.55	-22.25%	$24	$22	$30	$20.50
TCEHY	Tencent	Technology	$235B	50X	35.00%	$50	$45	$70	$40

Diversified Portfolio of 12 High Yield Stocks to Own for 2018

Ticker	Company	Market Cap	P/E	FY18 EPS Growth	Dividend Yield	Entry 1/2	Entry 2/2	Target	Stop
ANDX	Andeavor Logistics	10.04B	16.38	12.96%	8.21%	$45	$43	$55	$40.00
BX	Blackstone	39.90B	10.74	9.51%	5.35%	$32	$30	$40	$28
CCI	Crown Castle	43.94B	89.93	13.38%	3.88%	$107	$103	$130	$99
COR	CoreSite Realty	5.34B	51.71	15.83%	3.51%	$112	$105	$150	$100
IP	International Paper	23.28B	13.4	22.32%	3.31%	$57	$55	$67	$53
KO	Coca Cola	193.61B	23.03	3.83%	3.25%	$45	$43	$53	$40
LVS	Las Vegas Sands	55.61B	23.21	5.84%	4.15%	$68	$65	$80	$61
OXY	Occidental Petro	55.49B	44.53	101.98%	4.24%	$70	$66	$90	$63
PBF	PBF Energy	3.80B	12.47	58.13%	3.45%	$32	$30	$42	$26
PFE	Pfizer	211.72B	13.16	6.13%	3.53%	$36	$34	$44	$33
SIX	Six Flags Entertainment	5.54B	29.3	7.68%	4.16%	$64	$61	$75	$56
WY	Weyerhaeuser	26.44B	27.08	10.54%	3.64%	$34	$33	$43	$30

Top 5 High Beta Stocks for 2018

Amazon.com (AMZN) was a top pick for the long portfolio last year and returned a solid 56% in 2017, the $565B company remains one of the best long term investments around. It continues to forego near-term profitability in an effort to build out its ecosystem and is led by one of the decade's top visionaries. AMZN's recent move to acquire Whole Foods opens up another large market for it to take share, and it is doing this across many markets. AMZN is also expanding its core business to Latin America and Australia. The major growth driver has been AWS and it remains the far and away leader in cloud despite tougher competition coming from MSFT/GOOG. AMZN continues to steal a big portion of wallet share from the rest of retail, though ecommerce remains a small portion of the overall pie, so the growth runway is very long.

Baidu (BIDU) with an $82B market cap trades 25.2X Earnings, 6.8X Sales and after a transition year in 2016 is back to a 20% topline growth name, search the heart of its business in China. BIDU has been implementing investments into other growth areas such as AI and Autonomous Driving as well. BIDU will face favorable comps and also be a margin expansion story in 2018. ABC Cloud is an additional growth driver and its newsfeed is gaining strong traction.

Biogen (BIIB) is a $68B Biotech trading 13.55X Earnings, 5.75X Sales and 15.8X FCF. BIIB has entered a lower revenue growth phase and trading at trough valuation. BIIB has plenty of cash to use M&A to reinvigorate growth and has ongoing Phase 3 studies of Aducanumab in Alzheimer's in ENGAGE and EMERGE trials with data not due until 2020. 2018 is expected to be a key year with Spinraza forming the backbone of spinal muscular atrophy therapy, and potential for further Aducanumab interim data. BIIB valuation is giving it no value for its pipeline while Spinraza has been a very successful launch and the MS franchise is expected to stabilize against easier comps in 2018.

Illumina (ILMN) is a $31B leader in genetic analysis trading 48X Earnings and 42X FCF with 12.9% revenue growth in 2017 and 13% growth expected next year in the midst of a strong replacement/upgrade cycle. NovaSeq orders recently exceeded expectations at +30% with 230 orders YTD and ILMN is benefitting from margin expansion from this new product as well as array services mix. ILMN is back in a phase of upward revenue revisions and expanding TAM for next generation sequencing, a growth trend to be involved.

Alnylam Pharma (ALNY) is a $12.B Biotech with strong APOLLO data recently and enters 2018 with some meaningful high probability catalysts. ALNY will present givosiran data in mid-2018 that could set it up for its 2nd commercial asset with their platform RNAi technology. ALN-GO1 recently showed clear biomarker evidence that could result in a fast pathway to market. ALNY has Sanofi (SNY) as a partner who could also be a potential acquirer.

8 Contrarian Stock Picks for 2018

(High Short Float with Positive Business Trends & Growth at a Reasonable Price)

Tesla (TSLA) has a $55B market cap trading 5.1X Sales with 26% of its float short. TSLA has extreme negative sentiment with so many worries about cash burn & competition, but the longer term market opportunity is immense and the production issues are likely just a temporary headwind. The recent Tesla Semi unveil opens up another avenue of growth and have already seen some major companies secure orders. Profitability continues to be kicked down the road, but we have seen this in other growth stories in the past and most important is securing a dominant market position. All of the issues are well known but shares continue to trade well, a positive sign. TSLA is an innovator and the longer term bull cash remains too large and attractive to ignore.

Alibaba (BABA) is a $438B Tech giant in China with its core focus on e-commerce, trading 26.5X Earnings and 27.8X FCF with a 28.9% ROIC and 44% FCF margin. BABA grew revenues 46% last year and set to growth them 60% this year, a massive long term opportunity. BABA is also becoming a major cloud player posting 99% growth last quarter. Its digital media and entertainment segment is also a large contributor and posted 33% growth. BABA recently reported 39% Y/Y growth on Singles Day and continues to improve monetization. The Chinese e-commerce market is expected to exceed $1 trillion by 2019. BABA also has vast international growth opportunities.

Workday (WDAY) is a $21.4B leader in HCM Software trading 89X Earnings, 62X FCF and 7.3X EV/Sales with 10% of its float short. Valuation is a bit lofty but WDAY is a leading growth name and hitting on all cylinders its last few earnings reports. WDAY has now entered the PaaS market and has been signing sizable client deals in 2017. WDAY has a large addressable market where it continues to take market share. Strength in mid-market and Financials should continue to drive upside to numbers in 2018.

Square (SQ) is a $13.9B payments platform for small businesses trading 79X Earnings and 125X FCF with 9% of its float short. SQ has been posting impressive numbers all year and is tackling a massive market opportunity. SQ has been a very innovative company with new products set to keep its high growth rates going. Q3 GPV was $17.4B, growing 31% Y/Y. SQ has sold off late in 2017 after making a big run and lofty expectations but there is no question it remains a growth leader in the hot payments space. SQ also has ample room to grow in International markets.

Grub-Hub (GRUB) is a $6.35B leader in food delivery trading 50X Earnings and 49.2X FCF with 37% revenue growth in 2017 and expects 36% growth in 2018. GRUB made a key acquisition of Eat-24 and the food delivery industry is expected to see plenty of more consolidation. GRUB has very attractive margins and coming off a few strong quarters across all metrics. GRUB has a major leadership position in organic search trends while Doordash and Uber-Eats are competitors. It operates in an underpenetrated market and also will benefit greatly from tax reform. As GRUB adds the YELP restaurants to its platform it should continue to see growth acceleration. GRUB operates in a highly competitive industry but has quickly established itself as the leader and can use further consolidation to drive additional upside. GRUB has 31% of its float short.

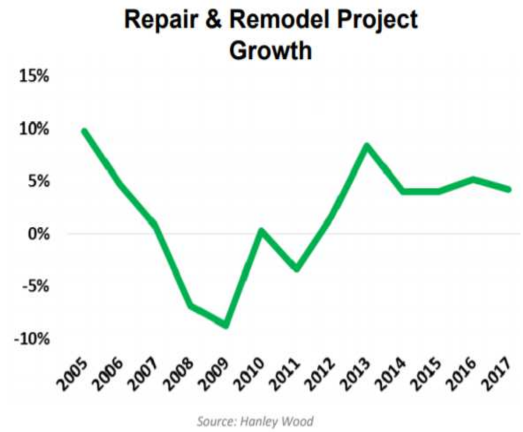
Match.com (MTCH) is an $8.55B internet dating company trading 28.85X Earnings, 6.7X Sales and 37.25X FCF with 47% of its float short. MTCH is forecasting 14-17% revenue growth each of the next two years. MTCH is seeing strong trends across its businesses led by Tinder where further monetization initiatives are underway. Tech-Crunch reported in November that MTCH may pursue Bumble for $1B. MTCH has easily been beating estimates each quarter and estimates still feel conservative for the potential market opportunity.

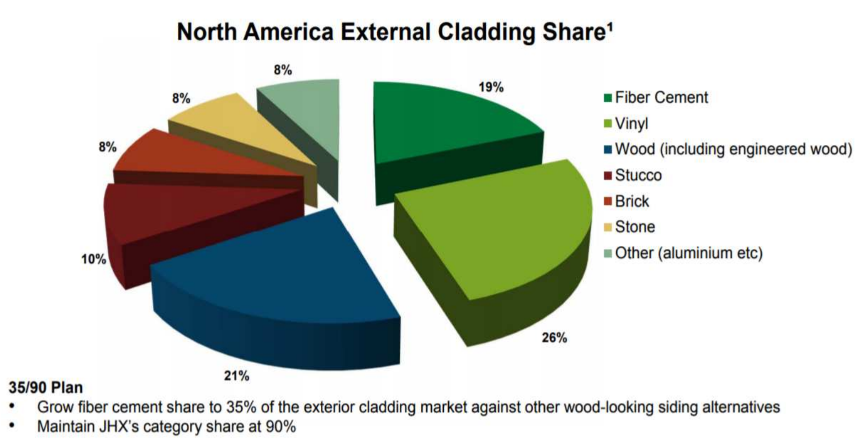
Neurocrine (NBIX) is a $6.5B Company coming off an extremely impressive quarter, its first of commercialization of INGREZZA, blowing away consensus estimates. NBIX will be discussing opicapone in January 2018 to determine its path forward and its partnership with AbbVie (ABBV) could lead to a deal down the road. NBIX markets include Tourette Syndrome, Parkinson's, Uterine Fibroids, and others. NBIX has 11% of its float short.

RPC Inc. (RES) is a $5.75B oilfield services company trading 17.55X Earnings and 4.15X Sales with 34% of its float short. RES has consistently generated a ROIC above its peers and positive operating cash flow even during the industry downturn. Pressure Pumping is 64.5% of its business and revenues set to grow 130% in 2017 and another 36% in 2018. The strong North American upcycle onshore with more service-intensive well-completions leaves RES in a strong position to benefit. RES is a quality business just starting to benefit from the industry turnaround.

<u>12 Hidden Gems for 2018 (Trading < 100K Shares/Day)</u>

James Hardie (JHX) is a $7.75B maker of fiber cement products trading 27.35X Earnings, 3.9X Sales and yields a 2.17% dividend. JHX acquired XI DL Holdings for $549M in November, a company with a 70% market share in Europe for fiber gypsum. JHX has a long history of above-average growth and sets up well into the construction/housing environment for 2018. JHX is the World leader in fiber cement which is gaining market share against other materials and 78% of sales in North America currently but it is expanding internationally.

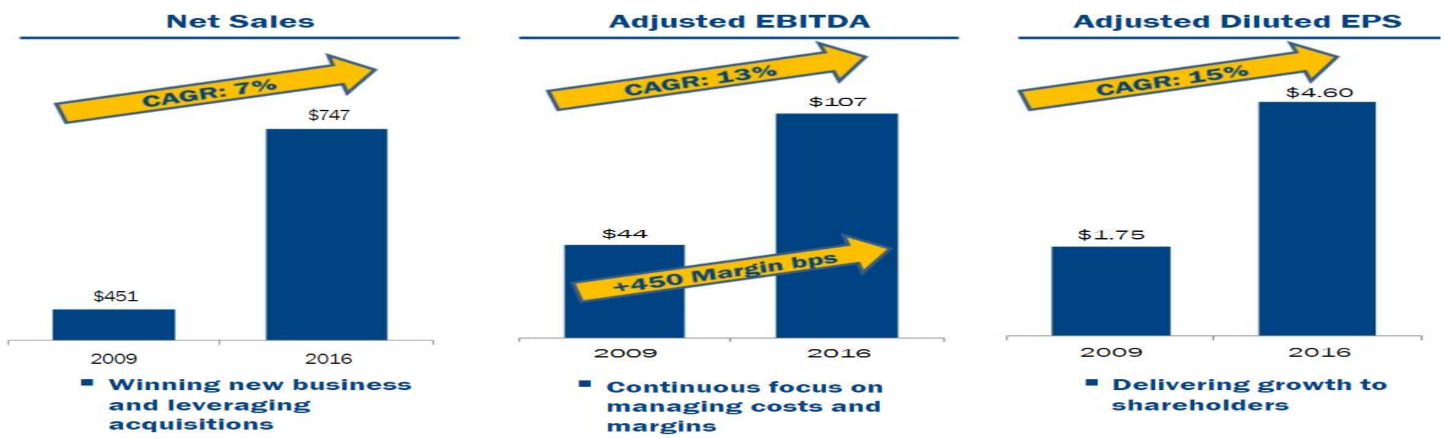




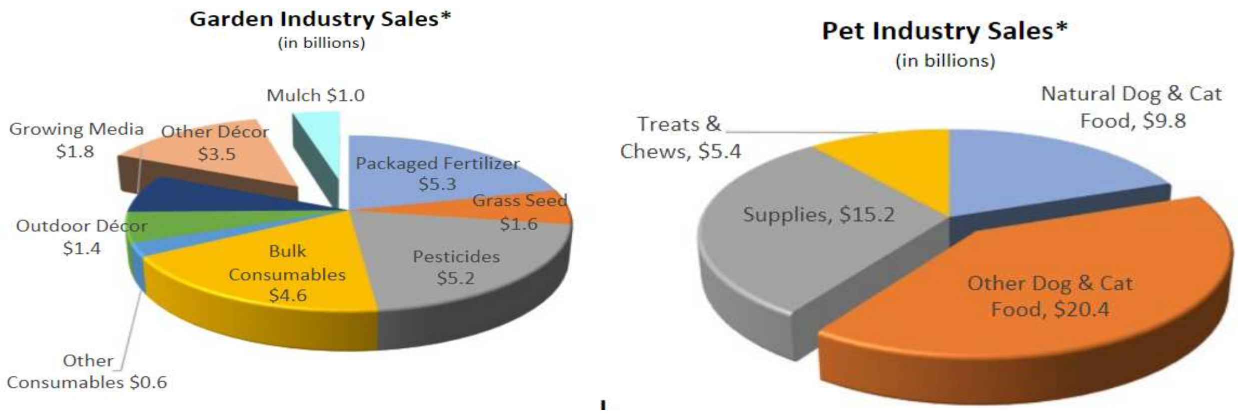
J&J Snack Foods (JJSF) is a $2.8B snacks company trading 31.9X Earnings, 2.6X Sales and 4.2X Book with a 1.18% dividend yield. The snacks industry is more resilient to the private label threat and a recent deal for LNCE puts it on watch for further consolidation. JJSF has a steady history of growth in a group that has seen weak growth. Its brands include Soft Pretzels, Minute Maid, ICEE Freeze, Arctic Blast, Mary B's, and Pillsbury. It has clear value as an M&A target.

Descartes Systems (DSGX) is a $2.1B SaaS company trading 7.9X EV/Sales and 31.55X FCF. DSGX saw 16% topline growth in FY18, its best year since 2014 and sees another 14% growth coming this year. DSGX is focused on automating and optimizing the $4 Trillion logistics market and has a highly recurring subscription model. Growth drivers for DSGX include Cloud, Automation, Global Compliance/Security, Omni-Channel, Mobility, and Content. DSGX has also been active with M&A in this highly fragmented market. Gross margins expanded to 72% in 2017 from 68% in 2014. DSGX trades rich on EV/Sales but is a multi-year growth story with an acquisitive thirst. It is a niche operator that calls for a higher multiple and establishing itself as a leader in a massive industry.

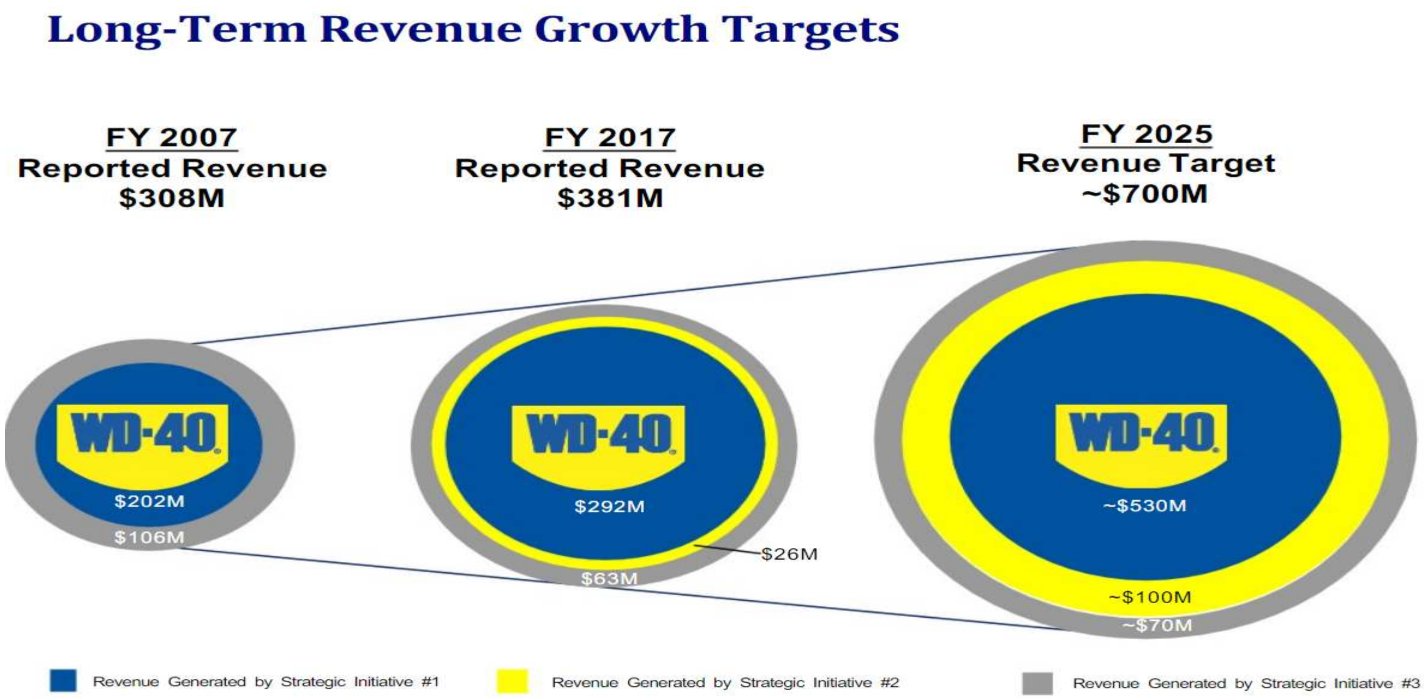
Quaker Chemical (KWR) is a $2B specialty chemicals company trading 25X Earnings, 2.5X Sales and 4.55X Book with a 0.93% yield. Primary Metals and Metalworking are its primary industries which bodes well into 2018 with infrastructure in focus. As steel production ramps KWR stands to benefit as the top supplier to sheet mills and a market leader in cold rolled steel technology. Its combination with Houghton looks to be a strong one with expanding cross-sell opportunities and solid synergies. KWR is large a synergy story in 2018 but continues to be a top operator in its niche industry and with tailwinds for its main customers.



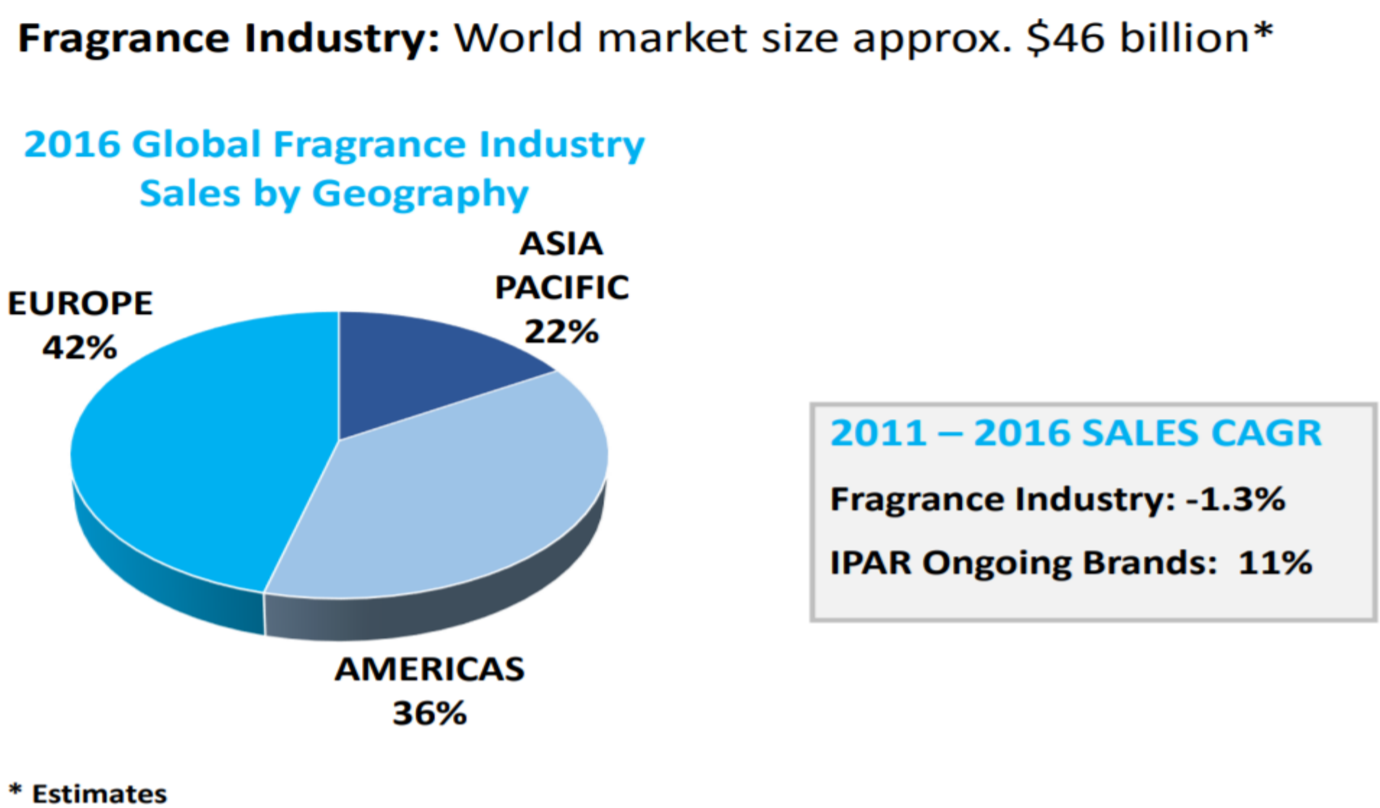
Central Garden & Pet (CENT) is a $1.9B Pet & Garden products company trading 20.6X Earnings, 0.93X Sales and 27.4X FCF. CENT is coming off of two years of double digit revenue growth and sees EPS growth 11-13% each of the next two years. It has leading brands in grass seed, wild bird feed and specialty chemical controls for the Garden segment. It also has leading brands in Pet Beds, Aquatic Tanks and other pet supplies. CENT operates in two massive markets that are fairly fragmented and it has performed very well, a name that seems to be a likely M&A target in the long-run. It has seen a strong reduction in costs and also de-levered effectively. CENT could do bolt-on acquisitions itself or even look to spin-off the Garden segment, a very interesting company.



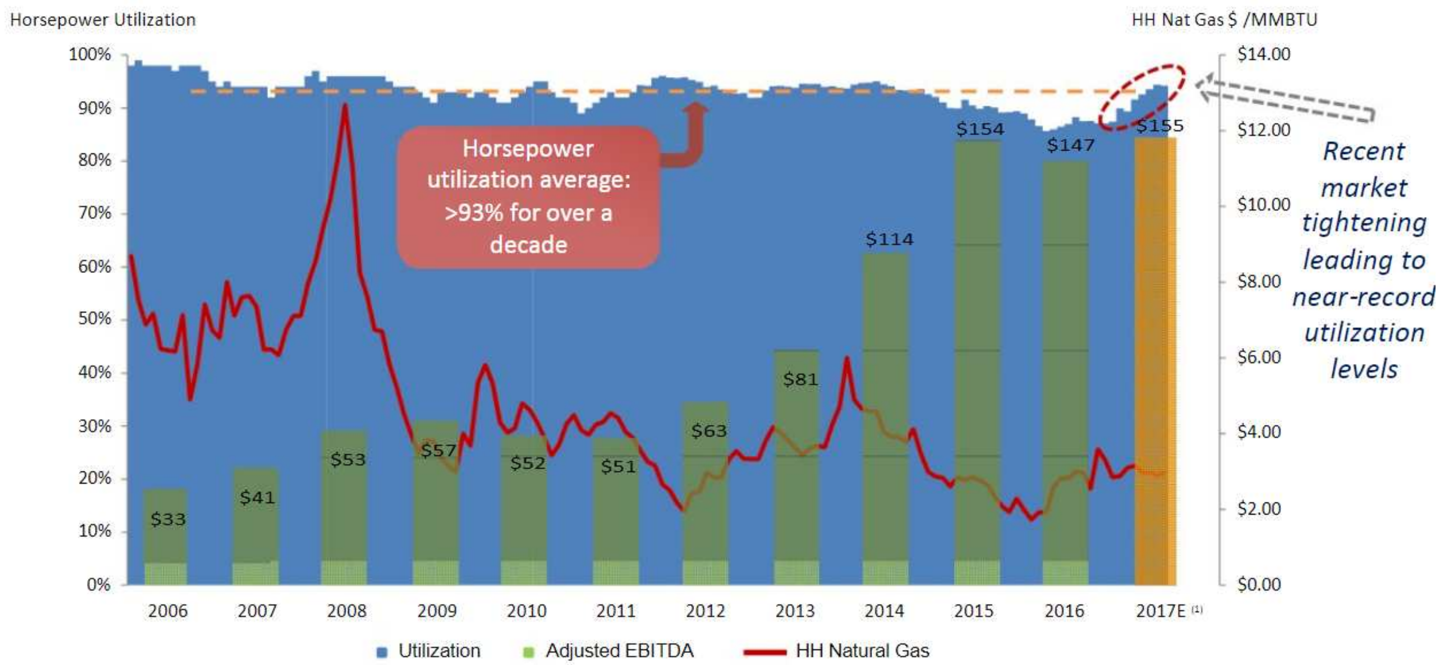
WD-40 (WDFC) is a $1.6B maker of homecare products trading 28.3X Earnings, 4.2X Sales and yielding 1.85%. WDFC has struggled for topline growth the last few years but expecting 4.6% growth in 2018, best since 2013. WDFC is undergoing a number of strategic initiatives to grow its core products and broaden its product base as well. It has an aggressive target of $700M in revenues by 2025, up from $381M in 2017. Asia-Pacific is a region showing very strong growth. With a defensive business model, strong FCF and a 25% ROIC with a strong longer term growth outlook, it is a name that can continue to trend higher.



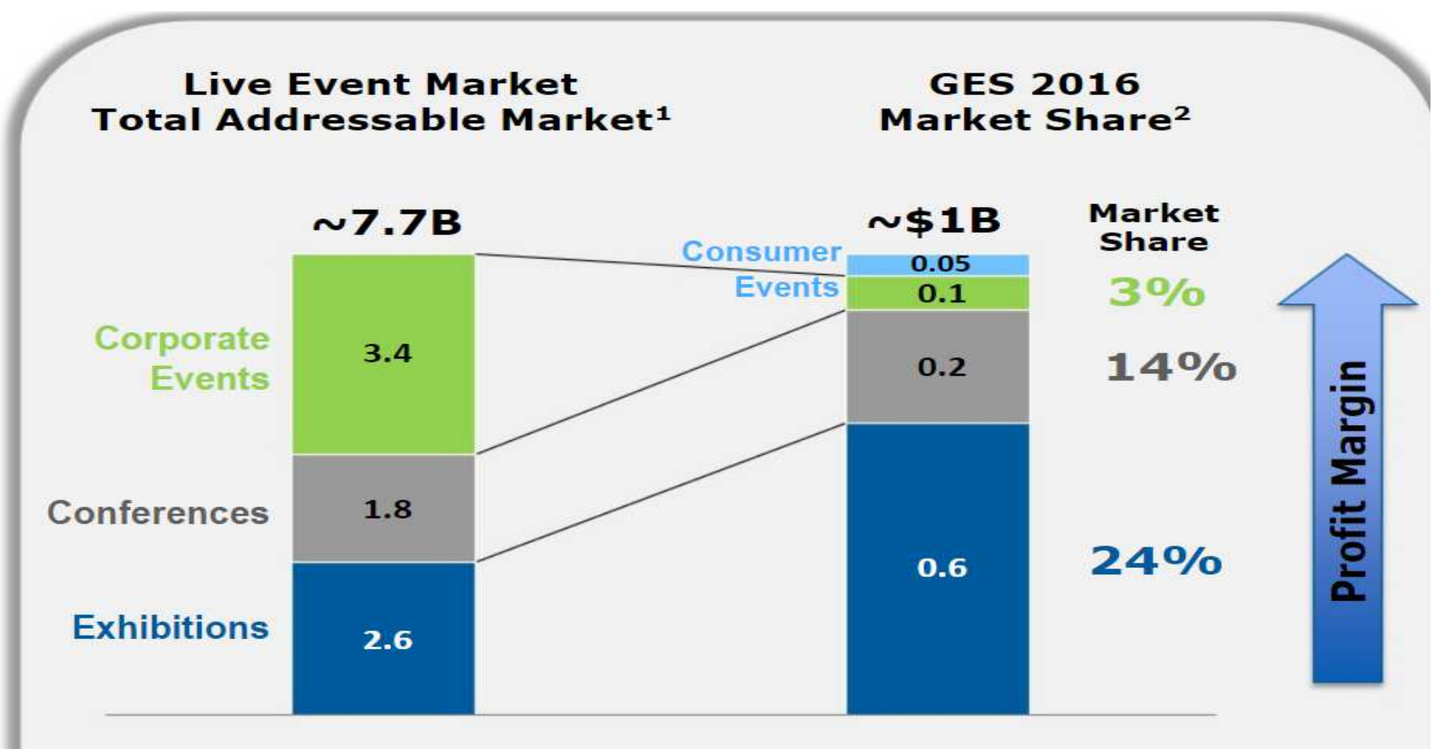
Inter Parfums (IPAR) is a $1.35B maker of fragrances under many brand names trading 31.45X Earnings, 2.35X Sales and 46.3X FCF with a 1.89% yield. IPAR has posted double digit revenue and EPS growth each of the last two years and the outlook remains very strong. IPAR will enter a period slower growth that could pressure its multiple, but its unique position likely allows it to hold up and potential upside to current estimates as it has consistently outgrown the industry. IPAR also is likely to look to acquisitions.



USA Compression (USAC) is a $1.28B provider of natural gas compression services trading 30X Earnings and 1.6X Book with a 12.6% yield. Compression has been a healthier part of the oil services industry as companies move out of the downturn and USAC has a 94.2% horsepower utilization rate with a strong present in Permian, Marcellus, SCOOP/STACK and Eagle Ford. The EIA projects a 60% increase in natural gas demand by 2040. USAC will benefit from this demand as Shale requires more compression, 3X that of conventional.

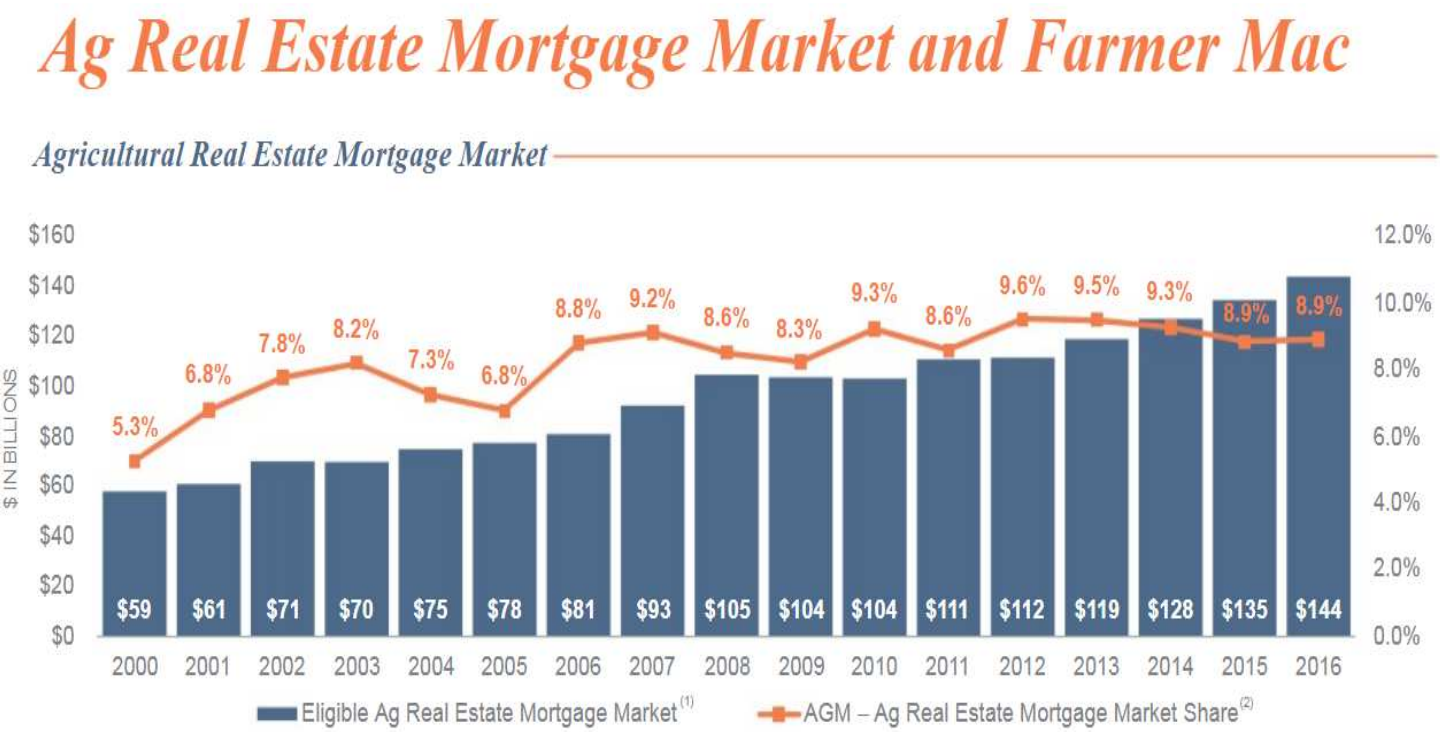


Viad (VVI) is a $1.15B experiential services company trading 19.75X Earnings, 0.89X Sales and 13.6X FCF with a 0.7% yield and offering double digit EPS growth. VVIA has leading market positions with strong recurring revenues and free cash flow. It receives 87% of sales from GES, a full-service live events company while 13% of sales but 38% of EBITDA from Pursuit, which offers iconic travel experiences. It sees a large opportunity to grow in higher margin services for events such as Audio/Visual and Tech. VVI is one of the more interesting and healthy small caps I have come across.



National Research (NRCIB) is a thinly traded $911M provider of analytics and insights to healthcare providers with subscription bases solutions. Shares trade 3X EV/Sales and 55.7X Earnings with a 4.35% dividend yield. It is seeing a greater share of clients sign up for multiple solutions, and posted 7% organic growth in Q3. NRCIB also paid a 42% effective tax rate, so a likely reform beneficiary.

Federal Ag Mortgage (AGM) is an $810M lender to Farm & Ranch trading 11.5X Earnings, 1.7X Book and 2.2X Sales with a 1.83% dividend yield. AGM is seeing solid growth in loans while credit metrics have worsened a bit throughout the past year but in-line with historical averages. AGM trades cheap and is seeing strong demand while its core market is improving into 2018. The company appointed a new CEO in December. AGM has around 9% of the eligible Ag mortgage market share. While farmer income and commodities have weakened the last few years land value has maintained strength and AGM is finishing 2017 with business volume at a multi-year high.



Connecticut Water Service (CTWS) is a $700M water utility trading 26.7X Earnings, 6.8X Sales and 2.35X Book with a 2% yield. CTWS has 42.7% EBITDA margins, well above some larger peers like CWT and AWR and it has some of the best growth in the industry, a potential M&A target if there is consolidation in the industry. CTWS has a new CEO after it's resigned to take over at SJW in September. CTWS has made some acquisitions in Maine to diversify its base and has consistently raised its dividend for 48 straight years. It has successfully utilized acquisitions to maintain an industry best customer growth rate. With a 5 year EPS CAGR of +10% and expanding margins it is a standout as a small Utility.

Top 20 2018 Laggards to Leaders

(Stocks that are down YTD over the past year but can see improved fundamentals in 2018 and trade at relative attractive valuations while being leaders in respective industries with competitive advantages)

Components: VZ, IBM, CVS, MDLZ, HAL, PXD, ALXN, CBS, DVN, ORLY, VMC, WHR, TSCO, MOS, BHF, MSCC, LANC, TPX, CIEN, CLDR

USD, except price (in millions)	Current Market Cap	1Year Return	FY2 P/E	FY1 EV/EBITDA	FY1 EBITDA Margin	FY1 Normalized EPS YoY	FY2 Normalized EPS YoY	FY1 Total Revenue YoY	FY2 Total Revenue YoY	FY1 Levered FCF Margin	FY0 Return on Equity (ROE)	FY0 Return on Invested Capital	FY1 Net Debt/EBITDA
CVS (Cvs Health Corp)	75,610	-6.52%	11.8x	7.9x	6.8%	11.9%	6.9%	3.6%	4.4%	3.3%	16.7%	7.2%	1.9x
MDLZ (Mondelez International,	64,408	-3.94%	18.3x	16.2x	19.7%	(11.9%)	10.4%	(0.8%)	2.7%	8.2%	11.2%	4.7%	3.5x
HAL (Halliburton Co)	42,030	-12.35%	22.4x	14.6x	17.3%	(205.8%)	85.8%	27.8%	15.2%	4.0%	(0.1%)	(3.5%)	2.6x
PXD (Pioneer Natural	28,716	-8.67%	49.5x	13.3x	40.5%	(154.8%)	110.0%	39.0%	(4.4%)	(14.4%)	(0.4%)	(0.5%)	0.3x
ALXN (Alexion Pharmaceuticals	26,441	1.40%	16.7x	16.5x	48.6%	177.3%	25.8%	14.1%	16.3%	0.0%	12.2%	9.5%	1.0x
CBS (Cbs Corp)	24,223	-6.93%	12.1x	11.0x	22.8%	13.6%	13.7%	2.7%	4.2%	9.6%	36.6%	14.2%	3.1x
DVN (Devon Energy	21,504	-12.13%	17.3x	9.5x	26.6%	(195.9%)	31.0%	29.7%	7.7%	629.0%	(1.0%)	(1.8%)	2.1x
ORLY (O Reilly Automotive Inc)	20,740	-15.11%	18.5x	12.0x	21.9%	11.0%	10.4%	4.4%	5.3%	9.1%	55.5%	30.2%	1.5x
VMC (Vulcan Materials Co)	15,976	-2.54%	29.2x	18.2x	25.8%	(3.9%)	38.1%	7.0%	10.6%	4.0%	8.4%	4.5%	2.1x
WHR (Whirlpool Corporation)	11,849	-4.89%	10.6x	8.3x	9.8%	1.9%	14.0%	3.3%	3.3%	4.0%	21.9%	9.3%	2.2x
TSCO (Tractor Supply	9,341	-4.35%	20.9x	11.6x	11.7%	0.5%	8.5%	6.5%	6.9%	4.4%	30.1%	19.1%	0.6x
MOS (Mosaic Co)	9,294	-12.30%	23.2x	10.6x	15.7%	14.8%	11.7%	0.1%	(0.9%)	1.7%	3.2%	(0.6%)	2.3x
BHF (Brighthouse Financial,	7,233	--	6.9x	6.5x	20.4%	(106.2%)	502.3%	168.4%	1.1%	0.0%	0.0%	0.0%	2.2x
MSCC (Microsemi Corp)	6,135	-6.61%	11.3x	11.8x	34.7%	138.1%	7.3%	5.2%	5.7%	22.7%	24.1%	12.2%	2.5x
LANC (Lancaster Colony Corp)	3,562	-6.46%	25.5x	15.6x	17.6%	10.6%	9.7%	2.6%	2.9%	8.9%	23.1%	16.2%	--
TPX (Tempur Sealy	3,489	-5.15%	17.1x	11.6x	16.0%	(17.4%)	15.9%	(10.8%)	2.6%	7.6%	160.2%	13.0%	3.8x
CIEN (Ciena Corp)	3,085	-12.86%	13.2x	7.5x	14.1%	(82.6%)	25.3%	4.9%	5.7%	4.8%	16.6%	13.1%	0.0x
CLDR (Cloudera, Inc.)	2,460	--	-	--	(28.3%)	(50.1%)	(27.9%)	38.9%	27.0%	(19.1%)	0.0%	0.0%	4.5x
Mean	36,697	-7.12%	18.4x	11.6x	20.1%	(21.6%)	45.2%	17.2%	5.9%	35.6%	28.9%	8.4%	2.1x

2018 Investment Themes

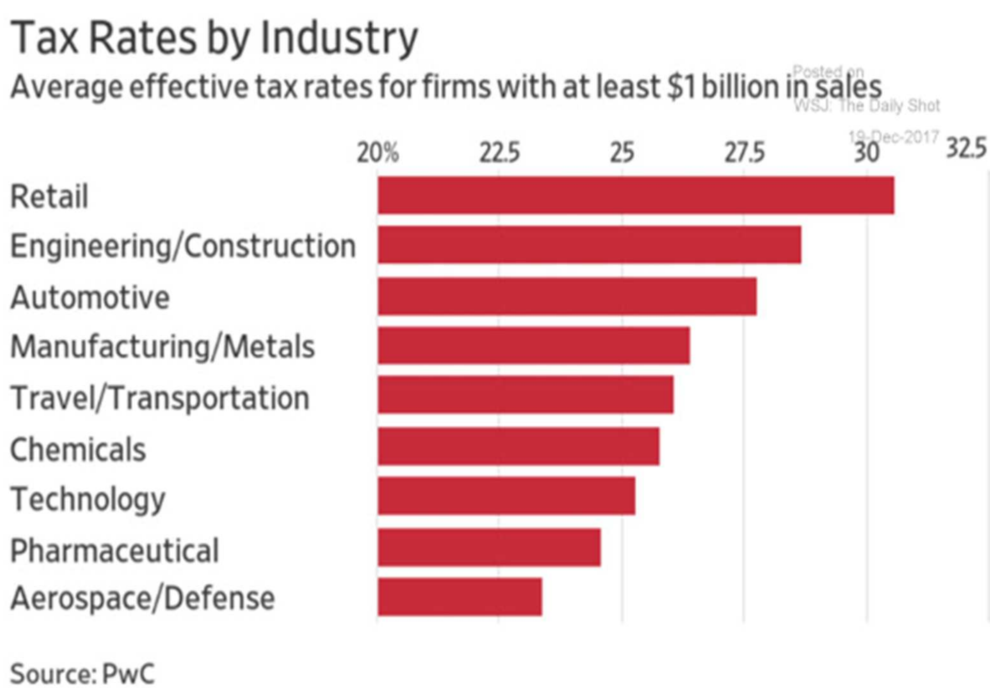
Tax Reform

In December, the House and Senate approved the first tax reform package in over 30 years as the GOP secured its first significant legislative victory. The sweeping overhaul passed 51-48 in the Senate, across party lines, and faced significant opposition from Americans in polling with 55% against the measure. The plan is heavily weighted towards corporations by changing the effective rate, eliminating the alternative minimum tax, and restructuring the way that pass-through businesses are taxed. It also doubles the standard deduction for individuals.

Looking at it in more detail:

Individual Brackets – The top rate will go down 2.6% to 37%, while the remaining brackets will all change slightly. We now have 10%, 12%, 22%, 24%, 32%, 35%, and 37%. Only 10% and 35% will remain the same, the rest will go down 1-2%. The standard deduction is also doubled to $12,000 for single filers and $24,000 for married couples. The bill also eliminates personal exemptions which would negate any tax relief a family of four or more would receive. These changes would be beneficial for the broader market as it would increase income and theoretically drive spending in the economy. Spots like **retail (XRT)** are particularly impacted.

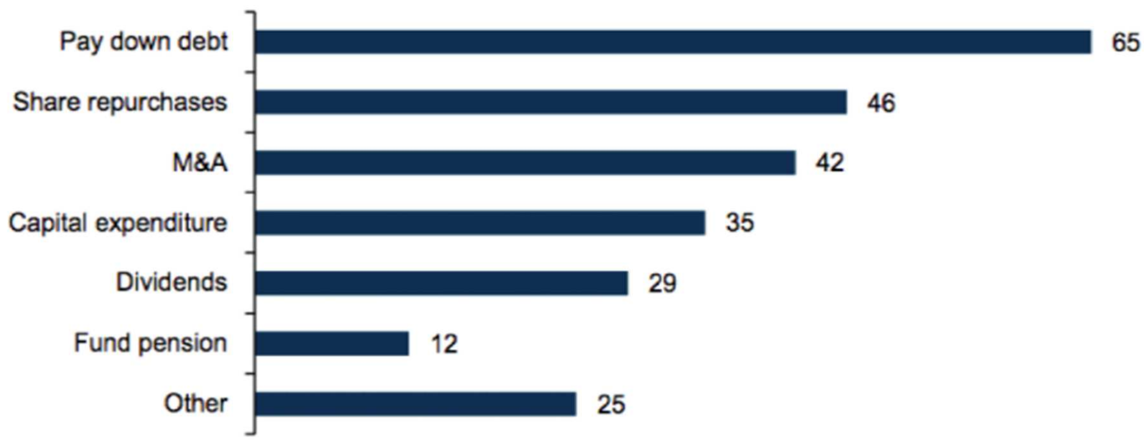
Corporate Tax Rate – The corporate rate will move to 21% starting in 2018. The prevailing sentiment from the GOP was that a lower rate would result in higher wages for employees but historically when rates are lowered, wages go down while corporations use the capital for buybacks and capital return. They also have pushed the narrative that corporations will re-invest into operations. Some have already announced plans to spend (AT&T and Comcast announced billion-dollar infrastructure plans) but it's unclear so far how many others will be incentivized to build. Several companies are significantly impacted by the change in the tax rate with telecom, retail, small-caps, and restaurants the most. Credit Suisse was out in December noting that industries with the highest effective rate were retailing (35%), telecom (33.7%), utilities (31.5%), staples (31.3%), materials (29.8%), financials (29.3%), and media (29.1%. The average was 26.2% while the lowest rates now were REITs (3.5%), energy (14.9%), and automotive (17.1%).



Mortgage Interest Deduction – The mortgage interest deduction cap was lowered to $750,000, down from $1M. Those with a mortgage already are unaffected and it no longer allows a deduction for the interest of home equity loans. Those negatively impacted would be homebuilders like **LEN, PHM, BZH, TOL, KBH, DHI.**

Repatriation – The tax bill changed how overseas profits are taxed considerably (10.5% on future profits vs >30% prior) and established a one-time tax of 15.5% for liquid assets and 8% for non-liquid assets. The change is expected to result in a wave of cash returning to the US with companies eligible to bring back as much as $400B. State Street estimates this could lead to a temporary boost in the US dollar as companies sell foreign holdings and buy assets with US dollars. Looking at the last major repatriation bill in 2004, the Dollar broke a downtrend to rise 13% in 2005. The idea behind the repatriation tax being lowered is to spur investment in US companies, supply chain, and infrastructure which would be a tailwind for longer-term growth. However, looking back at prior foreign tax holidays, companies are more likely to use the cash for buybacks or other forms of capital return. BAML conducted a survey last Fall which asked where most of the proceeds from repatriation would be used and the clear majority saw buybacks and debt-reduction as the focuses. Goldman Sachs estimated the tax bill will increase corporate repurchases by $75B to $590B in 2018. **AAPL** has been noted as big beneficiary of the repatriation rules while **PFE** could also see a lot of cash return state-side and be used for M&A.

Figure 2: How would the proceeds of repatriated earnings be used? (Choose all that apply, %)



Healthcare / Medical Expenses – Early versions of the bill were looking at repealing the medical expenses deduction but the final version preserved it under the current code. In fact, it expanded the deduction for 2018 and 2019 while dropping the threshold to take the deduction from expenses over 10% of income to 7.5%. This is positive for hospitals like **THC, CYH, HCA,** and **UHS.** Conversely, the group is negatively impacted by the repeal of the individual mandate in 2019. Americans will no longer be legally required to buy health insurance and the penalties for not holding it will no longer apply. The CBO determined this would lead to 13M fewer individuals with insurance by 2027 while cutting Federal spending by $300B. This is a headwind for insurance names as well like **CNC, AET, MOH, CI, UNH, ANTM.**

Some other places where the tax bill should impact markets include the lack of changes to the 401K rules, these will stay the same with the tax-free amounts people can deposit remaining the same for 401Ks, IRAs, and Roth IRAs. This is a positive for brokers like **ETFC, AMTD, IBKR, TROW, SCHW.** The law alters the Alternative Minimum Tax (AMT) in a way which lowers the number of eligible people to pay it. Individuals eligible fall from 5M to around 200,000 while the corporate AMT was repealed entirely which is a positive for **technology** and **biotech** stocks which are focused on the R&D credit. The bill expanded drilling permits for oil and gas in Alaska which is a positive for names like **DO** and **PTEN.** Interest deduction was limited to 30% of EBITDA which is a negative for private equity companies like **BX, KKR,** and **CG** while the NOI deduction was changed to 80% of all taxable income which is a negative for insurers like **AIG, PGR,** and **ALL.** A last-minute change was made to the bill driven by Sen. Marco Rubio to increase the child care credit to $2,000 from $1,000 with 70% refundable. This is a positive for **CRCM** and **BFAM.** Finally, beer, wine, and whiskey makers got a tax break as the credit for production limited to small businesses is extended to all wineries, a positive for **STZ, TAP, DEO,** and **BF/B.**

Interest Rates

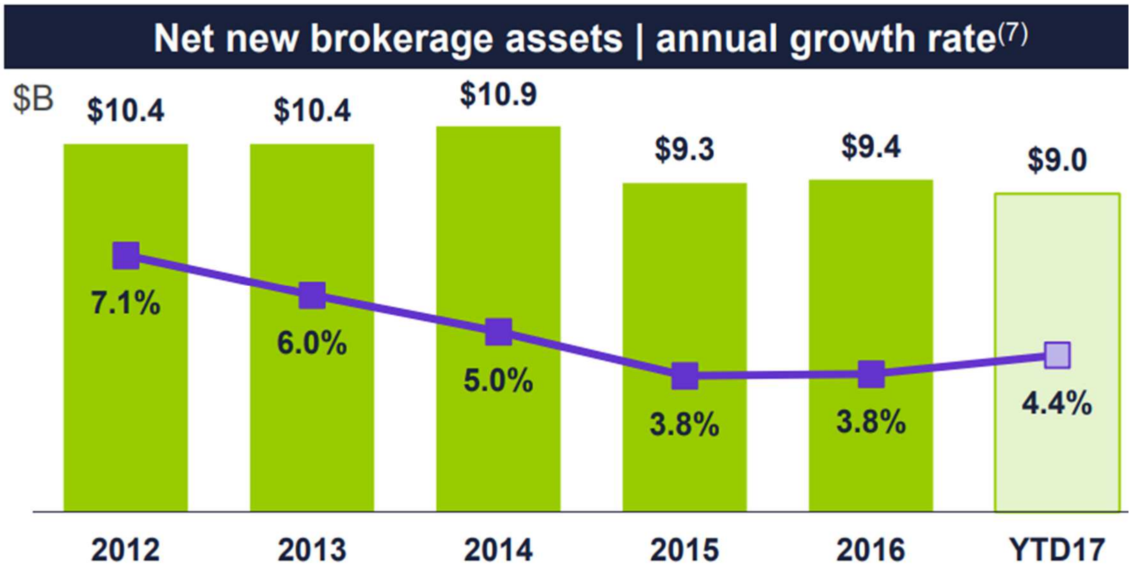
An overarching theme for financials in 2018 will continue to be the ongoing tightening cycle which began in late 2016. In December, the Federal Reserve raised rates for the third time in 2017 as the US economy continued to show signs of strength. The labor market has improved, household spending has grown, and business activity has risen at a solid rate. There were two dissenters in December, Neel Kashkari and Charles Evans, who remain concerned about inflation which is below the 2% target. Consumer prices have also given pause to those who would like to see more hikes in 2018. Regardless, incoming Fed Chief Jerome Powell is likely to keep the course in 2018.

The federal funds rate is 1.25% to 1.5% now, still an historical low, and expectations are for three more hikes in 2018. According to PIMCO, the equilibrium level of rates is between 2% and 2.5%, so still in the early innings of a cycle which could last several years. As of late December 2017, CME Fed Watch is pricing in a 59.2% probability the first hike will be at the March meeting on the 21st.

Banks, brokerages, credit servicers, insurers and more are the most obvious beneficiaries of a rate hike. Banks will benefit from gains in net-interest income from non-interest bearing deposits which will reprice with a change in rates. As you can see on the chart below from the St. Louis Fed, net interest margin for US banks has begun to inflect higher and in 2017 the sharpest rise since 2007.

For example, **Bank of America (BAC)** saw net interest income (NII) rise by $960M to $11.2B last quarter while the net interest yield rose 13 basis points. CEO Brian Moynihan said at the GS Financials conference in December that one of the big benefits of shift is that financials can return extra capital, so could see more dividend increases, more buybacks, and more lending in 2018. **JP Morgan (JPM)** recently moved past BAC as the biggest bank in the country in terms of deposits and **Wells Fargo (WFC)** are two other notable big banks which will continue to see an impact but the latter saw a small decline in Q3. **Citi (C)** has less exposure. Regional banks are especially exposed to a changing rate environment with higher-levels of sensitive assets. **Comerica (CMA)** reported last quarter that a 200-basis point change in interest rates would add 10% to net-interest income. **Region Financials (RF)** said that a hike would lead to $222M in additional revenue.

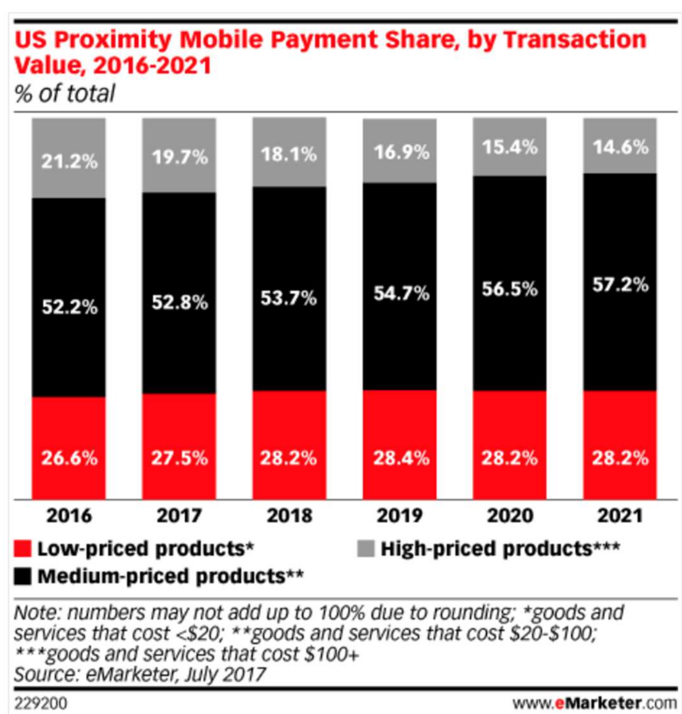
Insurance companies are another way to position for continued rate hikes. These companies rely on interest income and the higher the rate, the higher the return and growth through reinvestment of its premiums. Insurers have been rolling portfolios since 2009 into an environment with excessively low yields and seeing lower ROI relative to recent periods. This theme has begun to turn and easily in the early innings entering 2018 with **Prudential (PRU), Metlife (MET), Progressive (PGR),** and many others set to benefit. **AIG** still trades at a historically cheap multiple to book value, 0.74X.



Some other financials which are impacted include credit-services companies which hold large balances of cash **(SYF, MA, V, DFS and COF).** Similarly, exchanges like **Nasdaq (NDAQ), CBOE, CME Group (CME),** and **Intercontinental (ICE)** all benefit as well. Brokerages hold a significant amount of cash from client portfolios and with AUM balances rising steadily all year, poised to benefit even more in 2018 and 2019. **E-Trade (ETFC)** was optimistic last quarter showing client assets growing Y/Y in 2017 and inflecting positive and November/December DARTs data from retail operations like **Interactive Brokers (IBKR), TD Ameritrade (AMTD),** and **Schwab (SCHW) all** showed similar momentum. ETFC saw about a 9% increase to NIR in 2017 from rising rates while SCHW has said in the past that a 100-basis point move in rates would be beneficial by about 8-10% to their NIR. As client assets continue to grow, brokers should see notable tailwinds as rates rise.

<u>The Death of Cash – Mobile Payments and Digital Currency</u>

The secular shift away from cash took another big stride in 2017 with mobile payment companies like **Square (SQ), PayPal (PYPL),** and **Zelle** making inroads to the traditional wallet. The explosive growth in e-commerce has helped fuel the shift away from traditional cash while the growth of POS sales using smart-phones and NFC chips has also risen exponentially. E-Marketer estimates that the average annual spend per proximity mobile payment (those using a mobile device to scan or swipe with a mobile device at POS) will rise above $1,000 for the first time in history in 2017. That figure is expected to rise to $2,600 by 2021. More consumers are eschewing cash for mobile payments on convenience items like coffee, food, and other low-value, high-rate purchases. Mainstream outlets like **Starbucks (SBUX), Dominos (DPZ)** and **McDonalds (MCD)** now widely accept digital transactions which is driving adoption.



The two purest plays on the shift away from cash are **PayPal (PYPL)** and **Square (SQ).** Both have seen strong moves in 2017 with the former up 87.5% and the latter up 163%. PYPL added 8.2M active accounts in Q3, up 88%, while now having over 218M total accounts. There are 17M merchant accounts. And customers are using their accounts more and more frequently with the number of transactions per active customer account up 9% to 32.8. PYPL has built out their footprint through strategic partnerships from Visa (V), Discover (DFS), and Mastercard (MA) to AliExpress, Facebook (FB), Android Pay, and Chrome. The result has been significant growth in TPV and market share, now doing over $100B per quarter with 1/5 of that coming from peer-to-peer transactions from Venmo. SQ did $17.4B in gross payment volumes last quarter, up 31% Y/Y. The company focuses more on small and mid-sized businesses with their mix getting a little more even last quarter (47% from merchants under $500,000 annual GPV). The company's revenue inflected higher in 2017 with growth hitting 33% in Q3, up from 22% in Q1.

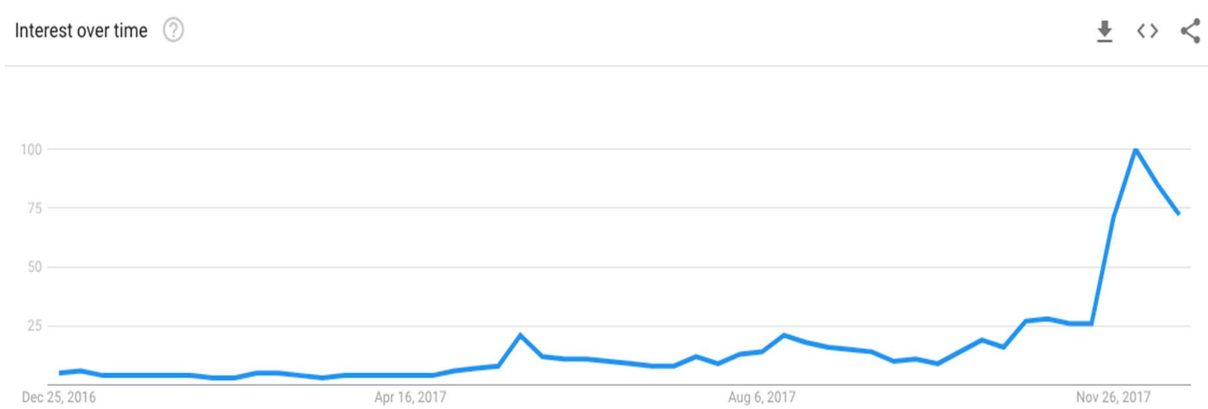
A big opportunity for these companies remains in Europe and Asia, particularly India where confidence in paper currency and fears of inflation have shifted dramatically in 2017. And based on current surveys, it appears to be a region where consumers are increasingly open to moving away from cash. In April, a survey conducted by ING found that 35% of Europeans and Americans would be happy to go without cash while nearly 1/5 already do. In fact, almost 75% of European respondents said they have used less cash in the last 12 months. Cash is still used in 75% of POS transactions in Europe, so a lot of runway for adoption as more availability in alternative options grows. Cardtronics (CATM)'s October Global Cash Index showed the total cash share per country in the 15 major EU countries declining 2.8% since 2011 and down 3.8% in Eastern Europe.

TABLE 3. CASH SHARE PER COUNTRY IN THE WU15

WESTERN EUROPE	2001	2006	2011	2016
AUSTRIA	28.7%	49.9%	46.1%	39.1%
BELGIUM	15.6%	12.4%	15.4%	15.4%
FINLAND	23.5%	14.0%	10.0%	7.4%
FRANCE	12.0%	9.3%	8.6%	7.0%
GERMANY	—	—	24.5%	19.7%
IRELAND	24.6%	18.6%	15.8%	7.6%
ITALY	27.0%	19.0%	23.2%	25.0%
LUXEMBOURG	12.7%	8.2%	6.6%	11.8%
MALTA	—	—	19.2%	21.1%
NETHERLANDS	—	12.5%	9.4%	7.1%
PORTUGAL	21.9%	22.4%	22.4%	21.1%
SPAIN	—	35.5%	32.0%	23.7%
SWEDEN	20.6%	13.6%	6.5%	5.7%
SWITZERLAND	—	6.2%	5.1%	4.5%
UNITED KINGDOM	16.3%	15.0%	13.7%	11.3%
WEIGHTED AVERAGE CASH SHARE			18.2%	15.3%
VARIATION 2011-2016				-2.8%

Other plays in the space include **MercadoLibre (MELI), Visa (V) and MasterCard (MA), Apple (AAPL), Vantiv (VNTV), Global Payments (GPN),** and **Total Systems (TSS).**

Bitcoin is the latest chapter in the shift away from cash. The crypto-currency enjoyed a parabolic run late in 2017 from $1,075 to over $19,000 and a sharp run from mid-July when it was just $2,000. Bitcoin is a decentralized digital currency which works without a central bank and relies on peer-to-peer transactions. These transactions are recorded in a public ledge, the block chain. Users like bitcoin due to its anonymity, lack of third party intermediaries like a Central Bank, and speed with which currency can be transferred across international lines. They also like how bitcoin's supply is constrained which means that it carries low inflation risk which is appealing to citizens in countries like Venezuela and Greece. The risks of bitcoin include the volatility of current prices, lack of mainstream outlets which accept payments, and security issues with respect to hacking.



We saw a lot of companies take advantage of the bitcoin movement late in the year, some going insofar as adding 'blockchain' to their name and seeing a 500% move in their stock. Some, like **Overstock (OSTK)** made actual business moves into digital currencies by launching their own coin offering through tZero. The company launched $250M ICO on 12/18 which they'll use to re-invest in the business. CEO Patrick Byrne said in December that he's considering selling the retail business to focus on the blockchain assets.

There are three main companies which likely see benefits from wider-adoption of bitcoin. The first is **Nvidia (NVDA)** which produces high-performance graphic processors being used to mine the cryptocurrency. NVDA developed the chips for videogames but their power is well suited for mining operations and that demand has helped an otherwise lackluster year for gaming revenue. The company hasn't been fully embracing the trend yet as they continue to focus on their core markets. **Advanced Micro (AMD)** is a similar story with their chips used in mining.

SQ was an interesting entrant to the bitcoin field late in the year by letting customers of their Cash app buy and sell bitcoin. The firm tested the feature in November and rolled it out to more customers in December. Some are concerned that the otherwise strong growth name would tie part of its fortunes to the volatile currency. BTIG was cautious noting, "We believe Bitcoin could provide a marginal contribution to Square's revenues if the trial succeeds, it becomes a permanent feature for all Square Cash users, and the company starts to charge a fee for trades."

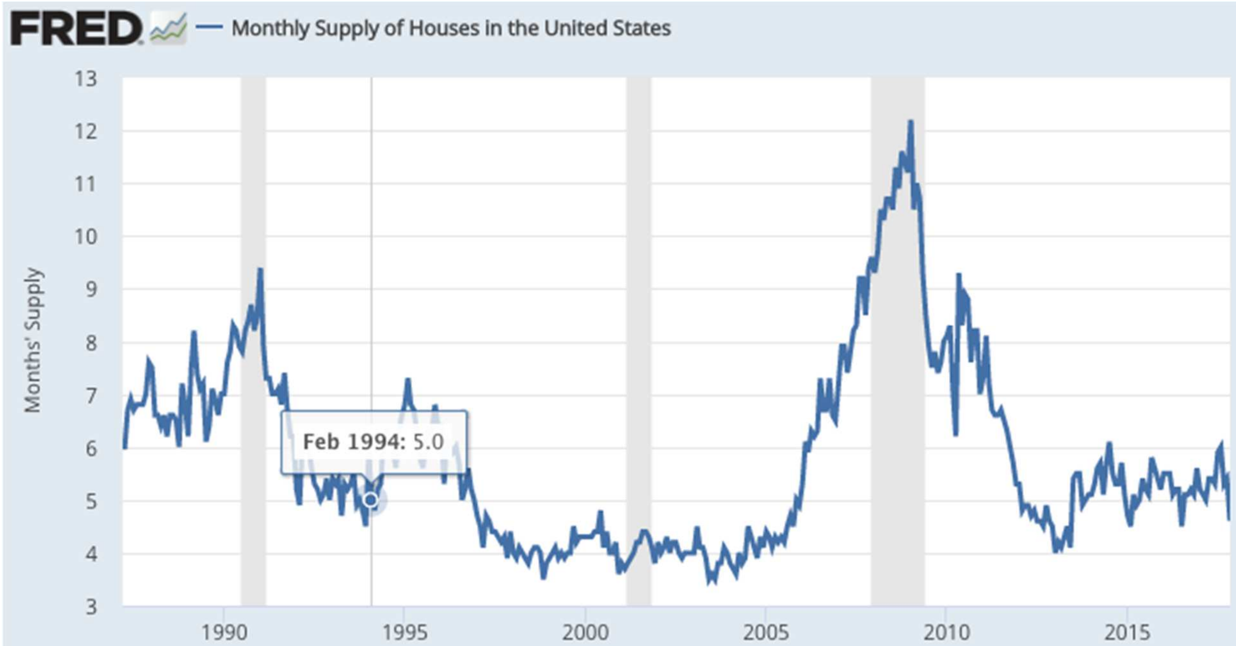
Finally, there are a handful of financials which are gaining more exposure to the currency but mostly in the nascent stage. In December, futures contracts began trading on the **CBOE** and **CME Group (CME)** with several brokers allowing for trading. The promise is that larger institutions can own futures while they can't own an unregulated security. The fear early on with bitcoin futures however is that it is not enabling institutions to buy or sell the underlying but instead allowing retail investors to take a leveraged position. Volume has been lackluster so far in the early launch. **Goldman Sachs (GS)** announced in late December that they were launching a trading desk for bitcoin in response to client interest. They plan to make markets and will launch in June.

Housing

The housing market has undergone a multi-year recovery with strength seen across new buys, rising home prices, and remodels. Higher wages, soaring consumer confidence, and steady job growth are providing the backdrop for a recovery in the industry. With the election and tax reform behind us now, the focus in 2018 will shift to fiscal stimulus and likely continues to be a tailwind to consumer optimism. The Michigan survey of consumer sentiment is often an indicator of higher-ticket item buying, especially housing, and in 2017 we saw it break out of a multi-year consolidation to new 10-year highs.

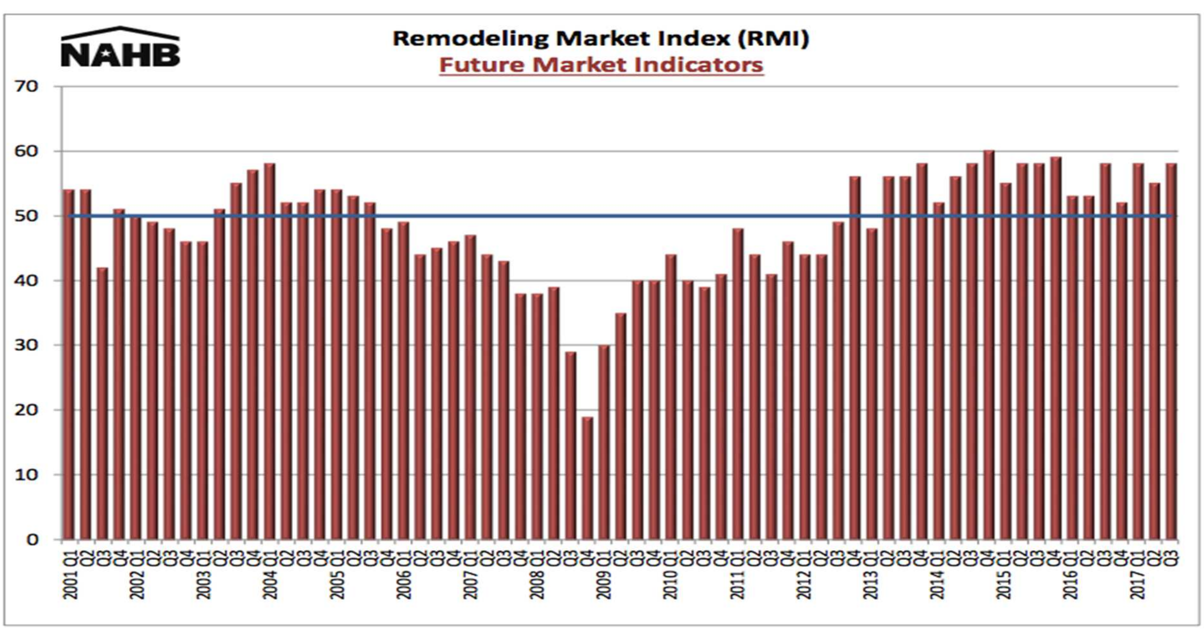
Housing specific data has been very strong as well. Case-schiller has cleared above its 2007 highs and now at its strongest point in over 40 years while existing home sales hit 3-year highs in 2017 and new unit starts are closing the year strong and moving out of a consolidation. The group has benefitted as well. Active homebuilders (ITB) were up 57% for the year while the XHB was up 30%. Individual names have all had outstanding years as well with **KB Home (KBH) +99%, DR Horton (DHI) +86%, Pulte (PHM) +81.5%, and Tri-Point (TPH) +55%.** The group is trading around 14X earnings and one name which remains cheap on valuation is **Toll Brothers (TOL)** with nice exposure to the West better margins relative to peers.

One area to focus in 2018 is inventories which have come under pressure in 2017 with many realtor groups expecting the shortage to ease. Realtor.com surveys show the market having moderate acceleration of sales as millennials increase market share of ownership. Inventory increases will be seen in higher priced segments while long-term the shifting dynamic in inventories will provide some relief for first-time buyers. This, in effect, could start a multi-year trend where sales rise above the average rate (3.2% forecast next year) while pricing moderates.



This could also shift some consumer viewpoints towards the housing market. Trulia conducted a survey at the end of 2017 to determine what consumers looking to in 2018. The survey showed that most Americans are less optimistic about housing next year with just 25% believing 2018 will be a better year to buy a house than 2017. Only 10% said they plan to buy a home in 2018 and the issues seem to stem directly from pricing. The firm noted, "what they lack in enthusiasm about buying a home, Americans make up for in their belief that now is a good time to sell a home."

The remodel market remains very robust. The NAHB Remodeling Market Index for future indicators remains strong, above the 50-level which indicates higher activity Q/Q. The Residential Remodeling Index (RRI) hit new highs late in 2017 and the forecast remains optimistic. In Q3, the RRI hit a new high of 110 which was +4.8% Y/Y and +1.2% for the quarter. The move marked 22 consecutive quarters of gains since 2011. Metrostudy, which conducts the survey, noted Q3 was the strongest Y/Y gain since early 2014 and 2018 is forecast to gain 4.5% Y/Y despite some bumps from Hurricane Harvey and Irma rebuilds. They expect project activity to increase noticeably over the next year in Texas and Florida as recovery begins. HRS/IHS Markit forecast continued growth in home improvement products market as well in 2018 with 4.8% in 2018 and 4.1% in 2019. Rising home prices are leading to more spending on projects and the professional market sales are expected to rise by 2.9%. AHAM data for November showed home appliance shipments up 3% Y/Y with big ticket items continuing to show strength.

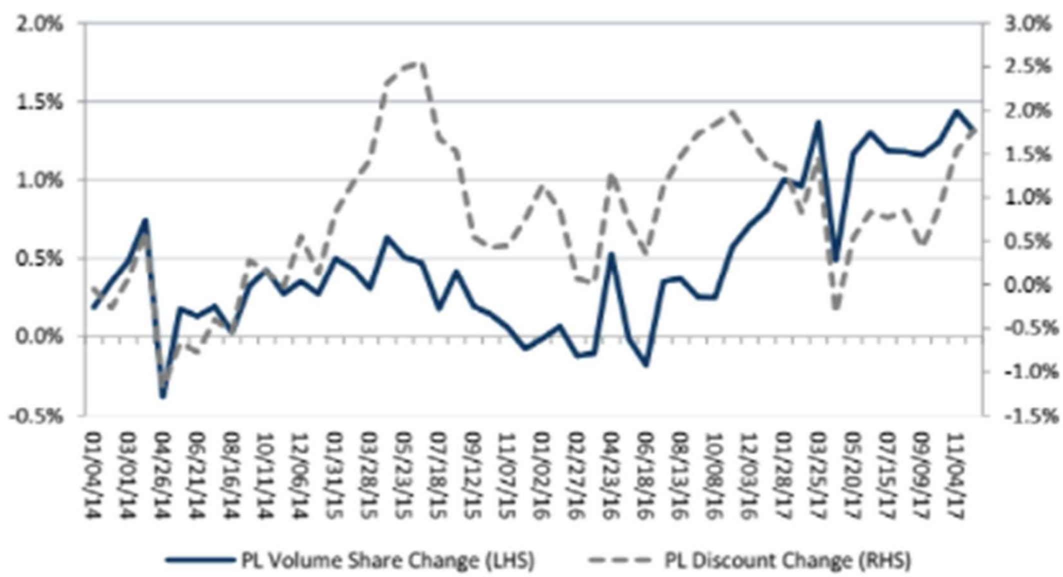


Home Depot (HD) and **Lowe's (LOW)** are the two biggest names in the home improvement sector, both closing 2017 strong +40.3% and +28.2% respectively. HD said last quarter that today's consumer spending behavior favors home improvement and they're seeing strength in Canada and Mexico too. HD sees long-term tailwinds to their business from household formation, home price appreciation, housing turnover, and the age of housing stock. LOW said that in a proprietary survey they found that over half of homeowners believe their home values are increasing and intent to engage in discretionary home improvement projects remains strong. Both companies are pushing more towards e-commerce as well which could continue to see an uptick in 2018. HD said at their recent investor day that they're increasingly seeing buyers online in their décor categories and their efforts in those spaces next year will largely be digital.

Other names in the remodel space are **Lumber Liquidators (LL), Sherwin Williams (SHW), Whirlpool (WHR), Mohawk (MHK), Fortune Brands (FBHS), Owens Corning (OC), Masco (MAS), Stanley Works (SWK),** and **Beacon Roofing (BECN).**

Private Label Foods

The growth of private label foods has exploded in recent years with the inflection of more discount grocers like Trader Joe's, Aldi, and Lidl. According to the Private Label Manufacturers' Association, sales grew 2.5% vs 1.1% for national brands and Nielsen reports that private label products have posted a 1.7% CAGR over the last four years, 30 basis points ahead of branded products. Nielsen also notes that volume share in food is gaining due to higher discounts, as shown below.



The benefits to businesses are huge with lower operating costs helping drive better margins at a time when margins are coming under significant pressure in the industry due to higher costs. And it comes at a time when consumers are being more specific with how they spend their money. The perception of private labels has shifted from cheap or low cost to best value and consumers' perception of these brands is improving. Retailers are prioritizing private labels foods in their stores gaining more shelf share and building consumer loyalty.

Larger supermarket chains like **Kroger (KR)** and **Sprouts (SFM)** are also getting involved in the private label side of the business. KR's Simple Truth brand did over $1B in sales with management seeing that number double by 2020. **Whole Foods** and **Walmart (WMT)** are also making big investments in their own house brands like Everyday 365. Retail giant **Amazon (AMZN)** is also reportedly developing several in-house brands from clothing and cleaning products to tools. The company has applied for 19 patents on items and could use their Whole Foods acquisition to drive increased adoption outside of the e-commerce ecosystem.

The move comes at a cost for branded names like **Mondelez (MDLZ), Hershey (HSY), General Mills (GIS), Kellogg (K)** and others. Barclays, in a note earlier this year, said that manufacturers are losing pricing power due to the shift away from brands and they are losing the ability to set the bar like they once did. **Smucker (SJM)** and **Campbell Soup (CPB)** both reported pricing challenges in food last quarter, compounding problems where earnings and multiples are shrinking. In addition, many of these groups are in the middle of a significant investment cycle in multi-channel sales making them more sensitive to shifts in price.

Looking at Nielsen data since Q3 2017 vs 2016, we can isolate those groups which are most at risk to the growing private label industry:

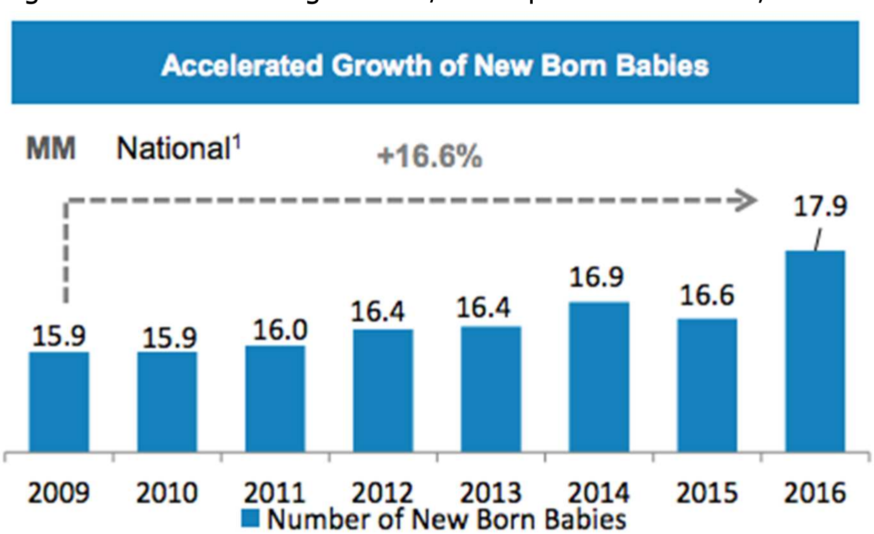
Least At Risk	Moderate Risk	Most at Risk
Sport Drinks, Deodorant, Beer, Energy Beverages, Sparkling Water	Fruit Snacks, Feminine Care, Condiments, Soft Drinks, Salad Dressing, Batteries, Cookies and Crackers, Pet Food	Water, Fruit Juice, Cosmetics and Grooming, Household Cleaner, Salty Snacks, Oral Hygeine, Lunchmeat, Nut Butters, Prepared Foods, Candy/Gum, Vitamins

In December, Goldman Sachs was out with an interesting note which speculated that private label manufacturers were most likely to pass on tax benefits to retailers through lower prices given the competition in the industry right now. The firm thinks this could lead branded companies to respond and further narrow their margins. Companies like **Pinnacle (PF), Clorox (CLX), Kraft (KHC), Smucker (SJM), and Kimberly Clark (KMB)** are most at risk accord to the firm.

China Education

China is the world's most populated country and becoming one of the fastest growing economies in the world with GDP growth in the high-single digits over the last ten years. Since the late 1970s, China has experienced a booming middle class and with it an expanding educational system. According to the National Bureau of Statistics, China has over 260M students currently and 15M teachers in over 500,000 schools. And the need for a larger, more expansive education system will only get bigger with accelerated growth of new born babies. China recently removed their 'one-child' policy which will almost certainly lead to larger Y/Y growth in births while Education spending has grown significantly since 2015, up 6X from 2005 levels.

Education is state-run, mostly at the county-level, but more and more private educational firms are gaining market share in the country with parents looking for a wider-range of programs like English language training, overseas test prep, and all-subjects tutoring. Also with a booming internet/online presence in China, online courses and interactive are becoming more popular and reaching a wider range of rural areas.



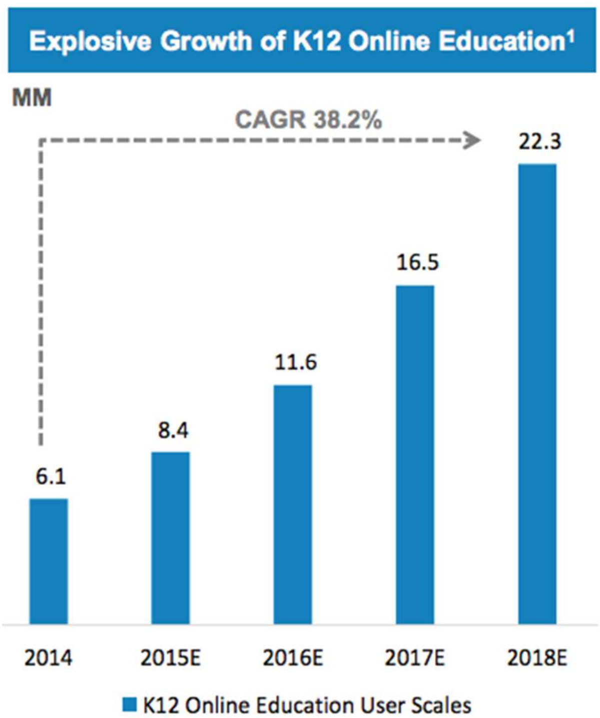
New Oriental Education (EDU) is one of the largest providers of private tutoring in China with strong enrollment numbers and over 850 schools opened. The company is seeing strong demand in their K-12 tutoring courses up 51% while books revenue rose 8%, overall supporting 26.5% growth. EDU is the largest provider of private educational services in China, a country seeing

15% CAGR in students studying abroad which is supporting demand for their Kids English language classes and tutoring while the market size for after-school tutoring in China is rising at a 14% CAGR. The TAM for English language training in China has grown to $13.6B, so a big opportunity as they expand.

The company said last quarter that the recent focus has been on their summer promotion campaign, which was accelerated and made larger than last year, with aims to capture as much share as possible and acquire long-term customers. They launched in 38 cities. They expect to see margin expansion in the first couple quarters of 2018 after a significant period of investment and promotions.

EDU differentiates itself from peers mainly due to its dual-teacher model and the recent strong summer promotions and continued progress of its overseas business is a tailwind into 2018. BAML upgraded to Buy in September behind faster market share gains due to industry consolidation, improving scalability from online, a faster expansion in lower tiered cities using dual-teacher model, and a faster margin recovery.

TAL Education (TAL) is the other big name in China with a focus on 1-on-1 services and more tech-focused offerings like live broadcasting. TAL has seen explosive growth, sales up 60% in 2017 and 49% in 2018. TAL gets most of its revenue from small-classes (85%) while 1-on-1 services and online are smaller sources of revenues now but with investments in tech expected to be much larger in 2018 and 2019. TAL estimates the CAGR of K12 online will be 38.2% while live broadcasting will jump 90% in 2017. The company is opening new learnings centers and entering new cities to dig deeper into a massive addressable market, expected to enter 4-5 new cities per year. They expect to hit 2.2M enrolled student by Q2 2018 with over 575 learning centers, faster growing by percentage than EDU. The company currently serves just about 50% of China with a lot of rural territories in the East and North not yet covered by a learning network.



TAL sees enrollment growing at a 42% CAGR which will continue to boost the topline. They are expanding scale in online and mobile with over ten different apps to introduce their offerings into some of those areas they don't have a physical presence yet. They have Pre-K prep, English language, mathematics, High School admissions prep, and College prep apps on their platform now.

Jefferies noted earlier this year that TAL could be adopting technologies such as artificial intelligence faster than most investors would expect and their pioneering ed-tech investments will help strengthen tutoring outcomes and become a big differentiator for parents looking to enroll children. TAL can maintain margin stability despite aggressive network expansion given it is mainly in cities it already operates but where capacity is constrained.

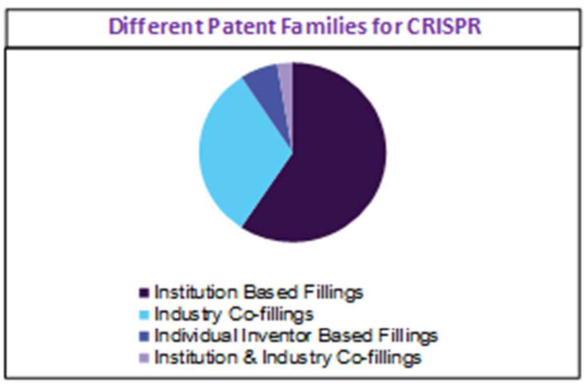
<u>Gene Therapy</u>

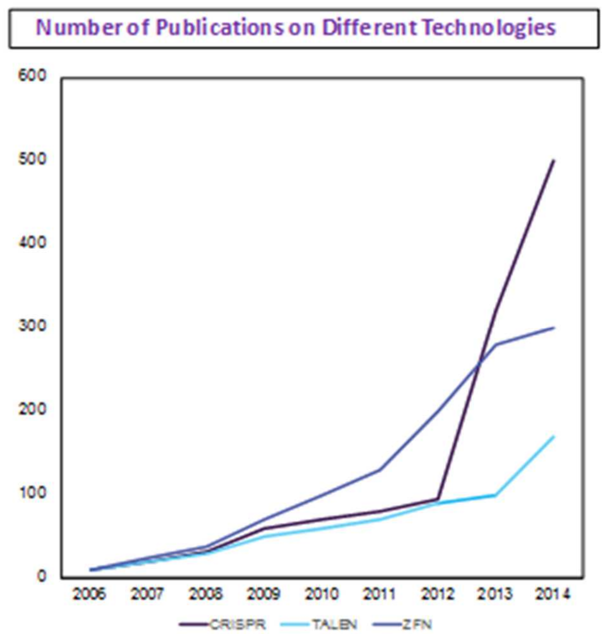
Gene therapy is a rapidly growing field of within healthcare where genes are introduced into the body to treat diseases. Currently, it is employed at two different levels: Somatic therapy which is used to treat the individual and Germ Line therapy which is done at the reproductive level to correct variants passed from generation to generation. Gene therapy is increasingly attractive to nearly every major drive company given the smaller clinical trials, shorter time-frames for pivotal trials, and lower development cost due to single administration.

In August, the FDA approved the first gene therapy in the US, Kymriah, which works to fight acute lymphoblastic leukemia (ALL), a common form of childhood cancer. The therapy was developed by **Novartis**

(NVS) and saw an 83% remission rate after three months. In October, the FDA approved Yescarta, a gene therapy which treats large B-cell lymphoma. It was developed by Kite Pharmaceuticals who was acquired by **Gilead (GILD)** earlier in the year for $11.9B. In December, the FDA approved a new gene therapy called Luxturna from **Spark Therapeutics (ONCE).** The treatment focuses on a mutation associated with retinal dystrophy, a rare eye disease which can lead to blindness. The move was a milestone for several reasons. First, it proved that gene therapy can be successful outside of oncology. And second, it was the first therapy targeted at a hereditary disease.

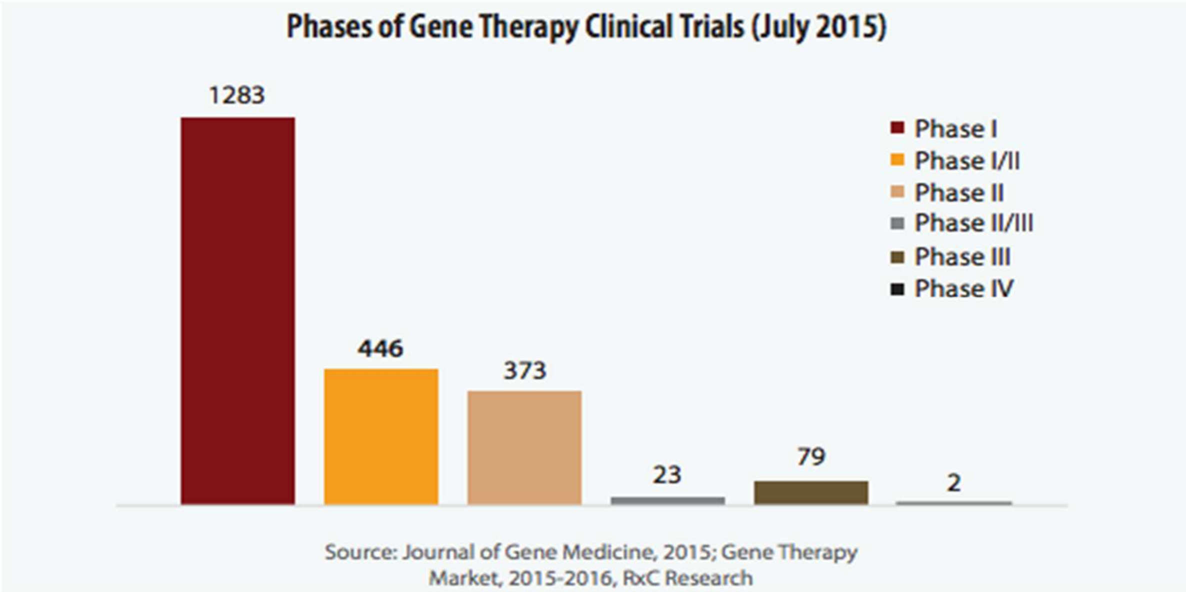
CRISPR (which stands for "Clustered Regularly Interspaced Short Palindromic Repeats") is the process most closely identified with gene therapy since it was first discussed in 2012. CRISPR is a genome editing tool by which Cas proteins enter the body and recognize and eliminate problematic DNA. The process has its detractors who see the therapy as unethical but from a science POV the risks stem from introducing hundreds of unintended mutations into the genome. In June 2017, a paper in the journal Nature Methods argued that Cas9 had created hundreds of mutations in mice they treated that weren't supposed to be there. The paper caused ripples throughout the CRISPR-focused names however later papers showed that CRISPR was perfectly safe and the prior study had been based on just three mice. Advances to the process are being made today with scientists developing more targeted cutting actions, the ability to edit individual base pairs one at a time, and new forms of control over CRISPR activity.





According to Allied Research, the market for gene therapy in oncology is expected to grow to $4.3B by 2024, a 32.4% CAGR from 2017 with North America the largest contributor. The number of approvals however could jump as a significant number of gene therapy trials moves towards pivotal trials. In July 2015, there were just 102 trials in Phase 2 and 3 stages combined but more than 1,275 in Phase 1. Most of those are in oncology (64%), while the rest are between infectious diseases, cardiovascular, and monogenetic. In 2018, gene editing could be used in clinical trials for sickle cell and beta thalassemia. In December, a research team led by Harvard, MIT, and Massachusetts Eye and Ear developed a CRISPR-Cas9 gene therapy to address hearing loss in mice with hopes of developing a process to prevent progressive deafness in humans.

Leerink was out positive on 12/18 noting that the Luxturna decision could be a big turning point for the therapy as the 16-0 AdCom results suggests the physician community may have turned the page on gene therapy (and the stigma associated with the technology). They viewed the decision as a momentous advance for the broader gene therapy category. The decision showed, "Panelists were receptive and flexible, which we believe sets a positive backdrop for other companies in gene therapy albeit in distinct therapeutic areas." But the road forward for many companies within the space will still be to show significant advantage over other forms of therapy.



There are a couple of pure-play names on gene editing that solely focus on the process, rather than individual cases like those mentioned above. **Editas Medicine (EDIT)** is probably the name most associated with gene editing and was co-founded by one of the scientists who discovered how to use CRISPR in humans. Feng Zhang was at the Broad Institute which won a patent for the process before UC-Berkley scientists and EDIT is reaping the benefit of the IP advantage. This establishes a risk for the stock with the legal overhang but they have some sizable backers including Bill Gates and Google. They partnered with **Juno Therapeutics (JUNO)** to use the therapies in oncology and have a nearly $700M royalty bonus through 2020 and could easily go above $1B if any drugs are approved.

Intellia Therapeutics (NTLA) is the other play in the space. The company was founded by one of the UC-Berkely scientists who took her IP to the private-sector. NTLA also carries legal risks with their battle against EDIT and Broad Institute but a lot of their research is already being used in partnership with others to develop therapies. NTLA has partnerships with **Regeneron (REGN)** and **Novartis (NVS). Crispr Therapeutics (CRSP)** is the last pure-play on the theme which was founded by yet another scientist involved in the creation of the process. CRSP has partnerships with **Vertex (VRTX), Bayer,** and others to develop gene editing therapies in 'high risk diseases.' They have programs in development in cystic fibrosis, DMD, hemophilia, sickle cell, and others.

Other plays on gene therapy include **Audentes (BOLD), BioMarin (BMRN), REGENXBIO (RGNX), uniQure (QURE) and Ultragenyx (RARE).**

The risk remains with cost and adoption of these new therapies. Two months after Yescarta was approved, just five people have gotten the therapy which clocks in at $373,000. Physicians blame hold ups from Medicare and Medicaid as well as insurers on getting the treatment paid for. There are no billing codes for the treatment which makes it difficult. The payment delays could take months to resolve. Leerink also noted the regulatory environment may make it difficult for success for gene therapy candidates noting, "in indications like wet age-related macular degeneration (wet AMD) or hemophilia where treatment options exist and the concept of clinical meaningfulness is more firmly established, it is formally possible that regulators set higher expectations or are less compromising on data requirements. Furthermore, with an administration that is cost-conscious and the FDA that is striving to increase competition (to reduce drug prices), we believe the product profile of a curative agent (with presumably higher drug price) may be scrutinized with a different lens compared to rare diseases that lack treatment options."

Connected Tech

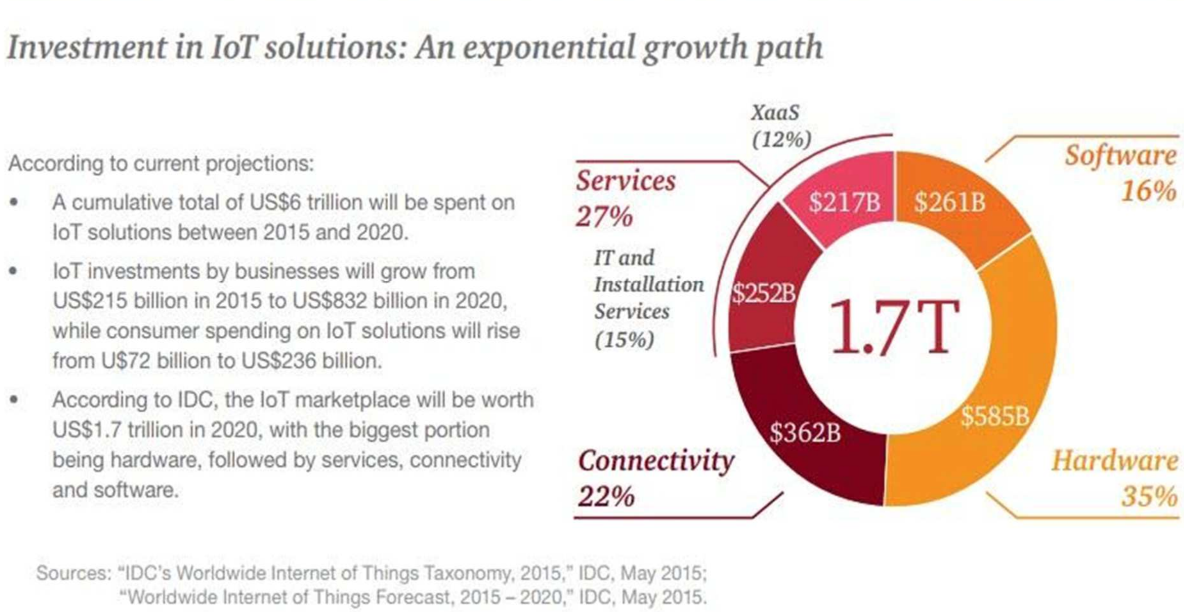
Within this section, we'll look at

1. 5G Growth
2. Wearables
3. Industrial IoT (IIoT)
4. Smart Homes
5. Next-Generation Automotive

The explosive growth and cost effectiveness of cloud computing has aided in the boom of another major tech theme: Connectedness. The Internet of Things (IoT) market has expanded from watches and fitness trackers into connected homes, connected cars, and more as broader adoption of these devices is helping drive down costs and expand their reach into more verticals within our daily lives.

A lot of the underlying trends in IoT are similar from 2016 and 2017, just more mature and 2018 is likely to be a year where they really expand outside of the consumer-side. We're seeing more and more big R&D investments in industrial, manufacturing, and agriculture just to name a few. And companies are using more specific metrics to measure operational improvements and logistics gains which is making IoT better. Security in IoT is also likely to become a burgeoning business as it remains a top concern.

Figure 1: Forecasted worldwide IoT revenue by technology element in 2020



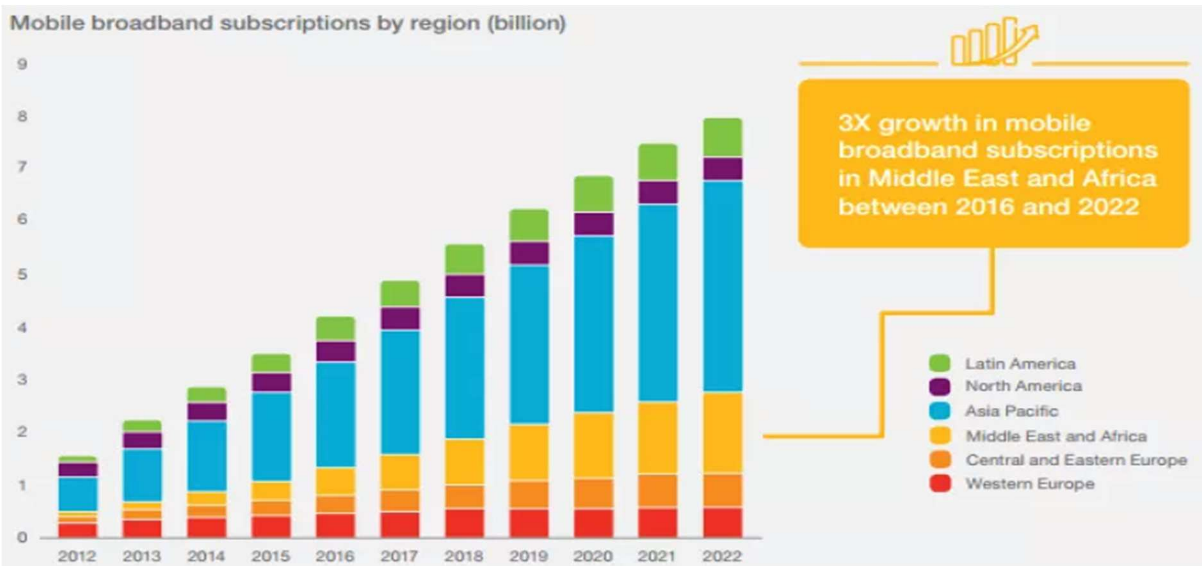
The market is one which is growing at a rapid rate. Bain predicts that annual revenues for vendors selling hardware, software, and other solutions is to exceed $470B by 2020 including about $85-$90B from industrials. McKinsey sees the market growing at 32.6% CAGR through 2020. The firm thinks industrials and healthcare are the markets where IoT is still in the earliest innings of development. Gartner Research indicates there are more than 8.4B connected devices globally by year-end of 2017. The rise of IoT in Asia will be a big theme in 2018 and beyond as well with IDC estimating 8.6B connected devices in APAC by 2020. It's total market opportunity is $583B.

Semiconductors are a major beneficiary of the IoT movement as well. Chips are being redesigned for these devices to take advantage of optimal power capabilities, connectivity, and better sensors including MEMS technology. IC Insights expects the semiconductor market in IoT to reach $29.6B in 2019, a 19.1% CAGR from 2014. They see revenue from connected city applications rising 15% to $11.4B while connected vehicles are expected to rise to $787M, up 66% and a hot new area for growth for many companies.

5G Growth

The move to 5G will be a huge enabler for a more connected society and the IoT growth allowing smart infrastructure to be built and developed. The mobile industry is currently preparing to upgrade to advanced speeds driven by demand for faster speeds and more connected devices. And it will be big business with Ericsson predicting that 5G could become a $1.23T industry by 2026.

According to the telecoms themselves, 5G as a reality is still a few years away (expected roll out is late 2019/ early 2020) but the industry is building up to that point as towers, infrastructure companies, and tech developers start to prepare. The move to 5G will make connected processes and communication exponentially faster while allowing for better response time. 4G systems have a speed up to 100Mbps while 5G will increase speeds to an initial speed of 1-10 Gbps. It also has lower latency and flexibility so could see it used with remote operations. It will also mean more connections are possible with less interference from use.



The beneficiaries of 5G's rollout are chip companies, infrastructure, and carriers. BAML estimates that the economic benefit of 5G is $275B with telcos building out the systems while $93B is to be spent on construction. And the 5G capex cycle is likely less in terms of dollars from the 4G cycle but higher margin with less infrastructure needed to be completely replaced. Equipment like basebands can be reused while antennas will be replaced. The growth of 5G will be a big theme in the US but maybe more so in Asia, where the region commands the largest percentage of mobile broadband subscriptions.

The FCC has already begun looking at the allocation of 5G frequencies with countries like India, Japan, and Korea expected to be significant growth. The EU as well with Adax noting earlier this year that they expected Europe to be fully 5G by 2025.

Verizon (VZ) committed earlier this year to being first to market with the new spectrum. The company said recently, "5G wireless technology is a focus for us. We are now launching about 10 pre-commercial pilots across the country with multiple use cases, including dense urban and suburban neighborhoods. Our goal is to test the 5G fixed wireless technology in different environments to successfully operationalize 5G products for a commercial launch." **AT&T (T)** is launching 5G in parts of Minneapolis ahead of the Superbowl in February. The company is developing 5G Evolution which they hope will lead to the launch of standards based 5G mobile networks in late 2018. **T-Mobile (TMUS)** said in November they expected to launch nationwide 5G by 2020. The company is seeking to leverage their 600MHz spectrum it won at auction earlier in 2017.

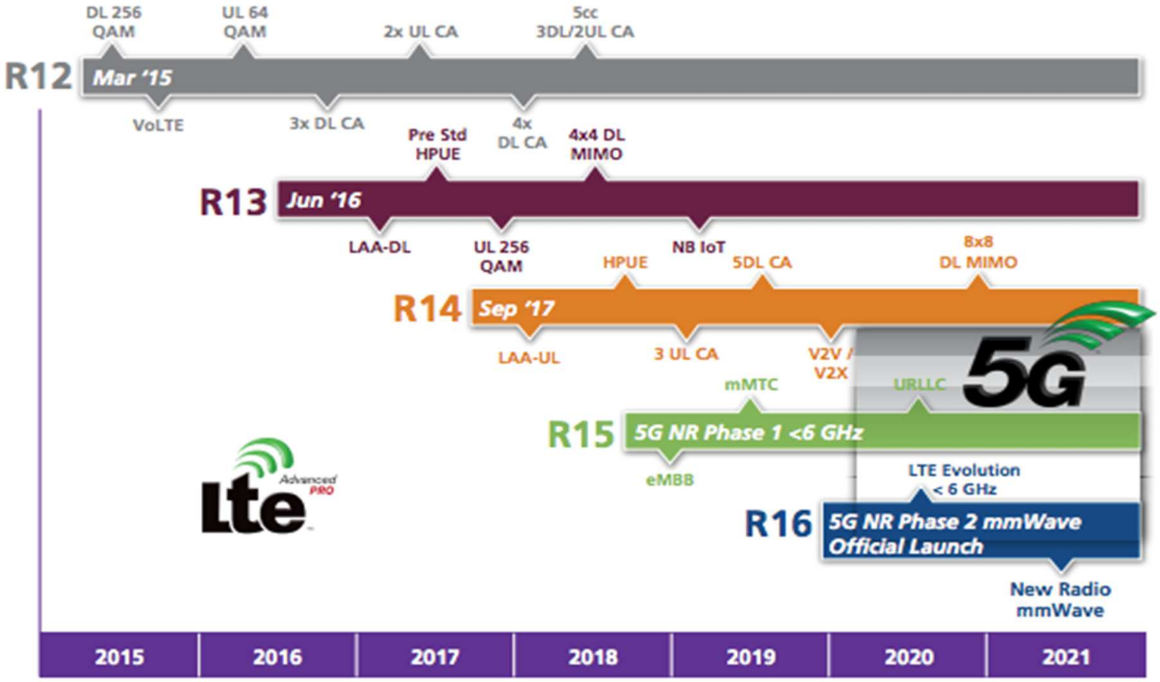


Figure 11. LTE Advanced Pro – UE Features Growing in Complexity

Chip-makers are another beneficiary of the 5G growth. **Skyworks (SWKS)** is perhaps best positioned in the space and the company themselves has said that 5G is a massive opportunity. The company is one of the largest manufacturers of TC-SAW filters which are a low-cost filter alternative to bulk wave filters and could be used at higher frequencies. Citi, in their November upgrade, noted that higher frequencies in 5G often require TTD modulations which will be a tailwind to their TC SAW filters as well, especially in China.

Other companies invested in 5G include **Intel (INTC)** with their 5G mobile trial platform and **Qualcomm (QCOM)** with their 9150 C-V2X chipsets. Other companies which will be beneficiaries of 5G include **CSCO, JNPR, RHT, TWLO, IBM, AVGO, IDTI, and XLNX.**

Tower companies will be notable beneficiaries as well as networks are upgraded and the US infrastructure gets a makeover. The advantage for tower stocks is that they are already seeing the financial benefit as carriers get outfront of the launch as they prepare networks. Companies in this space include **American Tower (AMT), SBA Communications (SBAC), Crown Castle (CCI), Dycom (DY),** and **Zayo Communications (ZAYO).**

Glass-maker **Corning (GLW)** is sneaky play on 5G through the wide-ranging infrastructure build-out which will occur. GLW develops low-loss fiber which has become integral to the new infrastructure being laid out globally. The company has a role in everything on the skeletal side of fiber from data centers to enabling the networks themselves. In April, VZ agreed to buy a minimum of $1B in optical solutions from the company as they expand their network and GLW has committed to providing them 20M kilometers of fiber annually.

Wearables

Wearables remain the most consumer facing aspect of IoT. The worldwide market grew another 7.3% in Q3 with total shipment volumes hitting 26.3M according to IDC. Overall, the market continues to show growth and IDC notes that more and more devices are shifting towards multi-faceted devices which can run third-party applications versus basic wearables which are more standalone devices. The evolution of this market is shifting share slowly towards higher-tech names which entered the space later like **Apple (AAPL), Xiaomi, and Samsung** and away from those like **Fitbit (FIT)** and the now defunct **Jawbone**.

AAPL's move into cellular connectivity with their latest Watch version also underscores how big tech is changing the landscape for these devices. FIT remains the top in terms of shipment volumes with 3.6M, tied with Xiaomi, and a 13.7% market share. This is slightly down from the prior quarter after they debuted their first smart watch, the Ionic. Reviews are positive but the company still posted its four-straight quarter of declines. Xiaomi is adding smart footwear and fitness bands to their catalog which is helping diversify. The AAPL Watch 3 helped boost volumes for the company late in the year and could see more adoption in 2018 as the company moves beyond early adopters and into more mainstream.

Top 5 Wearable Companies, Shipments, Market Share, and Year-Over-Year Growth, 3Q17 (shipment volumes in millions)

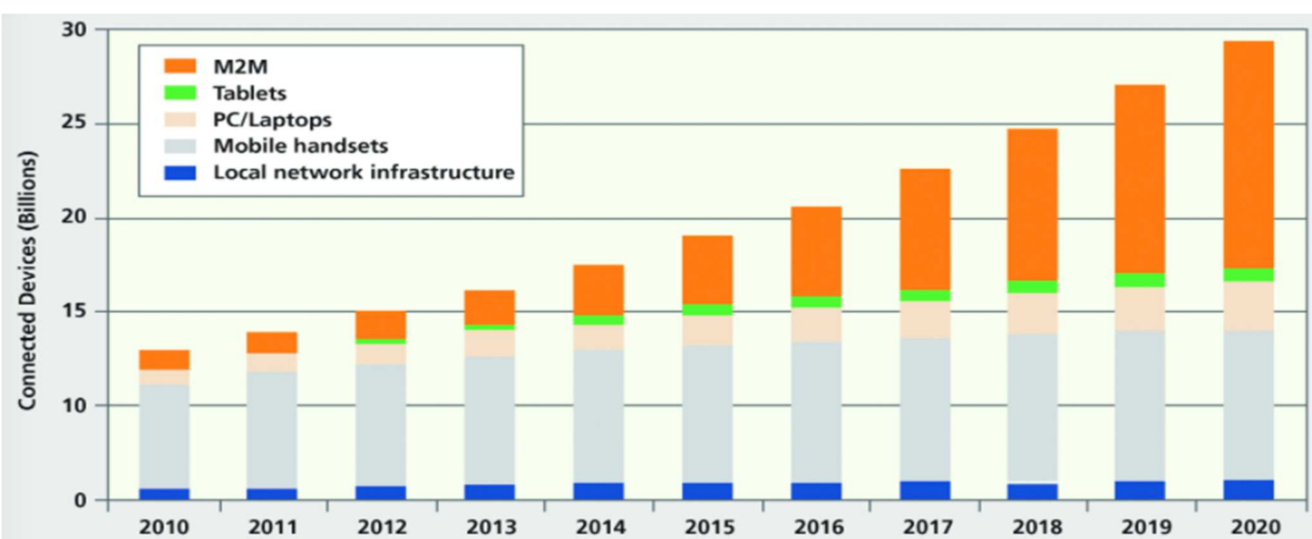
Vendor	3Q17 Shipment Volumes	3Q17 Market Share	3Q16 Shipment Volumes	3Q16 Market Share	Year Over Year Growth
1. Xiaomi*	3.6	13.7%	3.7	15.2%	-3.3%
1. Fitbit*	3.6	13.7%	5.4	21.9%	-33.0%
3. Apple	2.7	10.3%	1.8	7.3%	52.4%
4. Huawei	1.6	6.0%	0.6	2.5%	156.4%
5. Garmin	1.3	4.9%	1.3	5.4%	-3.3%
Others	13.5	51.4%	11.7	47.7%	15.7%
Total	**26.3**	**100.0%**	**24.5**	**100.0%**	**7.3%**

Source: IDC Worldwide Quarterly Wearable Device Tracker, November 30, 2017

These numbers are a big shift from last year around this time when FIT commanded 23% of the Q3 2016 market share and AAPL had just 4.9%. Xiaomi and Garmin have both ticked lower Y/Y as well while Huawei has been a big gainer.

Industrial IoT (IIoT) / Machine-to-Machine (M2M)

The Industrial Internet of Things (IIoT) may be the most significant advance in the space over the next 5-10 years which will go unnoticed by most people. It's the least consumer-facing but impacts a huge aspect of the economy. Accenture estimates that IIoT could add $14T to the global economy by 2030 as it drives productivity and growth. The firm thinks it could reinvent some sectors which account for more than half of the world's output. The number of devices in the space which are already enabled is over 10B according to the firm and they're helping increase worker safety, reduce operating costs, and make every day processes more efficient. And, we're seemingly at a tipping point for the space. In a 2017 survey with business leaders, 84% reported they were ready to create new income streams from IIoT while 7% said they had a comprehensive strategy for how to do it.



IIoT works across a number of spaces including sensors, RFID, robotics, condition monitoring, smart meters, and software. According to research firm Mind Research, the healthcare market will be the largest global revenue opportunity over the next five years. The global M2M market is also expected to grow exponentially through 2022 and by 2020 it'll be nearly half of the overall connected market.

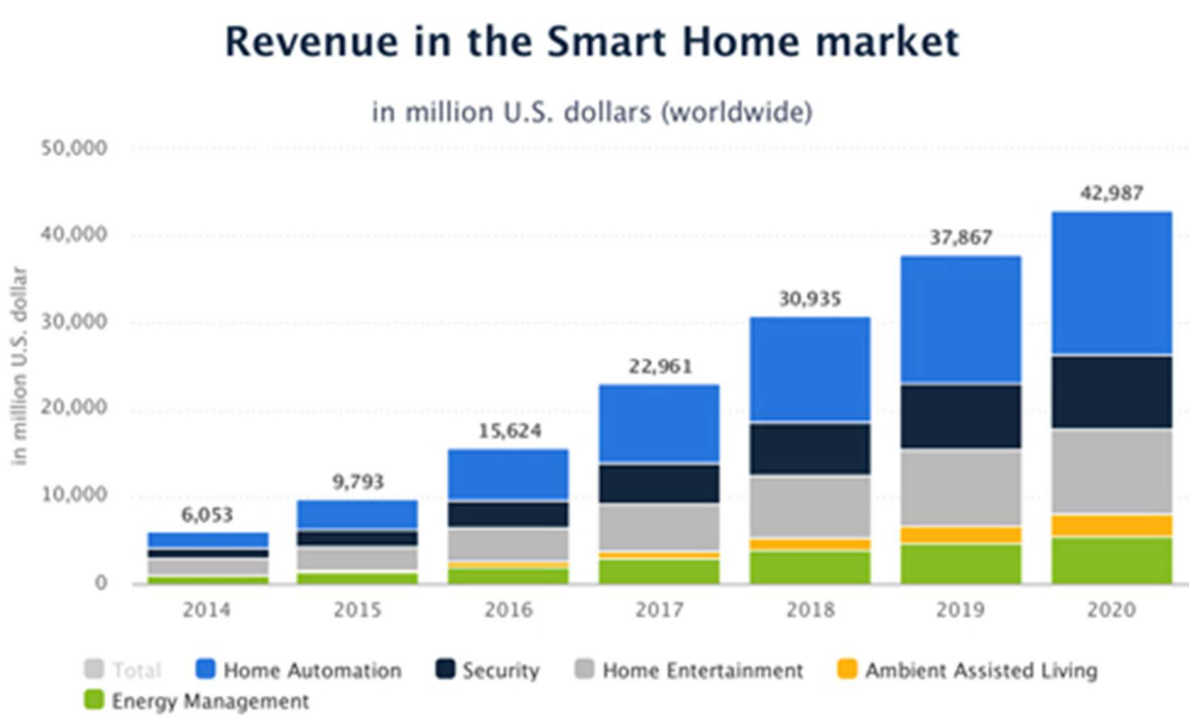
Cisco (CSCO) is building networks for automation and data analytics for manufacturing, energy, and transportation. They are moving more into IIoT as well with their $1.4B deal for Jasper. The company creates a platform for companies to launch and maintain IoT applications and gives them exposure to areas like agriculture, healthcare, and automotive as well as a range of Machine-to-Machine (M2M) companies.

General Electric (GE) has been a disaster in 2017 but they're making a lot of conscious moves in IIoT to position better for the future. The company has been developing a suite of applications to monitor real- time machine data and on-site efficiency. They also have reach into next generation power plants and real-time operations management. The company is using connected devices with advanced AI to detect corrosion inside of refinery pipes and management systems to better uncover capacity in a power plant.

Other companies already involved in the space include **ABB, Apple (AAPL), BAE Systems, Google (GOOG), HP Enterprise (HPE), Honeywell (HON), IBM, Philips (PHG), LG, Microsoft (MSFT), Nvidia (NVDA), Rethink Robotics, Rockwell Automation (ROK),** and **Samsung.**

Smart Homes

The ubiquity of IoT and better cloud/wireless capabilities has enabled the growth of home automation which lets consumers control nearly every aspect of their home with the push of a button. There's a lot of smart home products including hubs/controllers, security, entertainment, energy management, and assisted living. Revenue in the space is expected to be dominated by automation with entertainment and security the next largest markets. IHS Markit says that in 2010 less than 1% of homes in the US had a connected 'smart home' device like a thermostat or security system. In 2017, nearly 7% of households will have one and by 2025 that number will be 10%. The global market will be $14.7B by the end of the year with the Americas 48% of revenue although Europe a growing market. The top five players in the market account for 36% of revenue from **Nest (GOOG), Honeywell (HON), Amazon (AMZN), Xiaomi, and Netgear (NTGR).** The top markets for shipment growth in 2018 include radiator valves, air quality sensors, smart speakers and appliances.



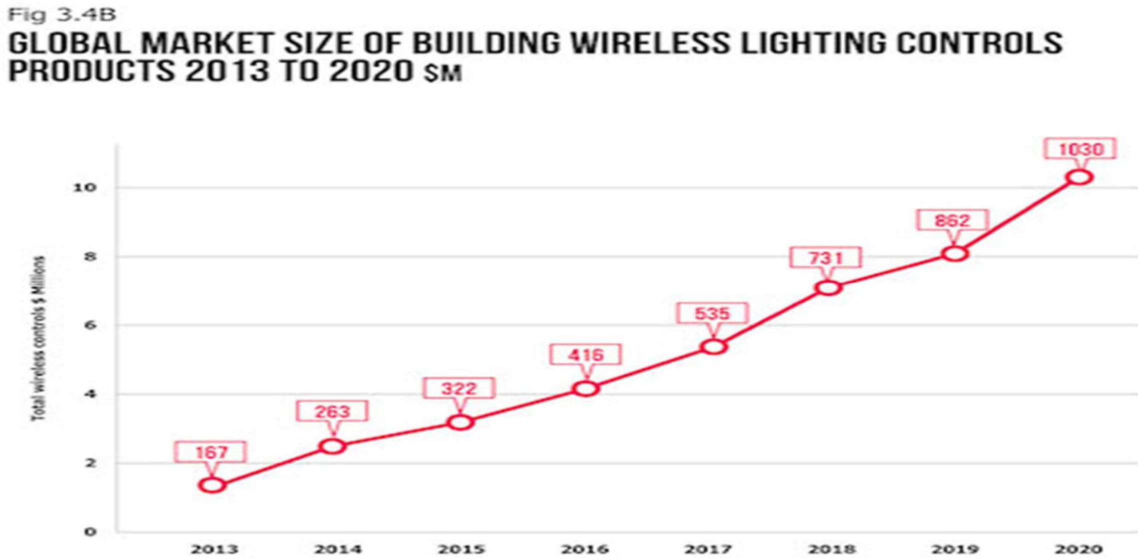
Amazon (AMZN) remains the top name in consumer IoT within the home with the growth of their AWS platform enabling more and more devices to be introduced. They have reach into both individual products like Dash and Echo and launched their AWS IoT platform in 2015. The company announced several new products this year including simplified onboarding, expanded security, and more edge-based machine learning. Their Alexa voice platform which utilizes the Echo speaker has grown exponentially in 2017 and passed 15,000 unique skills this Summer. This number dwarfs the skills used by peers like Google and Microsoft and AMZN now reportedly has 70% of the home-speaker market. Flash briefings from news organizations represent nearly 20% of all skills.

Google (GOOGL) and **Apple (AAPL)** are also investing heavily in the space while Lenovo and LG are also working on devices. AAPL's long-awaited Home Pod is expected to come out in 2018 powered by their Siri voice system. AAPL has delayed their product as they work out quality issues, seeking better hardware which will enable their software platform to grow better. If they allow third party applications, Home Pod could become a big entrant into the space.

Within smart security, **Netgear (NTGR)** is an interesting mover in the space. The company debuted its Arlo Pro outdoor camera system in 2017 which gives HD video and a ton of features to the user's smartphone. The device is 1080p video and supports AMZN's Alexa voice commands. Google's Nest debuted a new outdoor security camera last year as well, the Nest Cam, which uses wi-fi to send full-time video to the web and mobile apps. It provides alerts and audio. Google uses their vast cloud capacity to enable users to store day's worth of video online under a recurring subscription model. ADT is a name already synonymous with home security and they also have a smart home security product, ADT Pulse. Pulse is a much more expensive plan but offers 24/7 monitoring and a more attractive to consumers who are entering the space for the first time and don't want to do a DIY setup. The company was taken private by Apollo in 2016 but the PE firm plans to bring them back public in 2018, a name to watch.

Automation within homes includes anything from controlling thermostats and lighting to your HVAC system. **Ingersoll-Rand (IR)** offers a cloud-based system to control certain aspects of your home through their Nexia subsidiary. **Control-4 (CTRL)** is a small-cap play in the space but one with a lot of possibilities. The $763M company supplies scalable home automation operating systems which customers can build off of as they expand. CTRL offers a platform throughout your home which can control your thermostat, doors and windows, and entertainment system. They've been doing home systems for a lot longer than the competition, almost ten years, and could be a potential acquisition target with their scale already in place. **Honeywell (HON)** is another major player in the space with a lot of security, wi-fi programmable thermostats, and ventilation controls.

Silicon Labs (SLAB) is another interesting mid-cap play at $3.8B. The chip-maker offers 8-bit and 32-bit wireless signals used in IoT applications. Their wireless portfolio showed a lot of strength into year-end behind connected home, security, smart metering and the broad industrial market. They are big in the smart lighting market which has a lot of potential as well. IHS predicts the market for smart lighting and connected lighting controls, will more than double from $6 billion in 2015 to more than $12 billion in 2020. Their CEO said on the Q3 conference call, "[Lighting] is one of the most exciting opportunities within IoT. There is a lot of benefits for connecting lighting up to applications into the cloud to deliver additional functionality and features and everything from security, to adjusting colors, to automating timing schedules, to saving energy. And we're starting to see a lot of development in this area."

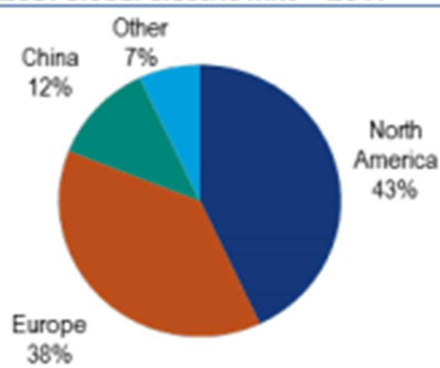


Smart homes are also not just convenient and safe but a boon to housing re-sale value. A recent survey by Pro Builder showed that 60% of homeowners would prefer to purchase a home with at least one automated feature. This could be another tailwind for the group with homebuilders like **Lennar (LEN)** and **Toll Brothers (TOL)** offering home automation in their new developments. The move to add more automated features will help differentiate their homes from others as supply increases on the market and housing becomes more competitive. Smart homes also appeal more to millennials who are entering the housing market for the first time. The same survey showed 40% of millennial shoppers prefer a house with the current automation.

Next Generation Automotive

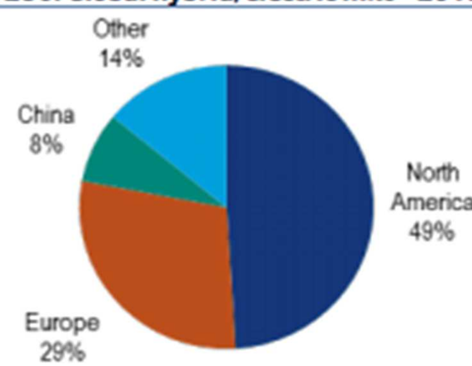
Automobiles are on the precipice of a major shift as the industry transitions from an ownership-model to a usage-based model as ride-sharing and autonomous tech force industry-wide changes to how cars are built. Advances in electronics are changing how cars are being built from the ground up with major advances in battery-life, sensor technology, and improvements to the supply chain. Next-gen cars will change the transportation industry making it safer, cleaner, and more reliable.

Chart 285: Global electric mkt – 2017



Source: Frost & Sullivan

Chart 286: Global hybrid/electric mkt - 2017



Source: Frost & Sullivan

The most prevalent changes in the industry surround safety and fuel-efficiency. According to IEA, road transportation is the third-highest source of CO_2 emissions from fuel with automobiles and light trucks producing 60% of emissions and the industry is under more pressure than ever before to cut consumption. Nearly every major manufacturer is developing electric vehicles with plans for mass-marketing within the next two years. **Mercedes Benz** will spend $1B to expand their EV production capabilities and declared the company will be 100% EV by 2030. **Volvo** announced in July that they expect all of their cars to be EV or hybrid within two years. **Ford Motor (F)** created Team Edison in October to speed up their development in the space. They are looking to form partnerships with suppliers and other companies to help advance knowledge in the area and make better, quicker decisions to keep pace. They set aside $4.5B for the next five years for the project. **General Motors (GM)** announced in September they'll have 20 EV car models by 2023.

And of course, **Tesla (TSLA)** remains the most iconic name for the movement. The company unveiled their economy model, the Model 3, which has raised expectations for the company to heightened levels. They initially set out ambitious goals for delivery of the vehicle but by year-end they had missed most expectations due to production struggles. MSCO expects the company to deliver 8,000 in Q1 2018 with the pace accelerating throughout the year to 46,000 by Q4. However, that would still put the company well behind CEO Elon Musk's 500,000 vehicle goal. Regardless of the issues, TSLA remains investors most hyped name in the changing landscape.

One of the biggest opportunities to improve fuel efficiency is in components like alternative drive-train technology and lightweight materials. Despite the push towards EV, Bloomberg estimates that non-plugin cars will still make up 60% of sales by 2040, so changes to traditional combustion engines remains important. BAML estimates that changes in engine components can reduce fuel consumption 15-30%, transmission can reduce it another 5-15%, and a 10% reduction in weight can reduce it 6-7%. Compare these figures to the change from a pure gasoline engine to a hybrid is 20-30% and you can see how important every change is to the vehicle. Companies which are set to benefit most from these change, especially as light-vehicle components become more integral, include **BorgWarner (BWA)** which has developed a fuel-efficient chain which reduces friction, **Dana (DAN),** which has exposure to several components including axles and motion, **Honeywell (HON), and Magna (MGA).**

An interesting name which is crossing between the automotive and tech worlds is **Delphi (DLPH) / Aptiv (APTV).** The company is developing more efficient components for cars, specifically engines, where they recently announced big advances. The company has partnered with Tula in California and successfully tested a brand new Dynamic Skip Fire system which uses the car's computer to continually analyze and shift focus to different cylinders. This reduces waste and resulted in an 8% boost in fuel efficiency and 15% reduction in CO_2 over a standard four-cylinder engine. They will formally debut the technology at CES 2018.

DLPH is also a unique company as they bridge the gap between changes in components and autonomous driving. Or, more specifically, **APTV** is that bridge as the company split its business late in the year. APTV will focus on the ADAS and connected services within a vehicle as autonomous driving becomes more prevalent. The company announced a partnership with **Intel (INTC)** earlier in 2017 when a consortium of INTC, Mobileye, and BMW brought the company on board to boost their self-driving ambitions. The two are developing advanced solutions for deep learning, advanced cockpit controls, and smarter sensor technology as they begin testing 40 pilot cars. The partnership should help INTC bridge a gap with peer **Nvidia (NVDA).** The IEEE estimates that by 2040 over 75% of cars on the road will have autonomous technology.

Other names within the tech/auto crossover which stand to benefit include **Johnson Controls (JCI), MGA, NXP Semi (NXPI), ST Micro (STM),** and **Sensata (ST).** The latter is a leader in LiDAR or Light Detection and Ranging which is a remote sensing method to survey the distance between two targets. ST is working with Quanergy to develop solid state scanning LiDAR sensors for long-range, Hi-Def solutions for autonomous systems. The two are developing low-cost, automotive-grade sensors which can perform real-time 3D mapping and object detection. **TE Connectivity (TEL)** is developing several sensors to build upon connectivity within vehicles, a space which is considered the next big leap for automotive. **Teledyne (TDY)** is an interesting play on the connected-car with their LeCroy Automotive Solutions business building testing solutions for development of ADAS, cybersecurity, infotainment, motor drive, and power train.

The rise in connected cars has also spurred big off-shoots including advances in automotive cybersecurity as more devices online raises the risks of hacking and safety issues. Cyber Security Ventures estimates that the automotive security market will be over $100B with more companies devoting spending to network security. Companies like **Cisco (CSCO), Harman (Samsung), Intel (INTC), NXP Semi (NXPI),** and **Qualcomm (QCOM)** are working on IoT security solutions. **Lear (LEA)** is an interesting name in this space with their collaboration with Honeywell. The company announced in September 2017 a partnership work on infrastructure solutions to address threats within the connected vehicle market. The two are using LEA's electrical systems and HON's intrusion detection technology which they already use in industrial applications to build a massive shield for cars.

<u>Other Themes for 2018</u>

- **Cloud Computing** – Cloud has been a key theme for the last two years and continues to permeate a lot of smaller tech themes as well including our look at connected devices. Gartner estimates that Worldwide Public Cloud Services revenue was $260B in 2017 and the total market will grow to $411.4B by 2020. Key areas include SaaS ($100B market by 2020), PaaS ($21B market), Iaas ($72.4B market), and cloud advertising ($151B market). Amazon (AMZN), Google (GOOG), and Microsoft (MSFT) continue to be the dominant names in the space and Alibaba (BABA) had global revenue last year at $675M, up 125%. Other key names to watch in the space include ADBE, ADSK, PTC, VMW, SHOP, ZEN, HUBS, NEWR, ALRM, CALD, FIVN, INTU, CRM, ORCL, CSOD, IBM.

- **Artificial Intelligence (AI)** – AI has continued to be an emerging theme in technology with cloud, big data, and connected devices all being used to expand our tech intelligence. Accenture reported that technologies powered by AI will increase productivity by 40% through 2035 with IT, communications, and financial services the three industries poised to benefit most. Adoption of AI will lead to an economic boost of $14T across 16 industries. Education is an emerging sector which will take advantage of AI in the coming years as well. Key names to watch in AI include MSFT, GOOGL, AMZN, NUAN, CRM, ORCL, IBM, NVDA, and INTC.

- **Boomers Aging** – We continue to sit at the tipping point in the US population which is impacting everything healthcare to housing. According to the US Census Bureau, the population of individuals over the age of 65 will grow to 83.7M over the next twenty years. Over the next 15 years, the percentage of the population over 65 will grow each year to almost 20%. Spending on healthcare will grow at an annualized rate of 5.8% over the next decade and grow at 1.3% faster than GDP. Names impacted include ANTM, UNH, MOH, CNC, DVA, PODD, ZBH, DHR, XRAY, BKD, CSU, SNH, and HCN.

- **Millennials Grow Up** – Millennials continue to be a driving force in the economy as they enter the workforce, drive family building, and hit peak spending years. According to BAML, the group is already a driving force in several facets of the economy including more than half the workforce and annual income of $21T today. Millennials are driving technological adoption, social growth, and major shifts in retailing from apparel to food. Key names to watch include FB, PCLN, STZ, SBUX, GRUB, AMZN, LULU, NKE, AEO, NFLX, DISH, LYV, MTCH, IAC, SNAP, TWTR, and AAPL.

- **Metals** – The rally in commodities has been strong behind solid economic growth and demand drivers from China which will remain the biggest influencer on markets next year. Beijing is cracking down on pollution and reducing excess capacity which should help pricing for spaces like aluminum and steel. And a shift towards more efficient mills will be a positive for the iron ore producers like BHP, VALE, and RIO. Battery metals like cobalt and lithium will remain in very high demand with the growth in electric vehicles which will continue to be a tailwind for SQM, ALB, and FMC. In January, the US Commerce Dept. should rule on Sec. 232 anti-dumping sanctions against China which will be an early catalyst for the group. Key names include NUE, STLD, X, AKS, CMC, and MT.

Investment Theme Portfolio of 20 Stocks

Ticker	Company	Market Cap ($M)	Price	EV / EBITDA	Forward P/E	Price / Book	Price / Sales	Sales 3-Year Avg (%)
AMZN	Amazon.com	$565,200	$1,176.99	39.4	-	23.0	3.6	23.6%
APTV	Aptiv	$27,148	$84.91	12.2	16.5	7.1	1.3	0.4%
BAC	Bank of America	$315,111	$29.74	-	13.5	1.2	3.7	0.0%
CCI	Crown Castle Intl	$44,635	$108.83	26.7	90.7	3.5	9.7	5.6%
CTRL	Control4	$760	$30.60	33.5	24.7	4.8	3.4	17.7%
FMC	FMC	$12,823	$95.60	26.1	18.0	6.1	3.9	-6.6%
GLW	Corning	$29,393	$32.39	6.6	17.8	1.9	3.4	2.4%
HD	Home Depot	$223,021	$190.04	14.7	22.9	87.1	2.3	6.7%
INTC	Intel	$217,976	$46.10	8.2	14.1	3.0	3.6	4.1%
JPM	JPMorgan Chase	$378,199	$106.88	-	13.8	1.6	3.9	1.4%
NTGR	Netgear	$1,803	$57.25	11.7	19.5	2.3	1.4	-0.5%
NVDA	NVIDIA	$118,156	$196.94	37.0	41.7	18.8	14.2	25.2%
NVS	Novartis	$195,071	$83.21	16.8	15.8	2.8	4.0	-4.7%
PYPL	PayPal Holdings	$89,146	$74.17	33.9	32.8	5.8	7.3	-
RF	Regions Financial	$20,810	$17.33	-	15.1	1.3	3.8	2.3%
SLAB	Silicon Laboratories	$3,770	$88.60	27.6	25.0	4.0	5.1	7.4%
STLD	Steel Dynamics	$10,466	$43.74	9.8	14.4	3.3	1.2	4.0%
TAL	TAL Education	$14,529	$29.42	71.7	54.5	16.8	12.5	50.4%
TOL	Toll Brothers	$7,483	$47.58	15.5	12.0	1.6	1.4	14.1%
ZAYO	Zayo Group Holdings	$8,930	$36.21	14.0	61.4	6.1	3.8	25.7%

101 M&A Candidates for 2018

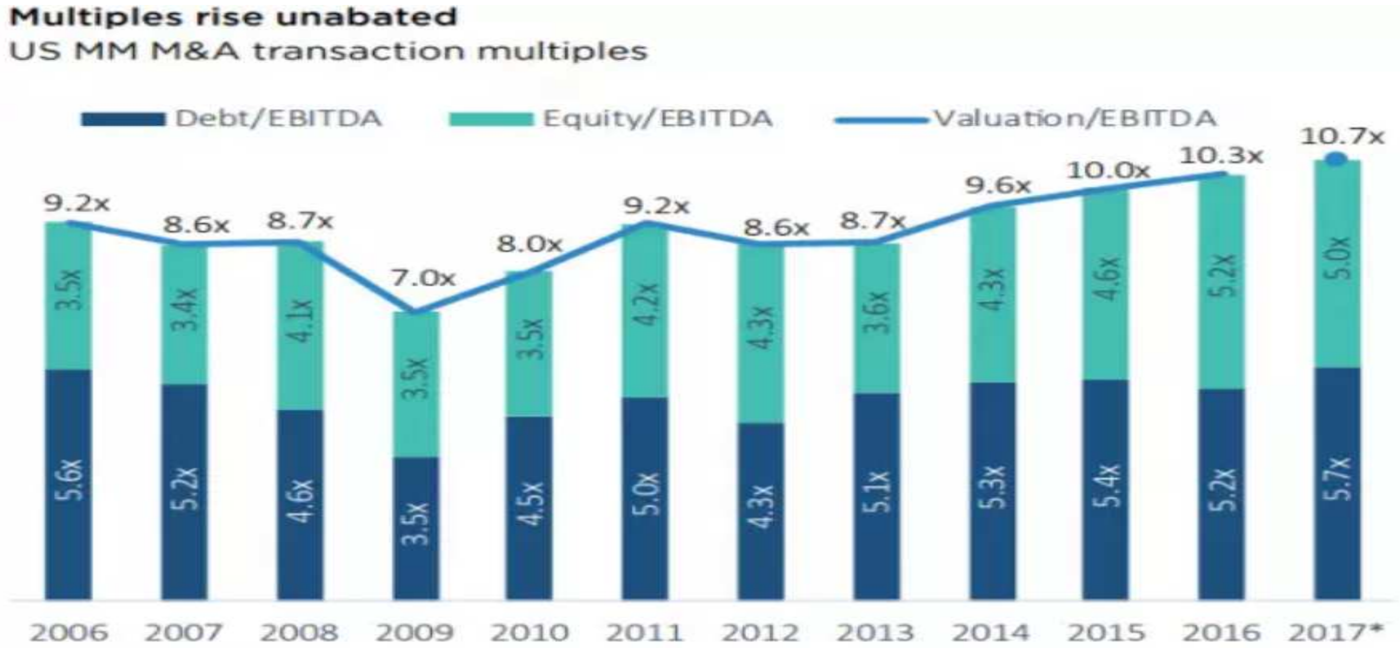
AAP,ADSW,AIMT,AJRD,ALNY,AMBA,AMCX,APPF,BEAT,BECN,BLMN,BLUE,BMRN,BMS,BRKS,CAKE,CALD,CARB,CBS,CDK,CENT,CHTR,COT,CPS,CSOD,CVLT,DAR,DCI,DECK,DF,EGHT,EGN,EPAM,ESPR,ETFC,ETSY,EXEL,FANG,FDS,FEYE,FGEN,FOLD,GBT,GMED,GPK,GRA,HAIN,HDP,HUN,IDXX,INSM,IPG,JBLU,JJSF,JNPR,JUNO,LOXO,MANT,MDSO,MEOH,MLNX,MOD,MPWR,MRCY,MSCC,MSCI,MTCH,MZOR,NEWR,NFX,NKTR,NTNX,NVCR,OLN,PBYI,PSTG,PZZA,QDEL,RH,RNG,RPD,RPM,RSPP,SAM,SFLY,SFM,SIGI,SODA,SPR,SSNC,STAY,TDC,TLND,TRIP,TWOU,UFS,USCR,WDFC,WEN,ZBRA,ZEN

USD, except price (in millions)	Current Market Cap	1Year Return	FY2 P/E	FY1 EV/EBITDA	FY1 EBITDA Margin	FY1 Normalized EPS YoY	FY2 Normalized EPS YoY	FY1 Total Revenue YoY	FY2 Total Revenue YoY	FY1 Levered FCF Margin	FY0 Return on Equity (ROE)	FY0 Return on Invested Capital	FY1 Net Debt/EBITDA
CHTR (Charter	84,080	16.21%	62.8x	10.5x	36.6%	(87.5%)	138.4%	43.4%	5.1%	8.3%	5.2%	1.5%	4.3x
CBS (Cbs Corp)	24,079	-6.71%	12.1x	10.9x	22.8%	13.6%	13.7%	2.7%	4.2%	9.6%	36.6%	14.2%	3.1x
BMRN (Biomarin	15,887	8.28%	–	--	(2.2%)	(55.5%)	(64.2%)	16.9%	14.0%	0.0%	(25.5%)	(23.1%)	3.1x
IDXX (Idexx Laboratories, Inc.)	13,658	30.60%	44.0x	28.8x	25.6%	32.5%	9.9%	10.1%	10.4%	13.4%	(223.0%)	82.1%	1.5x
ETFC (E Trade Financial Corp)	13,322	42.44%	18.6x	11.3x	51.7%	10.1%	17.6%	16.3%	10.1%	36.5%	8.5%	12.5%	0.1x
FANG (Diamondback Energy,	12,205	21.06%	19.5x	15.7x	77.6%	--	24.8%	120.3%	44.0%	20.2%	6.0%	6.2%	1.4x
ALNY (Alnylam	11,993	188.89%	–	--	(609.0%)	10.8%	3.3%	66.8%	77.9%	0.0%	(37.7%)	(42.0%)	1.8x
MSCI (Msci Inc.)	11,521	58.84%	28.3x	19.4x	51.9%	41.6%	18.2%	10.4%	10.3%	24.3%	45.4%	10.9%	1.9x
JNPR (Juniper Networks Inc)	10,907	1.39%	13.4x	7.2x	27.0%	36.7%	1.9%	0.6%	0.3%	20.6%	16.7%	12.8%	--
SPR (Spirit Aerosystems	9,987	47.06%	15.9x	11.9x	12.5%	38.6%	4.4%	2.0%	2.7%	7.1%	28.2%	24.3%	0.4x
CDK (Cdk Global, Inc.)	9,828	18.15%	19.6x	13.7x	35.7%	1.0%	22.6%	3.6%	4.4%	0.0%	237.9%	19.0%	1.7x
NKTR (Nektar Therapeutics)	8,960	352.13%	–	--	(29.7%)	(32.4%)	24.9%	52.6%	(12.0%)	0.0%	(356.5%)	(70.9%)	1.4x
MTCH (Match Group, Inc.)	8,656	78.94%	28.7x	21.0x	35.4%	25.5%	38.3%	7.4%	17.4%	22.9%	52.1%	14.8%	2.4x
SSNC (Ss&C Technologies	8,434	39.88%	18.3x	15.4x	40.9%	192.2%	14.8%	13.1%	5.8%	26.3%	15.3%	6.2%	3.1x
EXEL (Exelixis, Inc.)	8,290	69.02%	38.4x	47.2x	37.1%	(323.8%)	47.3%	136.7%	31.6%	28.1%	1,083.4%	(61.9%)	--
BLUE (Bluebird Bio, Inc.)	8,229	187.28%	–	--	(704.3%)	(3.5%)	(6.0%)	532.1%	(23.4%)	0.0%	(33.5%)	(39.4%)	3.6x
HUN (Huntsman Corp)	7,978	67.04%	13.4x	7.8x	15.0%	93.6%	(8.5%)	(3.5%)	(8.8%)	5.8%	27.2%	5.3%	1.7x
IPG (Interpublic Group Of	7,924	-13.53%	13.1x	7.8x	15.7%	(10.3%)	11.2%	(0.1%)	3.4%	4.8%	26.9%	13.0%	1.1x
FDS (Factset Research Systems	7,513	17.95%	21.0x	17.0x	34.1%	26.3%	9.4%	10.5%	6.3%	26.2%	53.0%	26.4%	0.7x
AAP (Advance Auto Parts Inc)	7,430	-40.99%	17.1x	8.9x	9.7%	(16.0%)	13.1%	(2.3%)	1.9%	3.3%	19.6%	13.8%	0.8x
JBLU (Jetblue Airways Corp)	7,195	1.13%	11.9x	5.2x	21.0%	(20.0%)	6.3%	5.2%	9.4%	2.1%	20.7%	15.5%	0.3x
NTNX (Nutanix, Inc.)	7,122	20.35%	–	--	(3.3%)	(79.9%)	(74.1%)	47.2%	17.9%	(2.0%)	(286.5%)	3,284.9%	9.8x
RPM (Rpm International Inc.)	6,980	-2.72%	16.6x	12.0x	14.1%	5.9%	9.8%	5.7%	4.0%	5.3%	23.5%	5.8%	2.6x
DCI (Donaldson Co Inc)	6,380	14.34%	22.1x	14.5x	17.4%	14.7%	11.4%	12.0%	6.1%	8.7%	27.3%	12.5%	0.7x

USD, except price (in millions)	Current Market Cap	1Year Return	FY2 P/E	FY1 EV/EBITDA	FY1 EBITDA Margin	FY1 Normalized EPS YoY	FY2 Normalized EPS YoY	FY1 Total Revenue YoY	FY2 Total Revenue YoY	FY1 Levered FCF Margin	FY0 Return on Equity (ROE)	FY0 Return on Invested Capital	FY1 Net Debt/EBITDA
RSPP (Rsp Permian, Inc.)	6,371	-11.36%	26.6x	13.6x	72.4%	(603.7%)	86.6%	123.7%	44.1%	(22.6%)	(0.4%)	(0.3%)	2.5x
NFX (Newfield Exploration	6,280	-25.98%	11.7x	8.5x	55.5%	(174.8%)	27.4%	19.5%	23.0%	(12.8%)	20.1%	7.0%	2.1x
MSCC (Microsemi Corp)	6,135	-6.61%	11.3x	11.8x	34.7%	138.1%	7.3%	5.2%	5.7%	22.7%	24.1%	12.2%	2.5x
EPAM (Epam Systems, Inc.)	5,721	74.40%	26.1x	20.1x	18.0%	83.5%	22.0%	24.6%	21.9%	9.4%	21.3%	33.2%	--
OLN (Olin Corp)	5,638	31.28%	14.6x	9.6x	15.4%	59.3%	138.4%	11.4%	6.4%	5.5%	(0.1%)	(2.3%)	3.7x
EGN (Energen Corp)	5,613	-2.55%	30.1x	10.5x	62.0%	(126.0%)	277.8%	83.1%	33.7%	(54.6%)	(4.5%)	(4.0%)	1.3x
ZBRA (Zebra Technologies	5,528	20.46%	13.3x	11.7x	18.4%	--	13.8%	2.8%	3.2%	6.8%	35.2%	8.5%	3.5x
MEOH (Methanex Corp)	5,343	34.01%	15.4x	8.1x	27.4%	--	(8.8%)	53.2%	(6.9%)	18.8%	(0.9%)	(3.8%)	1.4x
JUNO (Juno Therapeutics, Inc.)	4,995	135.59%	--	--	(373.8%)	57.3%	9.1%	27.4%	(33.8%)	(252.9%)	(24.7%)	(29.8%)	2.7x
GRA (W R Grace & Co)	4,821	6.11%	19.3x	11.8x	30.7%	81.6%	8.5%	7.0%	4.6%	13.5%	73.5%	10.8%	2.6x
TRIP (Tripadvisor, Inc.)	4,801	-25.48%	32.3x	13.4x	20.8%	35.2%	(3.7%)	4.4%	3.6%	13.8%	13.8%	19.6%	--
GPK (Graphic Packaging	4,782	22.35%	18.3x	9.8x	16.2%	(17.2%)	28.7%	2.9%	3.1%	7.3%	21.2%	5.2%	3.2x
MPWR (Monolithic Power	4,721	33.80%	31.3x	33.3x	28.4%	132.0%	25.1%	20.3%	17.7%	6.8%	23.5%	19.9%	--
TDC (Teradata Corporation)	4,715	38.69%	27.8x	11.9x	17.3%	(0.7%)	9.1%	(7.8%)	0.9%	11.0%	36.7%	65.8%	--
HAIN (Hain Celestial Group Inc)	4,327	3.88%	21.9x	14.3x	11.6%	34.1%	14.7%	4.7%	3.6%	5.3%	7.5%	5.4%	1.8x
BMS (Bemis Co Inc)	4,265	-3.07%	17.6x	10.5x	13.7%	(11.9%)	12.6%	0.4%	1.5%	5.5%	20.2%	5.3%	2.7x
BECN (Beacon Roofing Supply	4,165	28.59%	16.1x	8.2x	8.7%	87.4%	24.0%	53.5%	13.7%	2.8%	9.5%	6.1%	1.1x
WEN (Wendy'S Co)	3,960	17.29%	29.9x	16.0x	33.0%	17.0%	24.3%	(14.5%)	3.4%	11.1%	15.4%	1.2%	6.3x
MDSO (Medidata Solutions, Inc.)	3,861	27.17%	45.1x	27.2x	24.1%	151.3%	15.0%	17.6%	17.6%	0.0%	18.5%	12.0%	--
GMED (Globus Medical Inc)	3,775	63.24%	28.6x	15.3x	35.4%	13.5%	8.2%	10.9%	8.6%	17.0%	14.8%	16.9%	--
PSTG (Pure Storage, Inc.)	3,717	39.46%	230.7x	209.1x	1.5%	(83.9%)	(137.4%)	39.6%	31.4%	(3.8%)	(19.6%)	(80.7%)	--
RNG (Ringcentral Inc)	3,709	127.25%	171.3x	109.6x	6.5%	(147.8%)	45.8%	31.2%	23.9%	2.3%	5.6%	(56.5%)	--
PBYI (Puma Biotechnology, Inc.)	3,682	170.76%	--	--	(1,009.0%)	(2.1%)	(49.6%)	--	679.4%	0.0%	(146.8%)	(321.7%)	0.4x
STAY (Extended Stay America,	3,562	12.97%	18.0x	10.5x	48.2%	91.1%	7.4%	0.7%	1.0%	36.8%	23.1%	4.0%	3.9x

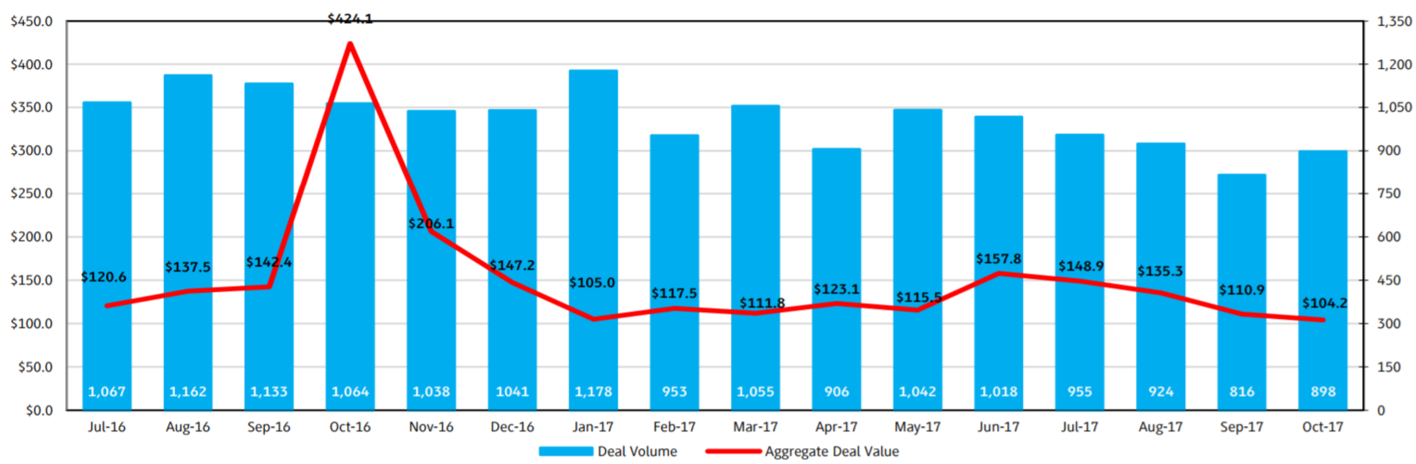
USD, except price (in millions)	Current Market Cap	1Year Return	FY2 P/E	FY1 EV/EBITDA	FY1 EBITDA Margin	FY1 Normalized EPS YoY	FY2 Normalized EPS YoY	FY1 Total Revenue YoY	FY2 Total Revenue YoY	FY1 Levered FCF Margin	FY0 Return on Equity (ROE)	FY0 Return on Invested Capital	FY1 Net Debt/EBITDA
AMCX (Amc Networks Inc.)	3,493	9.58%	8.1x	7.0x	31.9%	33.1%	(0.5%)	2.2%	3.3%	11.4%	(1,123.0%)	16.6%	2.9x
FGEN (Fibrogen Inc)	3,485	100.47%	–	--	(72.4%)	72.7%	(38.5%)	(26.0%)	87.7%	0.0%	(37.4%)	(54.1%)	6.4x
ZEN (Zendesk, Inc.)	3,418	61.18%	–	230.8x	3.1%	(85.5%)	(81.5%)	36.8%	29.7%	3.3%	(7.2%)	(15.0%)	--
SIGI (Selective Insurance Group	3,378	32.84%	17.0x	--	0.0%	8.8%	11.7%	2.9%	5.1%	0.0%	10.9%	6.6%	--
TWOU (2U, Inc.)	3,369	104.78%	–	302.2x	3.7%	(77.7%)	30.3%	38.5%	38.5%	(17.1%)	(2.4%)	(24.5%)	--
SFM (Sprouts Farmers Market,	3,297	20.23%	22.0x	11.8x	6.9%	19.7%	13.3%	14.9%	12.6%	1.7%	15.6%	11.5%	1.5x
MLNX (Mellanox Technologies,	3,262	57.37%	22.4x	14.1x	25.6%	465.4%	35.4%	0.5%	12.7%	10.8%	18.3%	19.1%	--
NEWR (New Relic, Inc.)	3,188	104.83%	259.6x	317.5x	2.7%	(81.7%)	(203.2%)	32.4%	26.3%	2.3%	(13.7%)	(23.1%)	--
UFS (Domtar Corp)	3,078	22.34%	15.0x	6.9x	11.5%	(3.4%)	18.0%	0.9%	2.8%	5.9%	6.7%	2.0%	1.7x
JJSF (J&J Snack Foods Corp)	2,853	16.85%	30.0x	15.3x	15.0%	12.7%	7.5%	5.0%	3.8%	172.9%	11.9%	8.6%	--
DAR (Darling Ingredients Inc.)	2,794	22.83%	24.0x	10.4x	12.1%	(53.3%)	143.4%	6.3%	2.7%	3.0%	5.3%	2.8%	3.8x
FEYE (Fireeye, Inc.)	2,667	8.01%	–	31.5x	10.9%	(93.7%)	(88.1%)	4.0%	7.6%	(5.3%)	(18.3%)	(12.8%)	--
ETSY (Etsy Inc)	2,648	71.74%	76.1x	32.3x	16.6%	(255.0%)	(29.0%)	19.8%	18.7%	0.6%	(8.9%)	(24.3%)	--
LOXO (Loxo Oncology, Inc.)	2,605	157.32%	–	--	--	70.1%	(29.8%)	--	--	--	(52.7%)	(80.6%)	2.9x
DECK (Deckers Outdoor Corp)	2,533	50.71%	16.0x	10.1x	13.4%	416.0%	15.3%	1.4%	1.8%	7.1%	12.7%	16.9%	--
MRCY (Mercury Systems Inc)	2,512	70.09%	34.5x	23.0x	23.1%	107.1%	11.6%	14.9%	11.2%	9.8%	8.9%	8.4%	--
CVLT (Commvault Systems Inc)	2,459	-1.21%	40.2x	21.1x	13.2%	--	19.8%	8.7%	9.8%	14.3%	11.0%	41.7%	--
AJRD (Aerojet Rocketdyne	2,379	78.68%	31.8x	11.6x	11.8%	44.0%	15.1%	7.7%	3.4%	4.3%	(32.3%)	6.1%	1.0x
INSM (Insmed Inc)	2,319	136.56%	–	--	--	(5.3%)	(10.2%)	--	--	--	(75.8%)	(351.2%)	2.8x
COT (Cott Corporation)	2,310	49.77%	51.0x	10.5x	14.3%	(102.3%)	--	(22.6%)	(7.4%)	5.3%	4.4%	0.1%	4.0x
CAKE (Cheesecake Factory Inc)	2,264	-19.41%	18.7x	8.9x	11.3%	(8.1%)	1.7%	(0.4%)	4.0%	0.4%	22.7%	16.9%	0.0x
SAM (Boston Beer Co Inc)	2,245	14.07%	29.1x	12.9x	19.5%	(6.9%)	4.0%	(4.8%)	1.4%	10.7%	18.5%	23.2%	--
CPS (Cooper-Standard Holdings	2,146	16.60%	10.5x	5.7x	12.5%	15.4%	7.2%	3.5%	2.1%	0.3%	29.3%	19.2%	0.9x

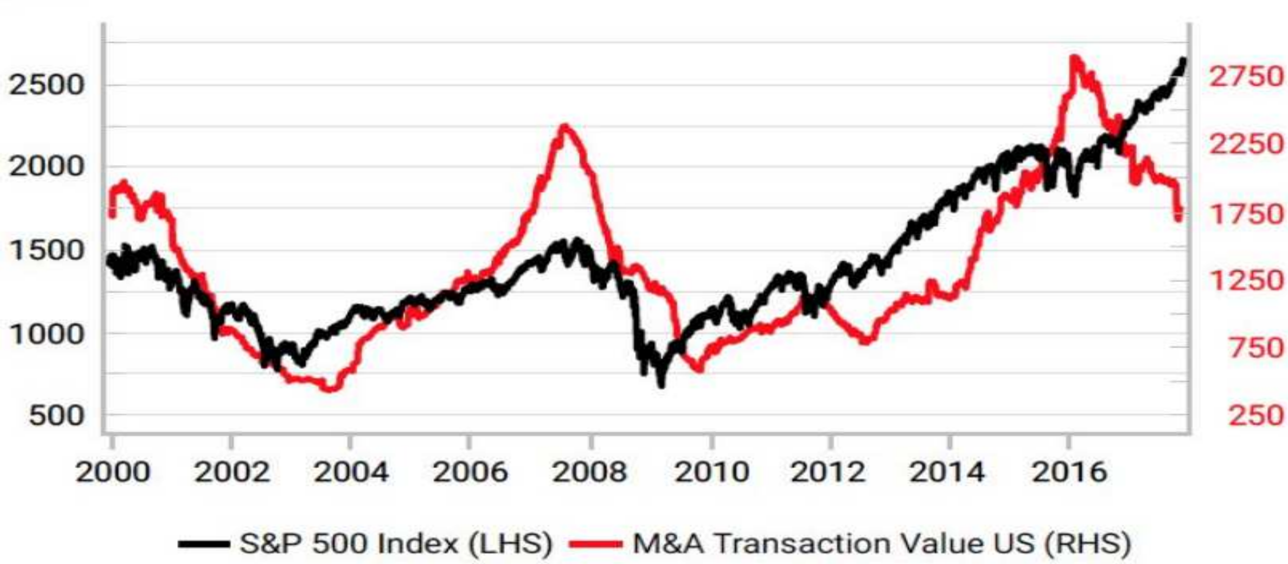
USD, except price (in millions)	Current Market Cap	1Year Return	FY2 P/E	FY1 EV/EBITDA	FY1 EBITDA Margin	FY1 Normalized EPS YoY	FY2 Normalized EPS YoY	FY1 Total Revenue YoY	FY2 Total Revenue YoY	FY1 Levered FCF Margin	FY0 Return on Equity (ROE)	FY0 Return on Invested Capital	FY1 Net Debt/EBITDA
FOLD (Amicus Therapeutics Inc)	2,137	167.71%	–	–	(796.0%)	15.4%	(31.4%)	633.6%	144.3%	0.0%	(60.1%)	(70.1%)	0.9x
CSOD (Cornerstone Ondemand	2,035	-15.66%	43.4x	31.2x	13.1%	(135.1%)	91.9%	14.2%	4.4%	1.6%	35.7%	4.0%	–
ADSW (Advanced Disposal	2,034	17.72%	41.5x	9.6x	27.9%	150.2%	11.5%	6.6%	4.8%	7.8%	2.3%	0.5%	4.7x
PZZA (Papa Johns International	1,994	-34.87%	20.1x	11.9x	11.1%	7.1%	4.1%	4.2%	2.3%	4.6%	740.3%	24.1%	1.8x
RH (Rh)	1,980	203.46%	18.4x	13.7x	9.7%	843.5%	72.4%	14.6%	6.2%	12.9%	5.7%	3.6%	5.3x
MANT (Mantech International	1,977	20.03%	29.5x	14.1x	7.5%	6.1%	10.0%	7.2%	10.3%	7.7%	4.7%	2.1%	–
CENT (Central Garden & Pet	1,975	17.53%	20.2x	11.1x	10.0%	9.9%	13.5%	2.0%	2.3%	5.2%	13.1%	8.4%	1.7x
CALD (Callidus Software Inc)	1,975	79.01%	56.4x	50.9x	14.2%	(204.3%)	49.4%	20.5%	20.1%	5.3%	9.8%	25.4%	–
BLMN (Bloomin' Brands, Inc.)	1,975	15.46%	15.5x	7.6x	9.8%	139.2%	2.1%	(1.7%)	(0.8%)	3.0%	45.4%	6.7%	2.7x
AMBA (Ambarella Inc)	1,937	7.54%	36.8x	18.4x	28.0%	17.7%	(20.2%)	(4.9%)	2.7%	22.5%	24.2%	91.4%	–
AIMT (Aimmune Therapeutics,	1,906	78.14%	–	–	–	32.4%	19.7%	–	–	–	(38.6%)	(65.1%)	1.7x
NVCR (Novocure Ltd)	1,805	142.73%	–	–	(21.4%)	(56.2%)	(99.2%)	113.2%	55.4%	(6,170.3%)	(68.2%)	(91.3%)	2.4x
GBT (Global Blood	1,723	131.17%	–	–	–	2.2%	17.8%	–	–	–	(55.6%)	(210.0%)	2.3x
BRKS (Brooks Automation Inc)	1,722	45.68%	15.0x	10.7x	19.8%	44.6%	21.5%	10.4%	7.8%	11.2%	14.8%	11.9%	–
WDFC (Wd 40 Co)	1,658	6.03%	28.7x	20.1x	21.2%	3.2%	7.5%	4.6%	3.9%	9.0%	37.2%	10.9%	0.4x
SFLY (Shutterfly Inc)	1,544	-7.68%	34.0x	8.4x	19.2%	(7.7%)	231.4%	1.6%	5.3%	13.4%	2.6%	2.2%	1.4x
APPF (Appfolio Inc)	1,535	85.02%	79.1x	55.4x	19.0%	(267.4%)	30.3%	34.3%	26.5%	0.0%	(5.7%)	(6.8%)	–
QDEL (Quidel Corporation)	1,525	116.05%	32.5x	23.9x	22.7%	(112.6%)	–	44.9%	77.8%	17.5%	(6.6%)	(7.8%)	–
ESPR (Esperion Therapeutics,	1,504	354.35%	–	–	(1,270.9%)	121.2%	(23.5%)	–	130.4%	0.0%	(29.1%)	(36.9%)	1.1x
SODA (Sodastream International	1,469	77.43%	20.8x	13.2x	18.8%	33.2%	10.7%	12.9%	10.1%	11.2%	12.3%	12.6%	–
HDP (Hortonworks, Inc.)	1,443	128.08%	–	–	(9.1%)	(67.9%)	(36.6%)	39.5%	26.6%	(15.0%)	(399.5%)	3,241.1%	2.7x
USCR (Us Concrete Inc)	1,344	20.88%	16.1x	8.9x	14.8%	238.1%	45.9%	15.6%	15.1%	6.2%	27.8%	9.4%	2.2x
EGHT (8X8, Inc.)	1,310	0.35%	163.8x	68.3x	5.7%	(223.6%)	33.8%	15.6%	18.4%	6.9%	7.5%	8.6%	–
MZOR (Mazor Robotics Ltd.)	1,182	158.48%	–	–	(27.1%)	(18.6%)	(66.5%)	68.0%	14.6%	0.0%	(37.3%)	(50.8%)	5.6x
TLND (Talend Sa)	1,168	64.98%	–	–	(12.6%)	(52.5%)	(37.1%)	40.2%	30.3%	0.0%	137.6%	38.8%	5.1x
DF (Dean Foods Co)	1,084	-45.21%	14.0x	5.7x	4.5%	(41.6%)	5.9%	1.3%	(3.9%)	2.7%	24.6%	7.8%	2.6x
MOD (Modine Manufacturing	1,040	36.75%	12.3x	7.5x	9.8%	242.7%	14.9%	35.1%	6.3%	99.2%	9.9%	6.2%	2.3x
BEAT (Biotelemetry, Inc.)	971	43.30%	25.3x	18.3x	22.3%	(56.4%)	41.5%	36.0%	34.8%	13.1%	22.4%	21.7%	2.9x
RPD (Rapid7, Inc.)	839	54.20%	–	–	(10.7%)	(49.3%)	(24.6%)	25.7%	18.3%	2.4%	(54.9%)	204.2%	4.0x
CARB (Carbonite Inc)	671	55.34%	23.9x	14.6x	18.3%	(695.1%)	29.0%	19.5%	8.0%	152.6%	475.9%	(28.3%)	–
Mean	5,398	51.88%	34.8x	29.5x	(32.8%)	1.4%	11.9%	31.5%	21.8%	(55.7%)	6.5%	58.1%	2.5x



2017 M&A Review

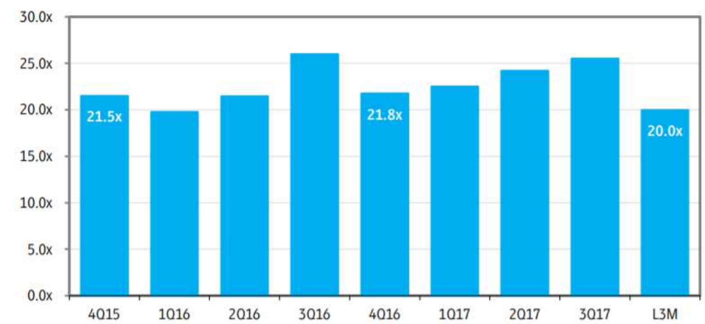
The US Mergers & Acquisitions Market Index



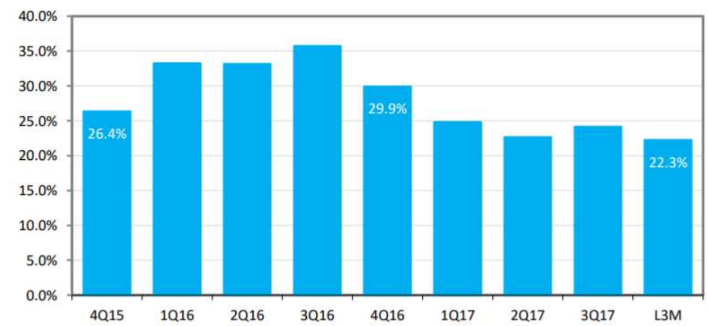


M&A at a Glance

MEDIAN P/E



MEDIAN PREMIUM



Pending/Rejected Deals into 2018 include:

- **Broadcom (AVGO)** has offered to acquire **Qualcomm (QCOM)**
- **CVS Health (CVS)** has offered to acquire **Aetna (AET)** for $77B
- **Campbell Soup (CPB)** has offered to acquire **Snyder Lance (LNCE)** for $6.2B
- **Emerson (EMR)** has offered to acquire **Rockwell Automation (ROK) –** Rejected Multiple Times and Appears Dead
- **Disney (DIS)** has offered to acquire assets from **21st Century Fox (FOXA)** in a $66.1B deal
- **AT&T (T)** continues to wait for regulatory approval for its $108.7B deal for **Time Warner (TWX)**
- **Bayer** continues to wait for regulatory approval for its $63.5B deal for **Monsanto (MON)**
- **Clariant's** $20B deal for **Huntsman (HUN)** fell apart

The largest deals in 2017 were:

- **Rockwell Collins (COL)** was acquired by **United Tech (UTX)** in a $30B Aerospace deal
- **Actellion** was acquired by **J&J (JNJ)** in a $30B Pharma deal
- **Luxottica (LUX)** was acquired by Essilor in a $24B Retail deal
- **CR Bard (BCR)** was acquired by **Becton Dickinson (BDX)** is $23.8B Med-Tech deal
- **Mead Johnson (MJN)** was acquired by Reckitt Benckiser in a $17.7B Consumer Staples deal
- **Oncor** was acquired by **Berkshire Hathaway (BRK.A)** in a $17.5B Utility deal
- **Calpine (CPN)** was acquired by Private Equity in a $15.9B Utility deal
- **Scripps (SNI)** was acquired by **Discovery (DISCA)** in a $14.5B Media deal
- **Mobileye (MBLY)** was acquired by **Intel (INTC)** in a $13.75B Semi deal
- **Whole Foods (WFM)** was acquired by **Amazon (AMZN)** in a $13.5B Retail deal
- **Worldpay** was acquired by **Vantiv (VNTV)** in an $11.2B Payments deal
- **Kite Pharma (KITE)** was acquired by **Gilead (GILD)** in an $11B Biotech deal
- **Cal-Atlantic (CAA)** was acquired by **Lennar (LEN)** for $9.3B in a Housing deal
- **Orbital ATK (OA)** was acquired by **Northrop Grumman (NOC)** in a $9.2B Defense deal
- **Cavium (CAVM)** was acquired by **Marvell Tech (MRVL)** in a $6B Semi deal
- **Regal (RGC)** was acquired by CineWorld in a $5.9B Media deal

A few other notable deals by sector included:

Healthcare:

- **Pantheon (PTHN)** was acquired by **Thermo Fisher (TMO)** for $7.2B
- **VWR (VWR)** was acquired by **Avantor** for $6.4B
- **PAREXEL (PRXL)** was acquired by **Pamplina** for $5B
- **ARIAD (ARIA)** was acquired by **Takeda** for $5.2B
- **Advanced Accelerator (AAAP)** was acquired by **Novartis (NVS)** for $3.9B
- **Centene (CNC)** acquired **Fidelis** for $3.75B
- **Express Scripts (ESRX)** acquired eviCore Health for $3.6B
- **LHC Group (PHCG)** was acquired by **Almost Family (AFAM)** for $1.06B

- **Akorn (AKRX)** was acquired by **Fresenius (FMS)** for $4.75B
- **VCA Antech (WOOF)** was acquired by **Mars Inc.** for $9.1B
- **United Health (UNH)** Launched a $2.8B Offer for Empresas Banmedica
- **NX-Stage Medical (NXTM)** was acquired by **Fresenius (FMS)** for $2B
- **ZELTIQ (ZLTQ)** was acquired by **Allergan (AGN)** for $2.48B
- **Surgical Care (SCAI)** was acquired by **United Health (UNH)** for $2.3B
- **Cynosure (CYNO)** was acquired by **Hologic (HOLX)** for $1.65B
- **Pharmerica (PMC)** was acquired by **KKR (KKR)** for $1.4B
- **EUROIMMUN** was acquired by **PerkinElmer (PKI)** for $1.3B
- **Chiltern** was acquired by **Lab Corp. (LH)** for $1.2B
- **NeoTract** was acquired by **Teleflex (TFX)** for $1.1B
- **Neuroderm (NDRM)** was acquired by Mitsubishi Tanabe for $1.1B
- **Codman** was acquired by **Integra (IART)** for $1.05B
- **Ignyta (RXDX)** was acquired by **Roche** for $1.7B

Tech:

- **LTS Group** was acquired by **Crown Castle (CCI)** for $7.1B
- **Cisco (CSCO)** acquired App-Dynamics for $3.7B
- **Broadsoft (BSFT)** was acquired by **Cisco (CSCO)** for $1.9B
- **Barracuda (CUDA)** was acquired by Thomas Bravo for $1.29B
- **Gigamon (GIMO)** was acquired by Elliott Mgmt. for $1.6B
- **Straight Path (STRP)** was acquired by **Verizon (VZ)** for $3.1B
- **DuPont Fabros (DFT)** was acquired by **Digital Realty (DLR)** for $7.6B
- **Web-MD (WBMD)** was acquired by **KKR (KKR)** for $2.8B
- **Corporate Executive Board (CEB)** was acquired by **Gartner (IT)** for $2.6B
- **Ixia (XXIA)** was acquired
- **Nimble Storage (NMBL)** was acquired by **HP Enterprise (HPE)** for $1B
- **Ixia (XXIA)** was acquired by **KeySight Tech (KEYS)** for $1.6B
- **IO Data Center (IO)** was acquired by **Iron Mountain (IRM)** for $1.3B
- **Aconex** was acquired by **Oracle (ORCL)** for $1.2B

Consumer:

- **Panera Bread (PNRA)** was acquired by **JAB Holding** for $7.5B
- **McCormick (MKC)** acquired Reckitt's food unit for $4B
- **Nord Anglia (NORD)** was acquired by Canadian Pension for $4.3B
- **Advanced Pierre Food (APFH)** was acquired by **Tyson (TSN)**f or $4.2B
- **Buffalo Wild Wings (BWLD)** was acquired by Arby's for $2.9B
- **Bob Evans (BOBE)** was acquired by **Post Holding (POST)** for $1.53B
- **Time (TIME)** was acquired by **Meredith (MDP)** for $2.8B
- **Tribune Co. (TRCO)** was acquired by **Sinclair (SBGI)** for $6.6B
- **HSN Inc. (HSNI)** was acquired by **Liberty Interactive (QVCA)** for $2.6B
- **Kate Spade (KATE)** was acquired by **Coach (TPR)** for $2.4B
- **Pinnacle (PNK)** and **Penn Gaming (PENN)** announced a $2B deal
- **Waterpik** was acquired by **Church & Dwight(CHD)** for $1B
- **Avendra and AmeriPride** were acquired by **ARAMARK (ARMK)** for $1.9B
- **Popeye's Kitchen (PLKI)** was acquired by **QSR Brands (QSR)** for $1.8B
- **Weetabix** was acquired by **Post (POST)** for $1.4B
- **Jimmy Choo** was acquired by **Michael Kors (KORS)** for $1.35B
- **Club-Corp (MYCC)** was acquired by **Apollo (APO)** for $1.15B
- **Hershey (HSY)** acquired **Amplify (BETR)** for $1.6B

Energy/Materials:

- **ONEOK Partners (OKS)** was acquired by **ONEOK (OKE)** for $9.3B

- **Maersk Oil** was acquired by **Total (TOT)** for $7.45B
- **Rice Energy (RICE)** was acquired by **EQT (EQT)** for $6.7B
- **Exxon (XOM)** acquired Permian assets from the Bass Family for $5.6B
- **Crown (CCK)** acquired Signode for $3.9B
- **CRH (CRH)** acquired Ash-Grove Cement for $3.5B
- **Sapa** was acquired by Norsk Hydro for $3.2B
- **Clayton Williams (CWEI)** was acquired by **Noble (NBL)** for $2.7B
- **Multi-Packaging Solutions (MPSX)** was acquired by **WestRock (WRK)** for $2.3B
- **Dominion Diamond (DDC)** was acquired by Washington Corp. for $1.2B
- **Calgon Carbon (CCC)** was acquired by Kurray for $1.1B
- **Songa** was acquired by **TransOcean (RIG)** for $1.15B

Industrial/Utility:

- **CB&I (CBI)** and **McDermott (MDR)** are combing in a $6B deal
- **Knight (KNX)** and **Swift (SWFT)** combined in a $6B Trucking deal
- **Wirtgen Group** was acquired by **Deere (DE)** for $5.2B
- **Digital Globe (DGI)** was acquired by MacDonald, Dettwiler for $3.6B
- **General Cable (BGC)** was acquired by Prysmian Group for $3B
- **Dynegy (DYN)** was acquired by **Vistra (VST)** for $12.3B
- **Avista (AVA)** was acquired by Hydro One for $5.3B
- **Energy Future** was acquired by **Sempra (SRE)** for $9.45B
- **Allied Building Products** was acquired by **Beacon Roofing (BECN)** for $2.6B
- **Genuine Parts (GPC)** acquired Alliance Auto for $2B
- **3M (MMM)** acquired Scott Safety for $2B
- **Acquarion Water Co.** was acquired by **Eversource (ES)** for $1.68B
- **Neff (NEFF)** was acquired by **United Rentals (URI)** for $1.3B
- **GCA Services** was acquired by **ABM Industries (ABM)** for $1.25B

Financial:

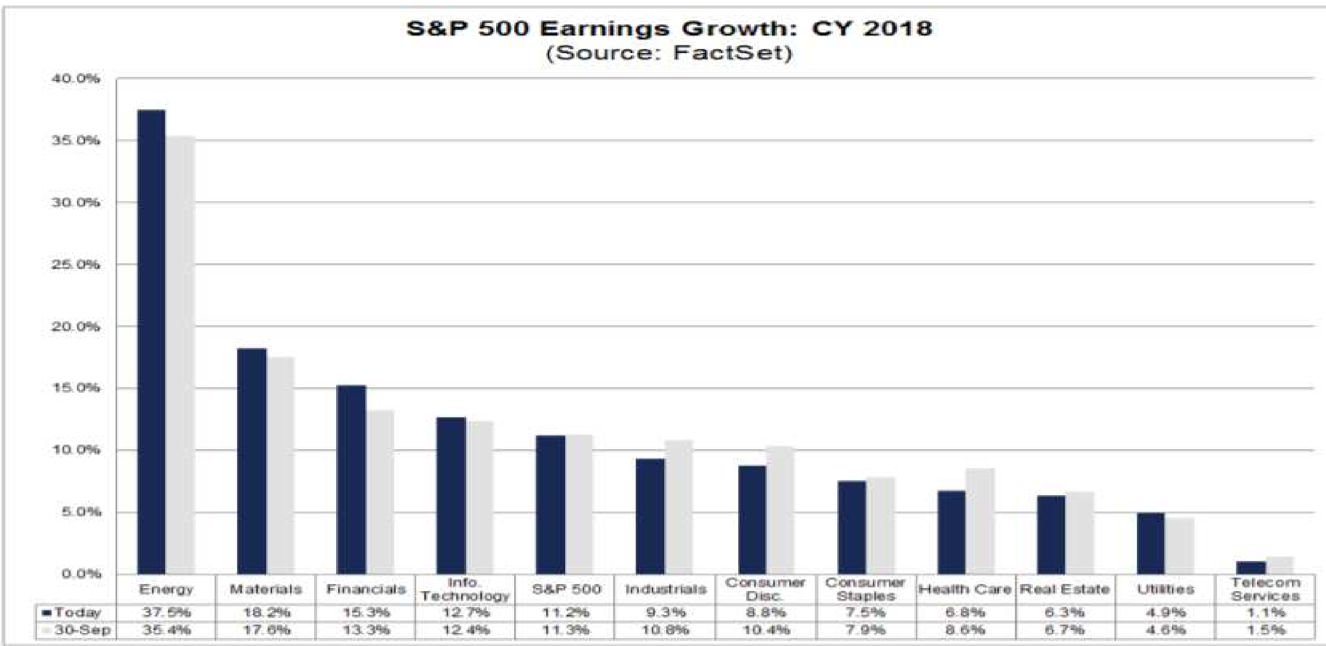
- **Fortress (FIG)** was acquired by SoftBank for $3.3B
- **MoneyGram (MGI)** was acquired by **Ant Financial** for $1.2B
- **Sabra (SBRA)** was acquired by **Care Capital (CCP)** for $7.4B
- **KCG Holding (KCG)** was acquired by **Virtu (VIRT)** for $1.4B
- **Active Network** was acquired by **Global Payments (GPN)** for $1.2B

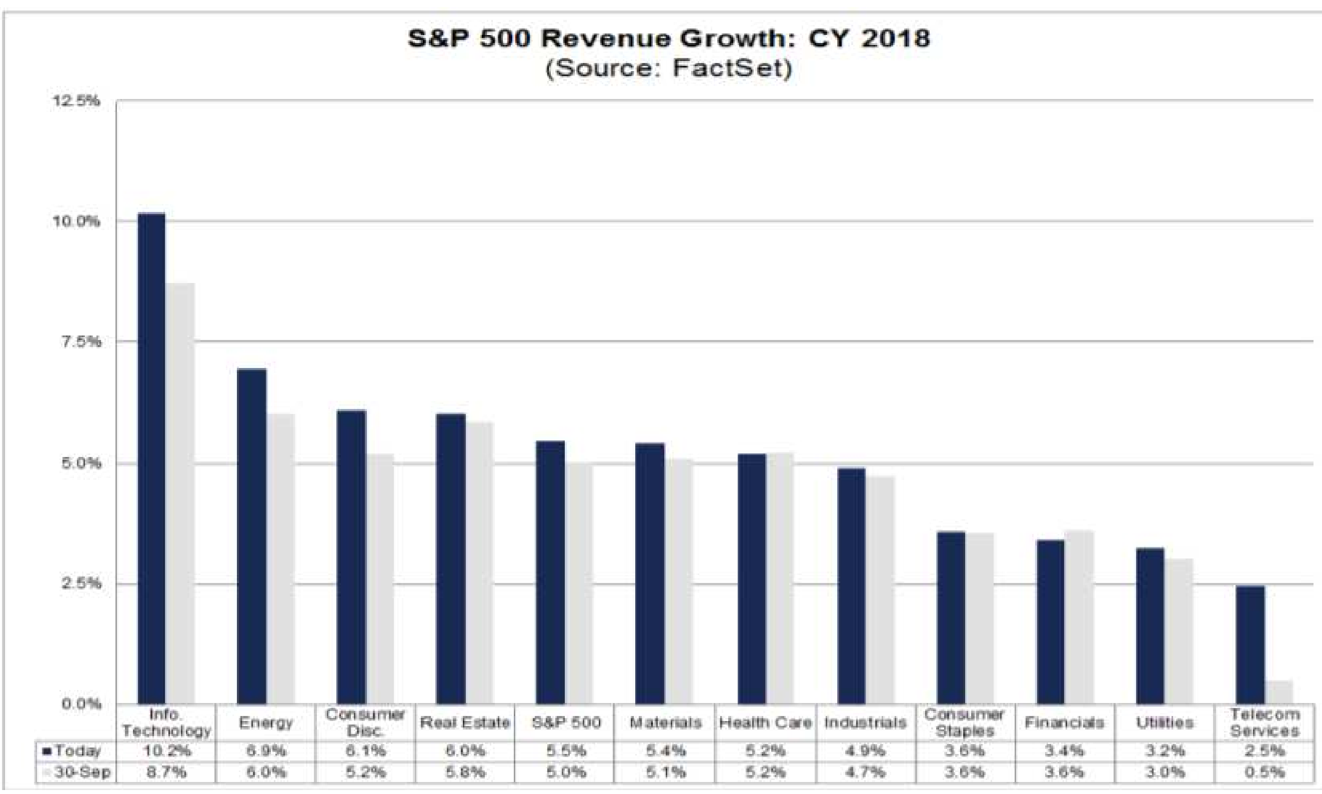
Sector Breakdowns

****My goal here is to provide a clear and concise view of key valuation metrics, management efficiency ratios, and YTD performance to show what worked in 2017. I then briefly touch on some of the top plays in each group and also provide some options insight. This is a brief analysis that can serve as a guide throughout the year as we see sector trends develop by closely monitoring earnings reports. It is important to remember that these are current snapshots and projections, and one must due his/her due diligence throughout the year following the earnings reports and management commentary, as the trends in these metrics are more important than the metrics themselves. I strongly encourage you to read the most recent earnings transcript and transcripts from investment conferences to better understand these companies. Active sector rotation has become more vital than ever in managing portfolios throughout the year, so this section can serve as a guide as to the best of breed type names to target****

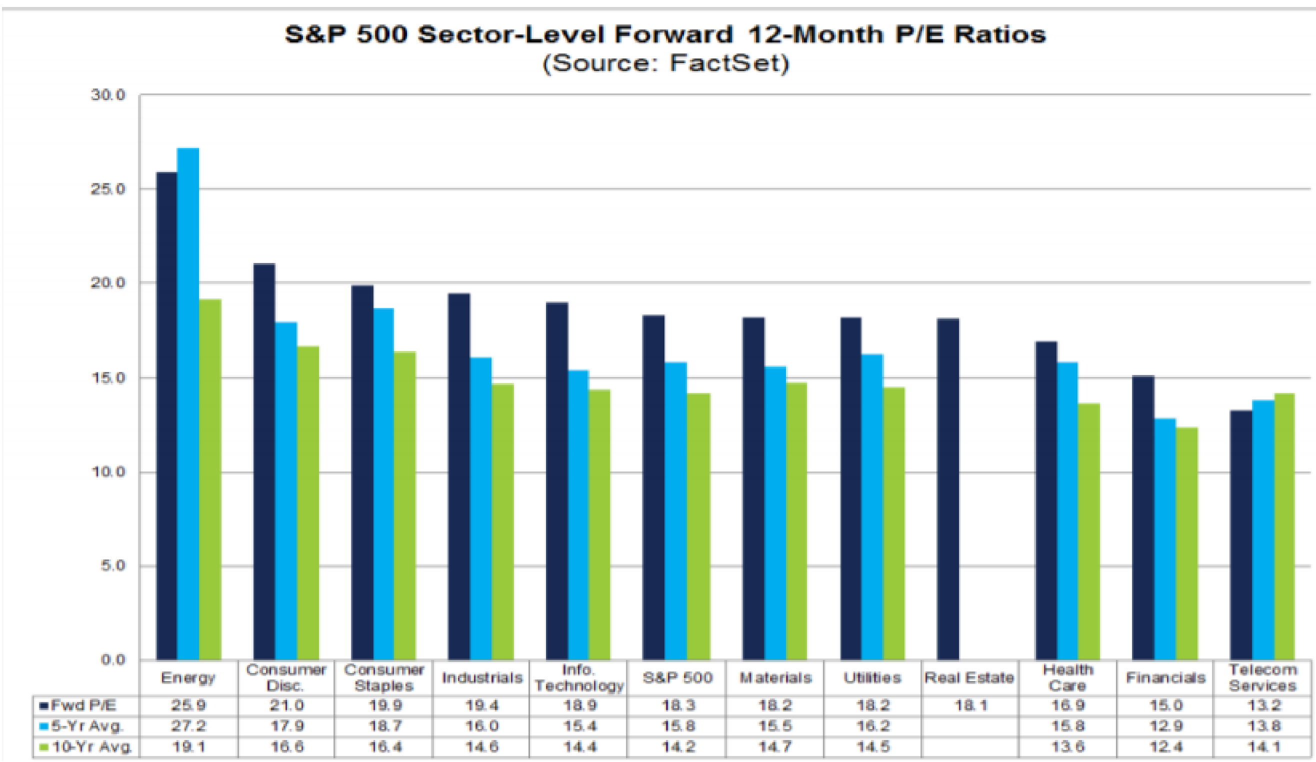
Sector Growth (M&A and Organic)

CY 2018: Growth





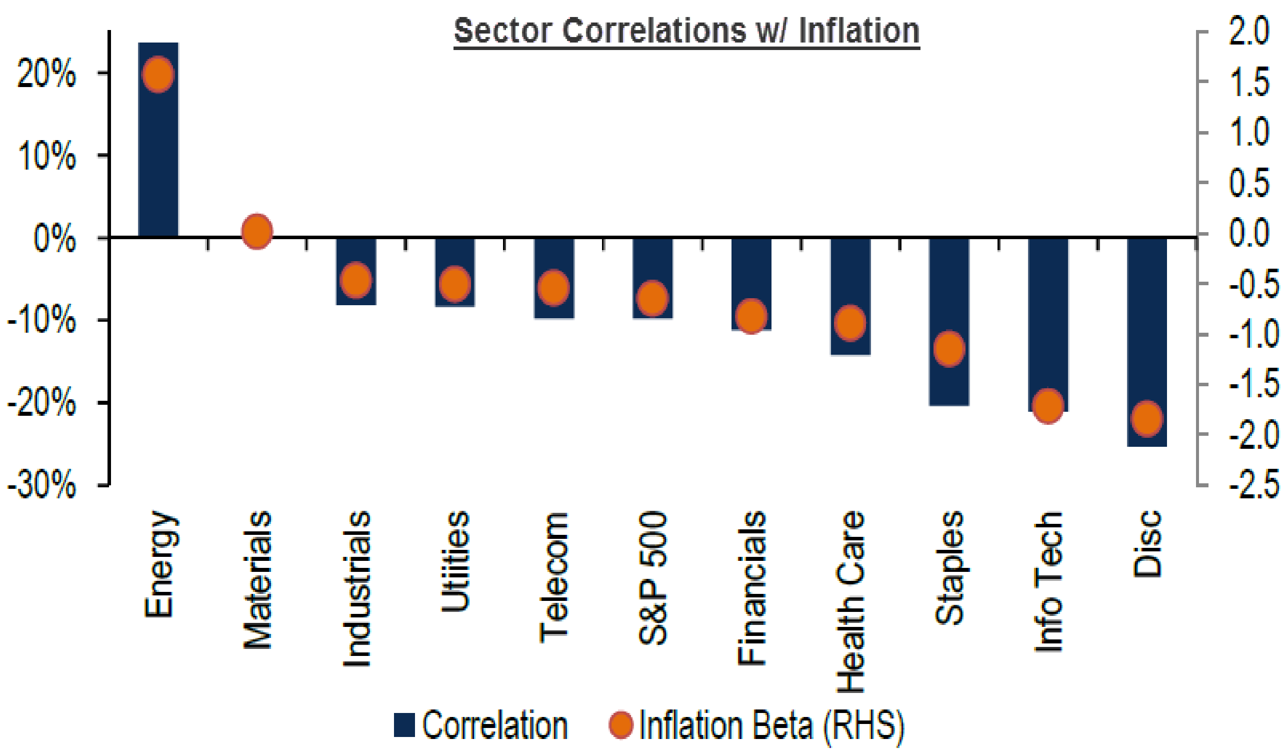
All earnings based on current constituents unless specified	2011A	2012A	2013A	2014A	2015	2016	*y/y*	Bottom-up Consensus 2017	*y/y*	2018	*y/y*
S&P 500 Pro-forma EPS (Historical Index)	**$97.82**	**$103.80**	**$109.68**	**$118.78**	**$117.46**	**$118.10**	*1%*				
S&P 500 Pro-forma EPS (Current Constituents)	**$97.26**	**$102.61**	**$108.37**	**$116.26**	**$115.23**	**$118.35**	*3%*	**$131.36**	*11%*	**$146.01**	*11%*
Sector ($ billions)											
Consumer Discretionary	78.7	80.3	90.4	97.2	109.2	118.9	*9%*	123.2	*4%*	133.7	*9%*
Consumer Staples	77.6	78.9	81.5	83.6	82.7	84.5	*2%*	87.4	*3%*	93.9	*7%*
Energy	126.1	117.6	106.7	106.7	41.0	8.1	*-80%*	37.7	*367%*	50.9	*35%*
Financials	116.3	149.8	178.1	179.0	187.8	186.4	*-1%*	197.9	*6%*	227.9	*15%*
Health Care	111.5	119.6	119.7	138.7	159.2	168.5	*6%*	178.7	*6%*	191.0	*7%*
Industrials	88.4	92.0	97.8	110.8	111.2	107.6	*-3%*	110.1	*2%*	120.0	*9%*
Information Technology	162.6	174.0	176.7	201.3	214.1	223.3	*4%*	256.7	*15%*	289.0	*13%*
Materials	25.8	23.2	27.3	27.1	29.4	21.0	*-29%*	29.6	*41%*	37.2	*26%*
Real Estate	0.3	0.4	0.4	0.6	0.6	29.6	*4961%*	31.4	*6%*	33.8	*8%*
Telecommunication Services	20.4	21.8	23.0	28.7	33.1	34.6	*4%*	34.4	*0%*	35.3	*3%*
Utilities	29.5	29.1	29.9	32.4	33.0	35.5	*8%*	36.5	*3%*	38.5	*5%*
S&P 500	**837.2**	**886.6**	**931.5**	**1,006.0**	**1,001.2**	**1,017.8**	*2%*	**1,123.6**	*10%*	**1,251.2**	*11%*
S&P 500 ex. Financials	720.9	736.8	753.4	827.0	813.5	831.4	*2%*	925.7	*11%*	1,023.3	*11%*
S&P 500 ex. Energy and Financials	594.8	619.2	646.7	720.3	772.5	823.3	*7%*	888.0	*8%*	972.4	*10%*
S&P 500 ex. Energy	711.1	769.0	824.8	899.3	960.3	1,009.8	*5%*	1,085.9	*8%*	1,200.3	*11%*
Energy Sector ($bn)	**126.1**	**117.6**	**106.7**	**106.7**	**41.0**	**8.1**	*-80%*	**37.7**	*367%*	**50.9**	*35%*
Avg. Oil Price ($/bbl)	*$106/bbl*	*$106/bbl*	*$105/bbl*	*$97/bbl*	*$51/bbl*	*$43/bbl*					
S&P 500 Dividends (Current Constituents, $)	**$26.43**	**$31.25**	**$34.99**	**$39.44**	**$43.39**	***$45.70***					
Key Macro Economic Forecasts											
Global GDP growth (real)	3.8%	3.1%	3.3%	3.3%	3.2%	*3.0%*					
US GDP growth (real)	1.6%	2.2%	1.5%	2.4%	2.6%	*1.6%*					
US Civilian Unemployment Rate	8.9%	8.1%	7.4%	6.2%	5.3%	*4.9%*					
FX Rate: US$/Euro (average)	1.39	1.29	1.33	1.33	1.11	*1.11*					



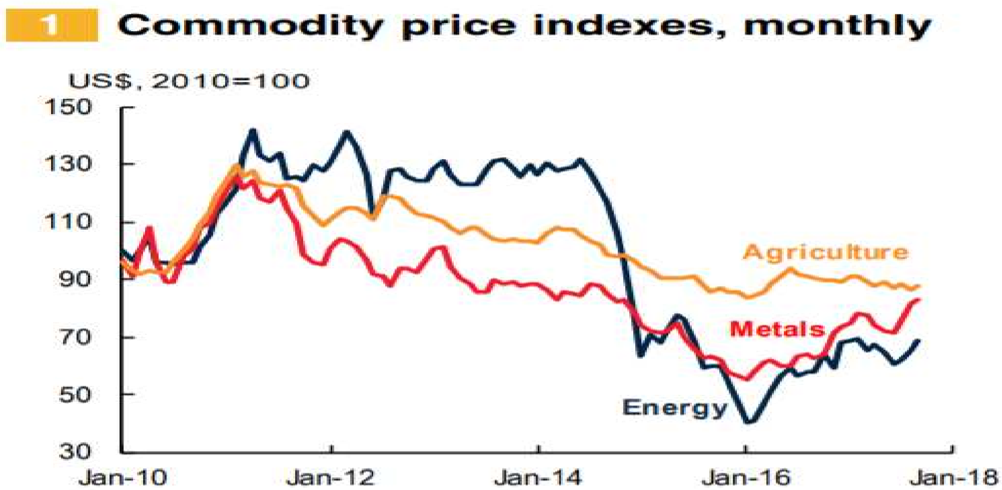
Sector Tax Rates

2008-15 Effective Tax Rates & Total Tax Subsidies, by Industry
$-millions

Industry & Company	Effective Tax Rate	Total Tax Subsidies	% of total Subsidies	% of total U.S. Profits
Financial	19.9%	95,620	18.2%	16.6%
Utilities, gas and electric	3.1%	86,062	16.3%	7.1%
Telecommunications	11.5%	78,413	14.9%	8.8%
Miscellaneous services	22.9%	36,003	6.8%	7.8%
Computers, office equip, software, data	20.3%	35,932	6.8%	6.4%
Aerospace & defense	18.3%	33,471	6.4%	5.3%
Oil, gas & pipelines	11.6%	27,568	5.2%	3.1%
Retail & wholesale trade	31.0%	25,471	4.8%	16.9%
Industrial Machinery	11.4%	21,484	4.1%	2.4%
Transportation	20.2%	15,506	2.9%	2.8%
Miscellaneous manufacturing	23.1%	14,616	2.8%	3.2%
Food & beverages & tobacco	28.2%	13,104	2.5%	5.0%
Chemicals	20.5%	11,150	2.1%	2.0%
Household & personal products	22.0%	10,836	2.1%	2.2%
Financial data services	26.9%	7,888	1.5%	2.6%
Pharmaceuticals & medical products	27.7%	5,126	1.0%	1.8%
Health care	32.7%	4,594	0.9%	5.3%
Internet Services & Retailing	15.6%	3,011	0.6%	0.4%
Engineering & construction	28.8%	632	0.1%	0.3%
Publishing, printing	18.0%	273	0.1%	0.0%
ALL INDUSTRIES	**21.2%**	**$526,760**	**100%**	**100%**



Basic Materials: *The materials group sets up more positively into 2018 as the US Dollar has trended lower through 2017 removing a major headwind, and with inflation expected to pick-up globally there looks to be a floor for pricing. Energy (XLE) and Metals (XME) are both lower in 2017 while Materials (XLB) has gained nearly 20%, which features more of the Chemical stocks. Any progress on infrastructure investments in 2018 would serve as a strong tailwind for the group, and a lot of these stocks can provide strong returns in cyclical recoveries. We appear to be moving off a trough in the commodity cycle and absorbing oversupply can be a timely process, and on the demand side China is always the focus. Stronger global growth, a reflationary environment, and further infrastructure spending in the US and China can lead to this group finally outperforming in 2018. The Energy industry is seeing stable demand, agreed production cuts among oil exporters, and stabilizing US shale oil production which has allowed Crude Oil to recently climb to an 18 month high. The OPEC-Russia agreements are supportive of Crude Oil prices and any move away from that is a risk to prices in 2018.*

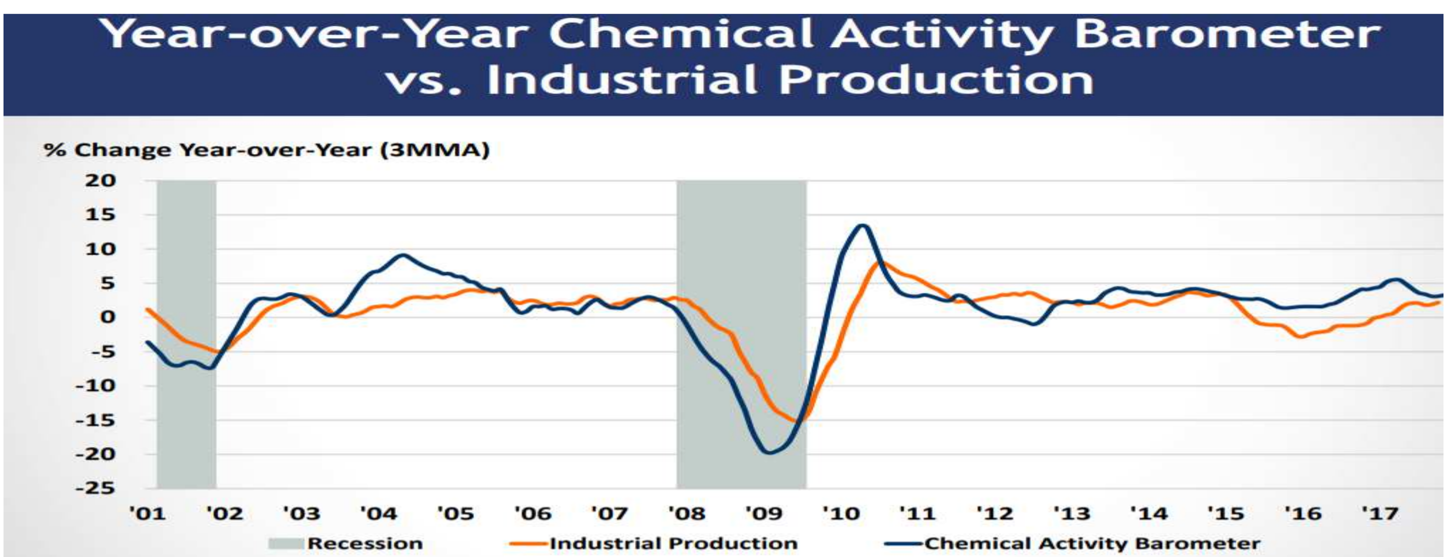


Source: World Bank.

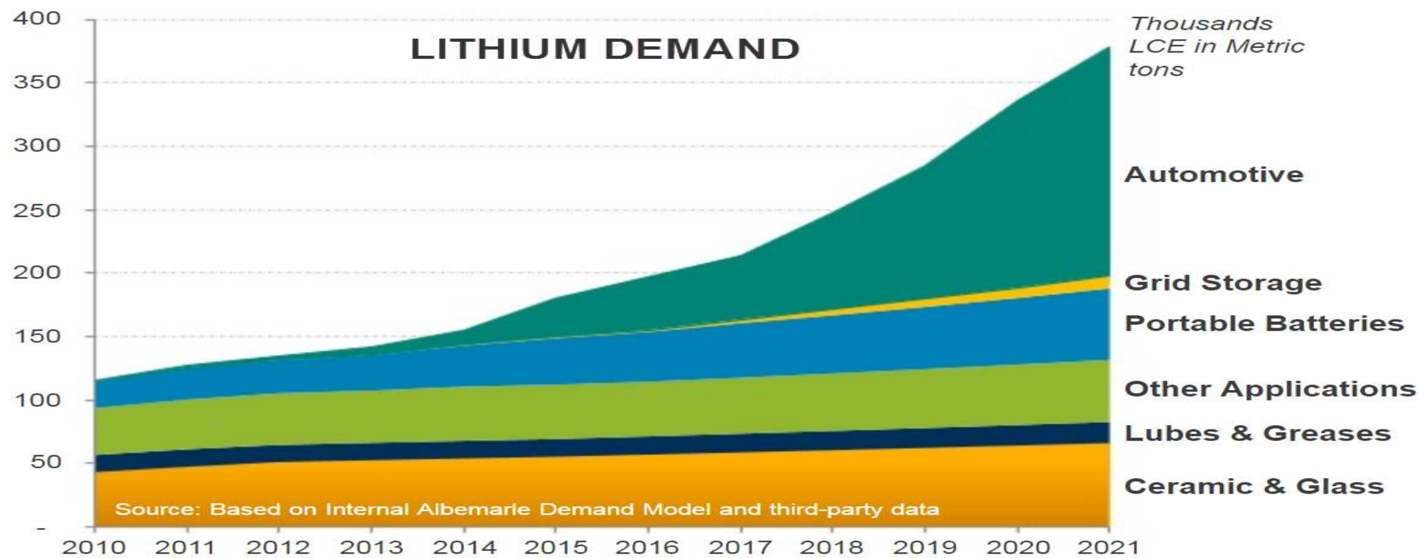
Chemicals:

Components:ACET,ADM,AGU,ALB,ANDE,APD,ASH,ASIX,AXTA,BAK,BCPC,BG,CBT,CC,CE,CF,CVGW,DWDP,EMN,FDP,FMC,FUL,GRA,HUN,IFF,IOSP,KRA,KRO,KOP,LYB,MEOH,MOS,MTX,NEU,NGVT,OEC,OLN,PAH,POL,POT,PPG,PX,RPM,SHLM,SHW,SMG,SXT,TROX,VSM,VNTR,WLK

The chemical sector is very cyclical in nature with profitability impacted by the imbalances between capacity and demand, which can be volatile. Production costs are mostly driven by the price of energy and feedstocks, so there is a tight relationship with energy prices, and cost advantages in this industry often separate the leaders from the laggards. The Chemical Activity Barometer is closely correlated to the Industrial Production Index. The chemical industry has consistently led the US economy business cycle given its early position in the supply-chain. Returning inflation can be a tailwind for Chemicals while much of the industry is still recovering from supply disruptions caused by Hurricane's Harvey and Irma. The main segments within this group are Petrochemicals, Specialty Chemicals and Agrochemicals.



The chemical sector is having a strong 2017 with more than half the components up 20% or more YTD, led by the titanium dioxide plays TROX, KRO and CC which all have gained at least 125% this year. Lithium plays ALB, SQM, and FMC continued to outperform with the rising demand for electric vehicle batteries. The Agricultural related names underperformed as fertilizer prices remain subdued and rising supplies of grains is a continual headwind. The Dow Chemical and DuPont merger was completed forming Dow-DuPont (DWDP) as one of the major news events in the group, while we also saw some large M&A deals with Praxair (PX) and the attempted acquisition of Huntsman (HUN). Axalta (AXTA) is the latest name in focus with Nippon Paint making a cash acquisition offer. Lastly, Lyondell (LYB) is eyeing M&A with recent reports suggesting a potential deal for Braskem (BAK). Sherwin Williams (SHW) had another strong year as it integrates its Valspar (VAL) acquisition. Westlake (WLK) with a $12B market cap now was a standout returning more than 65% and benefitting from its Axiall deal. M&A remains a major theme in this group with a lot of the acquirers seeing deals well received by investors, and a few potential targets as we enter 2018 include Ashland (ASH), WR Grace (GRA), Olin (OLN), Versum (VSM) and Bunge (BG). PPG Industries (PPG) is another acquirer after it failed to secure a deal for Akzo Nobel, who also failed to secure a deal for Axalta, so a lot of potential acquirers out there both in the US and overseas. India and China remain the major growth drivers for chemical demand. The Paints & Coatings names will continue to correlate to housing & construction activity with SHW and PPG the two leaders.

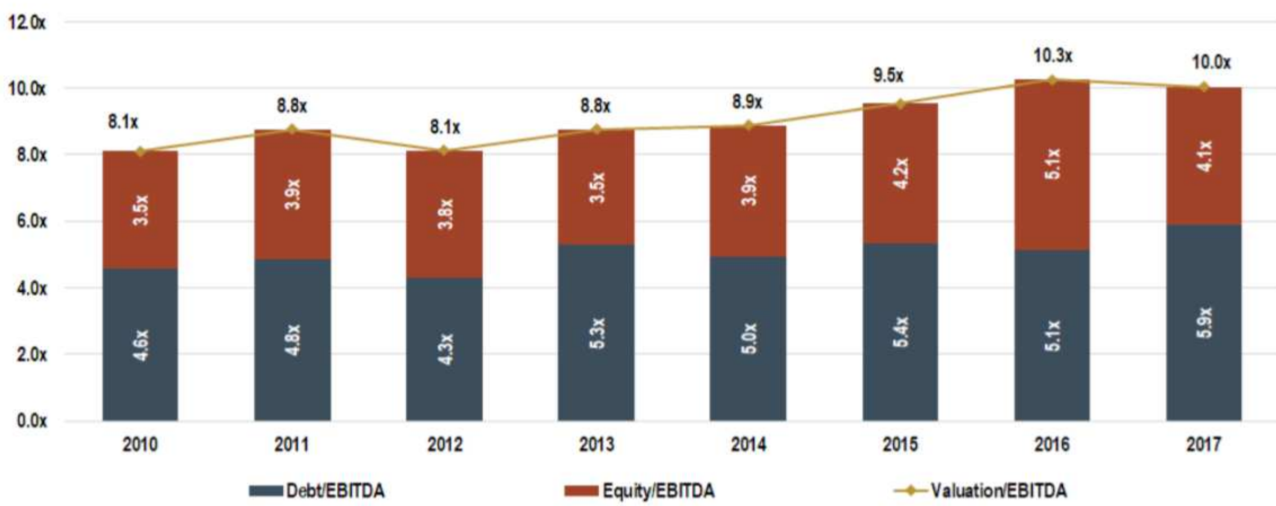


In terms of valuation, the specialty chemical names have historically traded at a premium to the basic chemical stocks. P/E, EV/Revenues and EV/EBITDA can all be used as valuation metrics, while EBITDA margins & ROIC tends to determine whether a name should trade at a premium or discount to peers. Historically, transactions in the space have taken place at 1.35X Sales, and 10X EBITDA the last four years.

Grace Matthews

Fall 2017

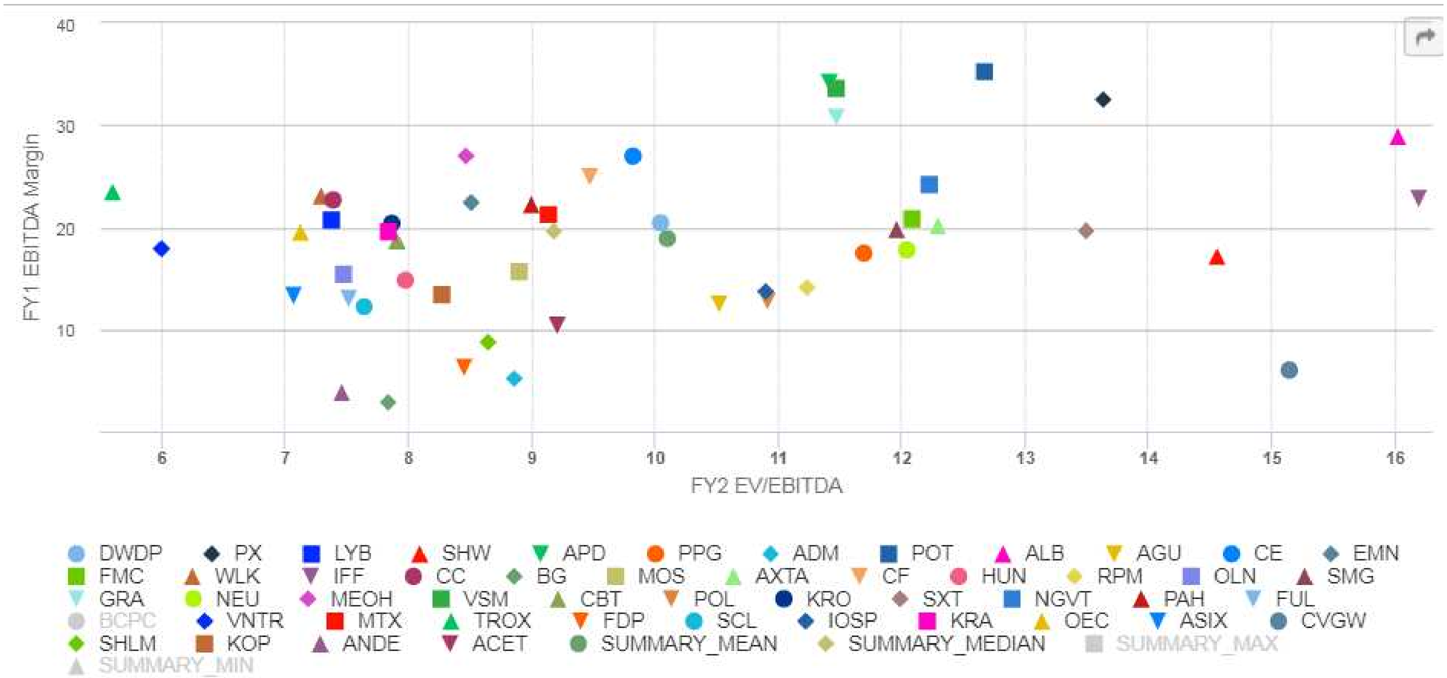
Figure 1: Median North American EV/EBITDA Multiples
2010 - 2017



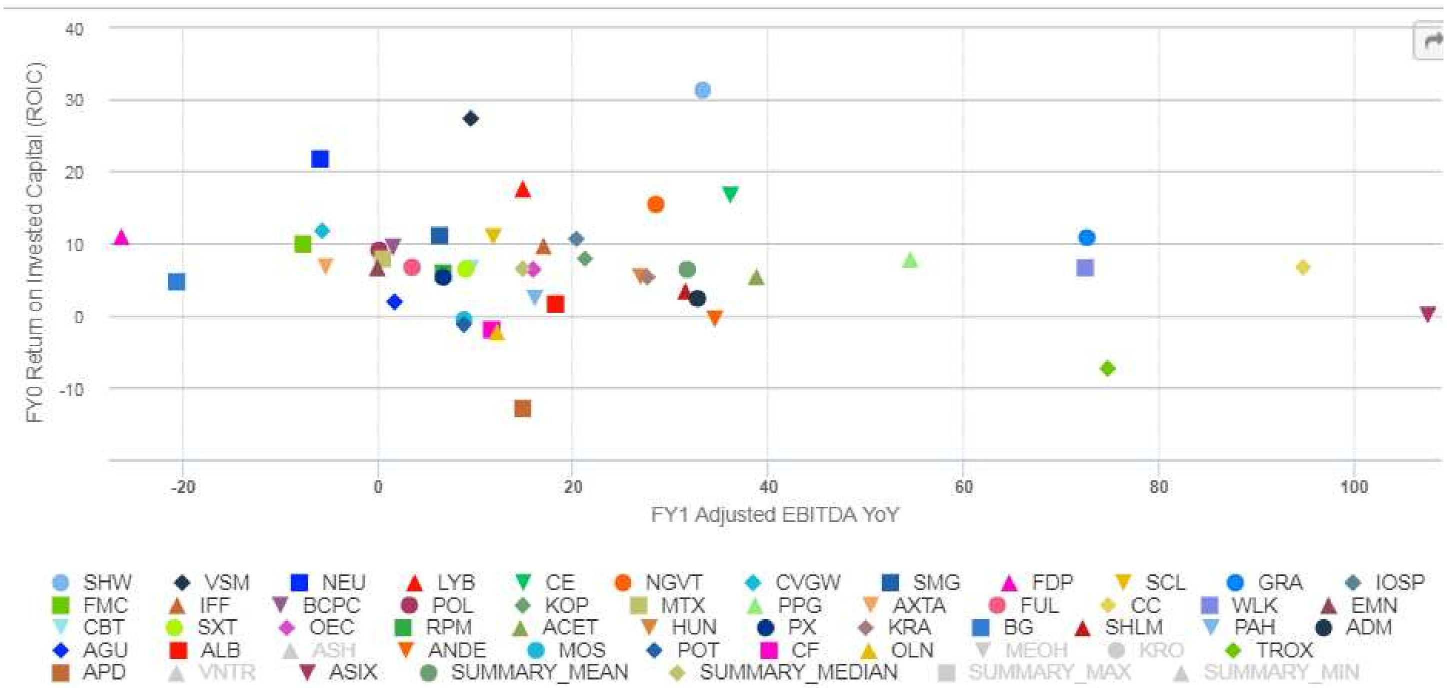
The group currently has an average P/E of 20X, FY+1 EV/EBITDA 10.1X, 2.1X FY+1 EV/Sales, 18.9% EBITDA margins and 7.5% ROA.

EV/EBITDA versus EBITDA Margins

The scatter plot below is great for finding relative values. Three names that trade at concerning valuations are **International Flavors (IFF), Albemarle (ALB), and Sensient (SXT)**. Stocks that screen as cheap to peers despite better than industry-average margins include **Tronox (TROX), Methanex (MEOH), Eastman Chemical (EMN), Westlake Chemical (WLK), Celanese (CE), and Lyondell (LYB)**. A few names trading at a modest premium valuation but as margin leaders are **Versum (VSM), Air Products (APD), and WR Grace (GRA)**. There are quite a few names trading at a steep discount to peers with margins just below the mean, so any meaningful operational efficiency programs to enhance margins would make these names very attractive, including **Huntsman (HUN), H.B. Fuller (FUL), AdvanSix (ASIX), Kraton (KRA), Olin (OLN), and Cabot (CBT).**



EBITDA Growth vs. ROIC



Huntsman (HUN) screens cheap at 8X EBITDA and 1.2X EV/Sales but clearly is a turnaround play with EBITDA margins well below peers at 14.8% and a ROIC of just 5.3%. The company recently terminated a merger plan with Clariant though it still could be in play for another buyer. In 2016, Huntsman separated its TiO2 business and has been deleveraging and improving FCF. It is now focused on higher margins businesses and saw a strong quarter recently led by strength in specialty electronics an electrical & coatings components. Polyurethanes account for 52% of revenues and Performance Products 25%, a key end-market for it is Insulation. Citi has a $38 target and noted on 11-7 that Huntsman may become a target for Lyondell (LYB).

Celanese (CE) trades 13.1X Earnings, 9.8X EBITDA, 2.5X Sales and yields a 1.7% dividend. CE has impressive EBITDA margins at 26.9% and a high 16.6% ROIC to peers. CE has consistently seen strong volume growth and also the ability to raise prices. CE is fairly leveraged to acetic acid and many of its advanced materials are sold to the automotive industry. In June, Celanese announced a joint venture with Blackstone in Acetate Tow. The deal is seen to de-risk the portfolio, unlock value and set a clear path to accelerate growth. This division for CE has been the one drag and last remaining headwind to address for a company already demonstrating a great ability to grow revenues, ROIC, margins and FCF. The story sets up nicely for 2018 with expectations for price/margin recovery in acetyls, AEM expansions, the impact of the Blackstone JV, and potential for additional bolt-on M&A.

Air Products (APD) trades at a premium valuation of 11.4X EBITDA and 21.3X Earnings but is a margin leader with 34.2% EBITDA margins, and a strong growth name with a healthy 2.34% dividend yield and a lot of cash. APD has been restructuring its portfolio after selling the Performance Materials business at 15.8X EBITDA and spun-off the Electronic Materials business as Versum (VSM) which now trades above 13X EBITDA. It sees Energy, Environmental and Emerging Markets as areas of growth moving forward. Volume and Pricing trends are improving and APD has a robust backlog with 5 projects set to come online in 2018, while also still undergoing productivity/cost improvement initiatives to boost profitability. APD has a lot of capital to deploy in M&A as well which can provide a meaningful upside catalyst. APD has a few pending deals in China that also provide upside optionality. The global industrial gases market is set to grow at a 7% CAGR through 2021.

Sherwin Williams (SHW) also trades at a premium valuation of 14.6X EBITDA and 21.8X Earnings but is the ROIC leader among these names at an impressive 31.2%. SHW is forecasting 18.7% revenue growth in 2018 and 23.4% EPS growth as it integrates Valspar (VAL), and also benefitting greatly from a strong housing market in the US. SHW's Performance Coatings business is also starting to show signs of improvement and can be a driver the next few years. SHW is set to realize 3% price increases on products in Q1 2018 partially offset by raw material inflation, and its Paint Stores has posted 15 consecutive quarters of double digit sales growth. As new and existing housing trends improve SHW will capture even better volume, and it raised its synergy guidance for the Valspar deal back in October. SHW also plans to expand EBITDA margins to 19-21% by 2020 from current 17% levels.

Westlake Chemicals (WLK) has been a strong performer in 2017 with shares up more than 70% and the $12.4B Co. still only trades 15X Earnings, 21.6X FCF and 7.3X EBITDA with 23% EBITDA margins and a 6.6% ROIC, one of the true value names in the group. WLK's business is divided between Olefins and Vinyls and the stock has done well since acquiring Axiall. WLK is expecting $200M in synergy savings and cost reductions by 2018. Caustic prices have strong momentum trading at all-time highs and WLK is a cost-leader in its industry. Hurricane Harvey caused a spike in polyethylene pricing as well which likely sees that fade back to normalized levels. JP Morgan recently raised its target to $104 from $72 on continued strength in chlor-alkali prices. Caustic soda pricing is expected to strengthen further in FY18 driven by export demand and environmental constraints in Europe and China. In the end WLK is a pricing story and demand is mostly driven by China. Rising consumption from alumina and textile sectors in India is also driving strong demand.

Ingevity (NGVT) is a $3.3B maker of specialty chemicals that is one of the better growth names in the group, expecting 16.6% revenue and 20.9% EPS growth next year. NGVT does trade at a premium valuation of 26X Earnings, 25X FCF and 12.2X EBITDA, but with strong 24% EBITDA margins and 15.4% ROIC. Carbon technologies is its largest segment and has a #1 market position in Automotive applications, and Industrial Specialties is its other large segment with end-markets including adhesives, lubricants, inks and agrochemicals. NGVT is coming off a quarter with 15% EBITDA growth driven by volume gains, lower costs, and manufacturing efficiencies. NGVT is a great play on the increased environmental awareness globally for reduced emissions. OpCo raised its target to $90 on 11-29 seeing potential for margin expansion.

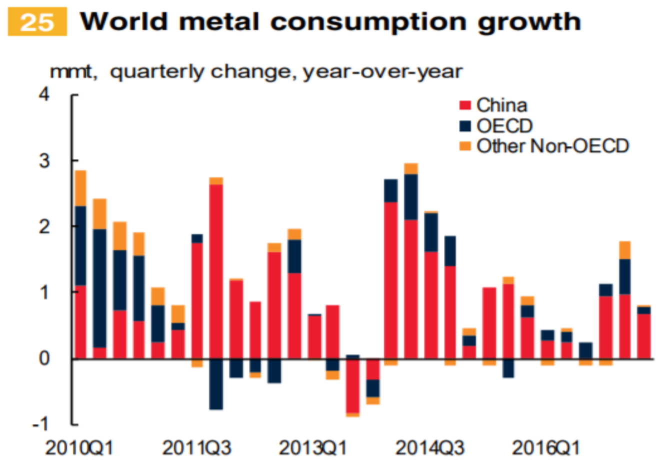
Versum (VSM) is a $4.18B spin-off from Air Products (APD) dealing with specialty materials in semiconductor and display industries. VSM trades 16.65X Earnings, 11.5X EBITDA and forecasts 7% annual revenue growth and 10-12% EPS growth. VSM has high margins and strong cash flows with a compelling market position in a Semiconductor industry with a long runway for further growth. VNAND and Advanced DRAM should continue to drive growth while pricing headwinds are expected to abate in 2018, and volume growth remains robust. VSM also has strong cash flow and is well positioned to do a fairly large M&A deal next year as an additional upside driver.

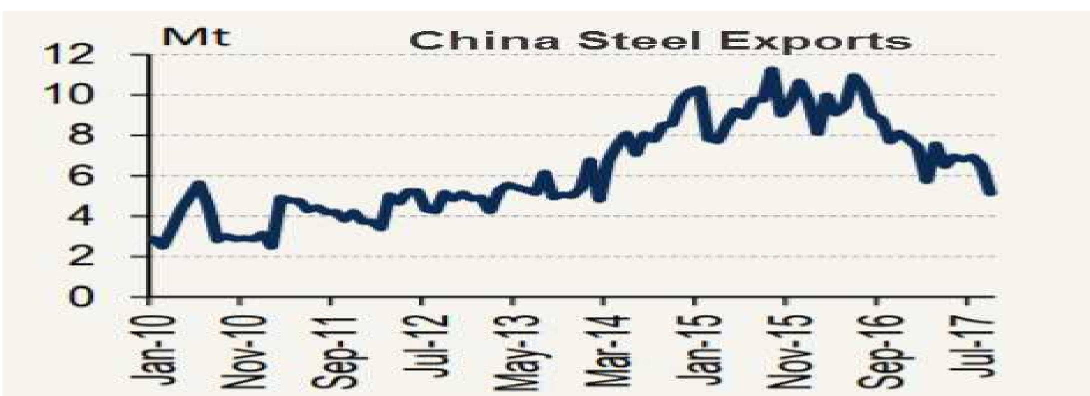
AdvanSix (ASIX) has just a $1.3B market cap as a maker of Nylon 6 polymer resins and trades cheap at 13.15X Earnings and 25.35X FCF while being a standout all year with big beats on earnings expectations. ASIX is a lower margin name with 13.3% EBITDA margins, a likely reason for its discounted valuation. In Q3 it registered 5% volume growth and 8% price growth. ASIX was spun-off from Honeywell (HON) is already starting to see EBITDA margins expand, which can call for re-valuing it at a higher multiple. Recent capacity adds to the nylon and ammonium sulfate will start to be absorbed, allowing for improving supply/demand dynamics in 2018. ASIX is demonstrating its ability to outperform in a tougher environment and longer term is a strong earnings, cash flow, and margin expansion story.

In terms of bullish options activity in this group we have seen notable bullish activity in PX, FMC, CC, OLN, HUN, and ASH.

Metals:

Components:*AA,ABX,AEM,AHGP,AKS,AU,BHP,BVN,BTU,CCJ,CDE,CENX,CLF,CMC,CMP,FCX,FELP,FNV,GG,GOLD,GSM,HCC,HL,KALU,MT,NEM,NUE,PAAS,PKX,RGLD,RIO,RS,SCCO,WPM,STLD,SWC,TAHO,TECK,TRQ,TX,VALE,WOR,X*





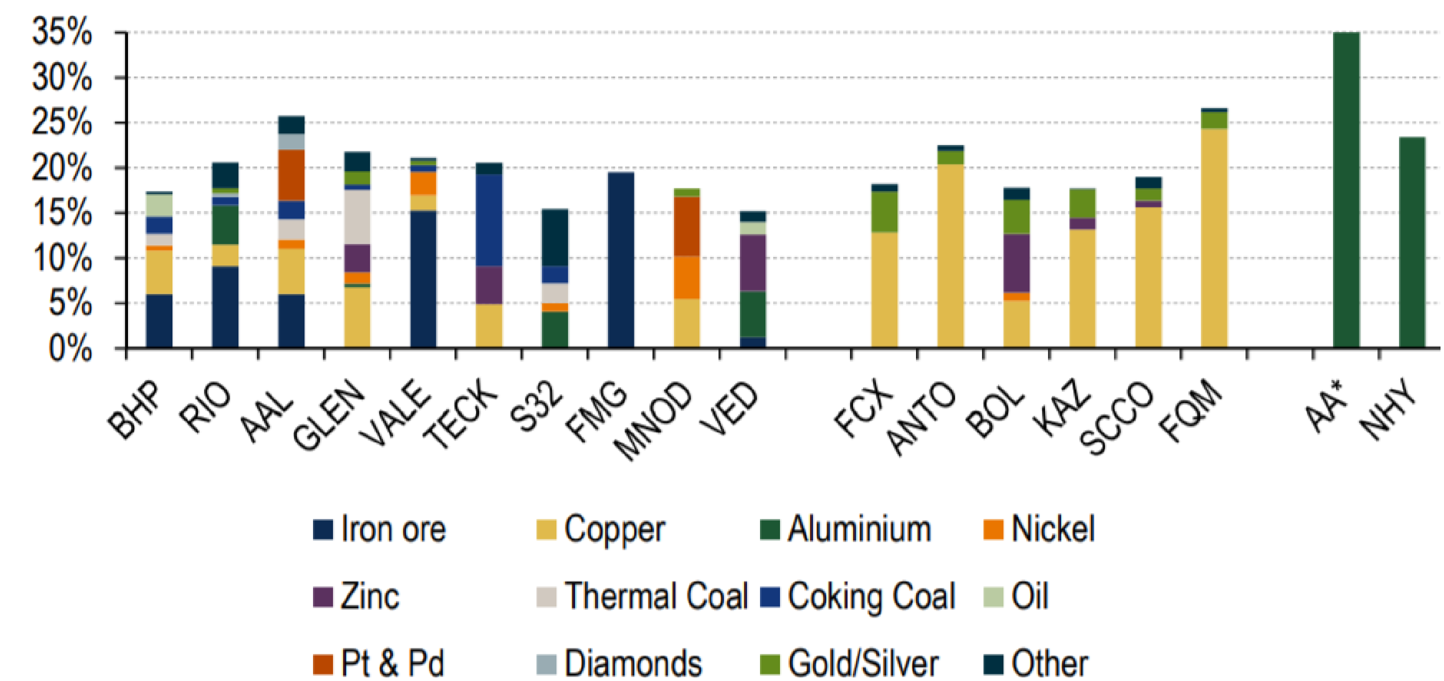
The metals group can be broken up into two basic groups, Industrial metals like Coal, Steel, Aluminum, Copper & Iron Ore, and the Precious Metals like Platinum, Silver, and Gold. It was a mixed year in 2017 with many of the Steel names lower Y/Y, while Aluminum names CENX, AA, KALU and PKX posting strong years as well as a few outperforming gold miners like RGLD and FNV. Iron Ore leaders VALE and RIO are also having strong years and specialty metals play Ferroglobe (GSM) is up 47% YTD. Politics are in play for this group more than ever with the US having trade disputes with China, often a driver of volatile moves in the metals. Section 232 is expected to be discussed early in 2018 that may lead to further bans on imported metals.

Stock selection within this group can be tricky, though there generally is little dispersion among the names as metal stocks tend to trade day to day with the movement in the underlying commodity as supply/demand dynamics shift. It is a very industrial driven group with close ties to end-markets such as Auto, Aerospace, Construction, and Energy. Aluminum is primarily used in Transports/Packaging, Copper in Construction/Electrical, Iron/Steel in Auto, Construction and Oil/Gas, Nickel in Consumer/Industrial, and Zinc in Construction.

This is a very cyclical group and important to determine where on the commodity price and/or economic cycle markets are currently. The volatility in pricing results in volatile revenues, earnings and cash flows, which can make valuation techniques difficult. The high fixed costs required also leads to debt-heavy balance sheets. With these mining companies, metrics are often counter-intuitive, such as the PE Ratio, it is often best to buy when PE's are historically high (indicating low earnings), and sell when PE's are low (indicating peak/high earnings), due to the cyclical swings. A good approach to valuing many of these companies is to look at 10 years of earnings/revenues, and value the company based on where it is in the current cycle to calculate where earnings/revenues will get at mid-cycle and late-cycle stages. Seasonality stats show February and October as strong months, while January, March, May, September, November and December are weaker. The group continues to face headwinds from oversupply and slowing growth in China.

Options activity is the group has favored RIO, VALE, X, and TECK as we enter 2018. I prefer the names that managed well even during the down cycle as well as the more stable global players that are less sensitive to price fluctuations. The mean valuation metrics for the group are 23.5X Earnings, 10.2X EBITDA and 3.1X EV/Sales with 31% EBITDA margins, 3.5% ROIC and 6.5% ROA.

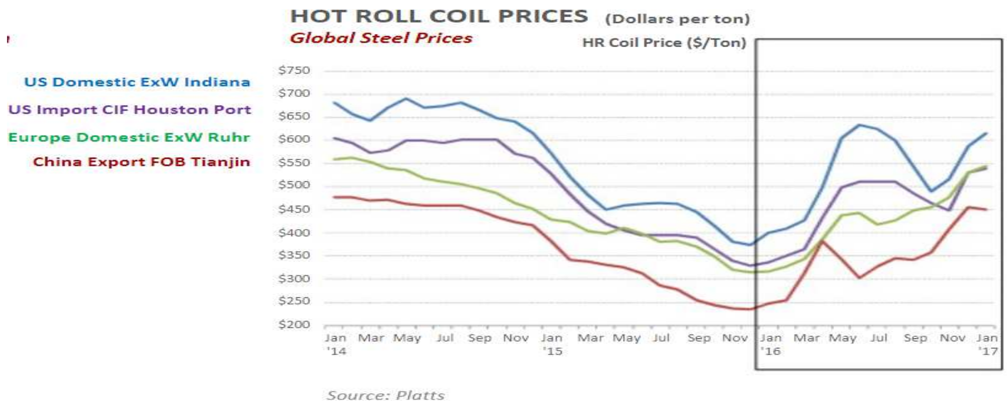
The Killer Chart: EBITDA change for a 10% move in key commodity prices

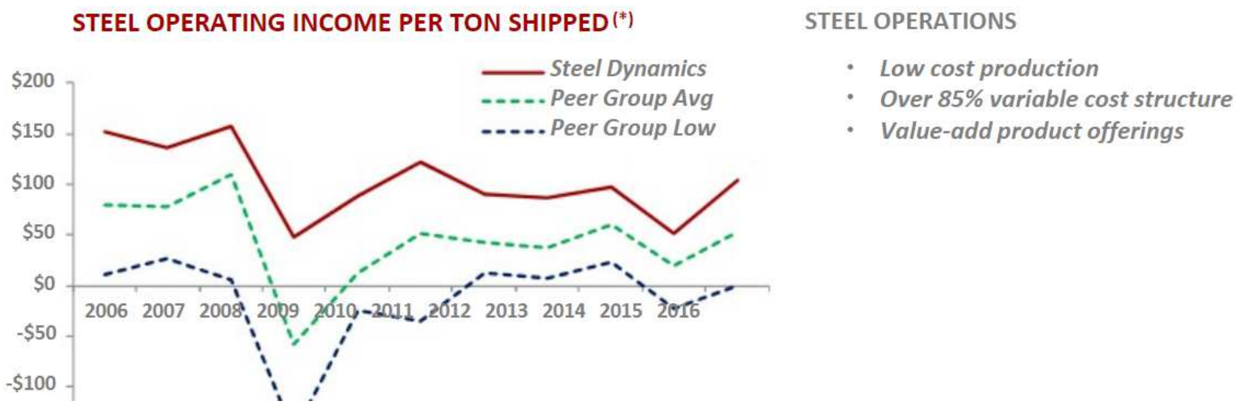


Rio Tinto (RIO) is a favored diversified metals name with the $86B Company trading 11.2X Earnings, 2.3X Sales, 2.05X Book and 17.3X FCF with a 4.55% dividend yield. At 5.2X EBITDA shares are cheap and it has strong margins, ROA, and FCF with a healthy balance sheet. RIO has world-class assets and is delivering on cost savings efforts, expecting $5B in FCF from mine to market productivity by 2021. RIO is a cash machine and is returning cash to shareholders. RIO has also been restructuring its portfolio with multiple divestments and its Iron Ore business is performing well, as is Aluminum, while Copper has remained challenged. RIO is the best way for exposure to the group with its healthy yield, cheap valuation, shareholder friendly moves, and overall leadership position.

Southern Copper (SCCO) is a $32.8B copper mining Co. operating in South America trading 20.1X Earnings, 5.3X Sales, 39.6X FCF with a 1.38% dividend yield. At 10.5X EBITDA shares trade at a premium valuation but delivering impressive growth with high margins and industry-leading ROA and ROIC metrics. SCCO is set to benefit from stronger copper and zinc prices and coming off a strong 58% Y/Y growth in EBITDA quarter. Its Toquepala project is at 80% progress and licenses are expected by Q1 for Tia Maria. Copper prices have recently started to push lower on China demand concerns, while BHP was out on 11-27 seeing higher copper prices due to several disruptions at mines.

Steel Dynamics (STLD) remains my favorite way to be exposed to Steel, the $9.15B Company trading 13X Earnings, 1X Sales and 22.3X FCF with a 1.62% dividend yield. Shares are an attractive value to peers for having industry leading efficiency ratios. Steel consumption has been steady with Automotive strong and seeing signs of inflection for Construction which is 40% of steel demand in the US. STLD is a solid organic growth story and also has the ability for growth via bolt-on acquisitions. As a low-cost producer STLD also excels with best-in-class EBITDA margins. The Section 232 may provide an additional boost for Steel prices early in 2018. Cowen was out on 10-20 saying the US steel market has bottomed. KeyBanc recently upgraded shares seeing a transformational deal providing a boost to as high as $50/share.

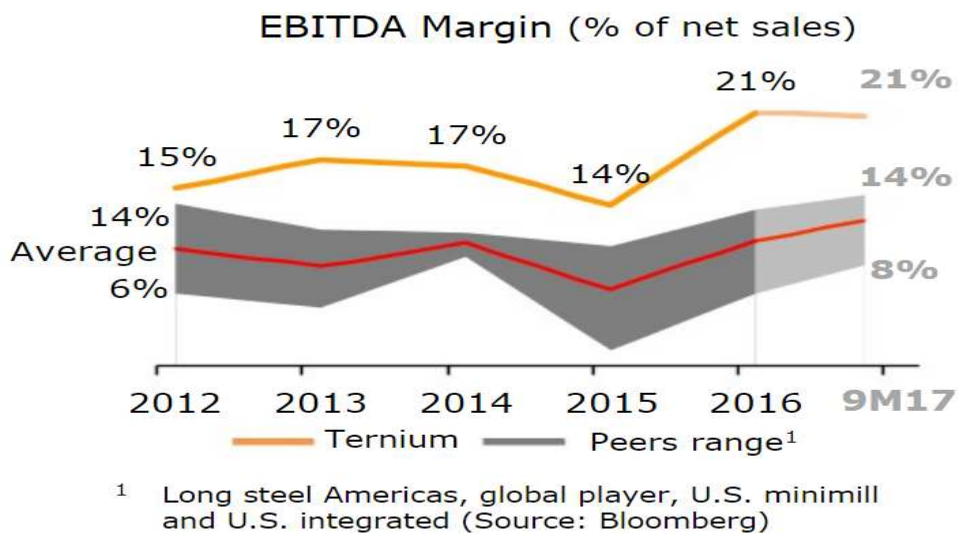




Teck Resources (TECK) is my favorite way for exposure to steelmaking coal, the $13.35B Company trading 9.1X Earnings, 0.9X Book, and 4.8X FCF with a strong balance sheet. TECK has impressive 47% EBITDA margins and trades just 4.9X EBITDA. TECK has strong cash flows and also exposure to coal and zinc. Metallurgical coal should see support from China supply discipline in 2018, and the zinc market remains tight. TECK has generated record cash flow over the last 12 months with $6.1B in EBITDA on averaged realized prices of $185/ton for steelmaking coal, $2.62/pound for Copper, and $1.23/pound for Zinc. TECK is the largest global zinc miner, so strong exposure to rising prices, and its Red Dog mine is generating strong returns. TECK is a low cost producer with geographic advantages and a strong FCF yield, making it a top name to own for metallurgical coal and zinc exposure.

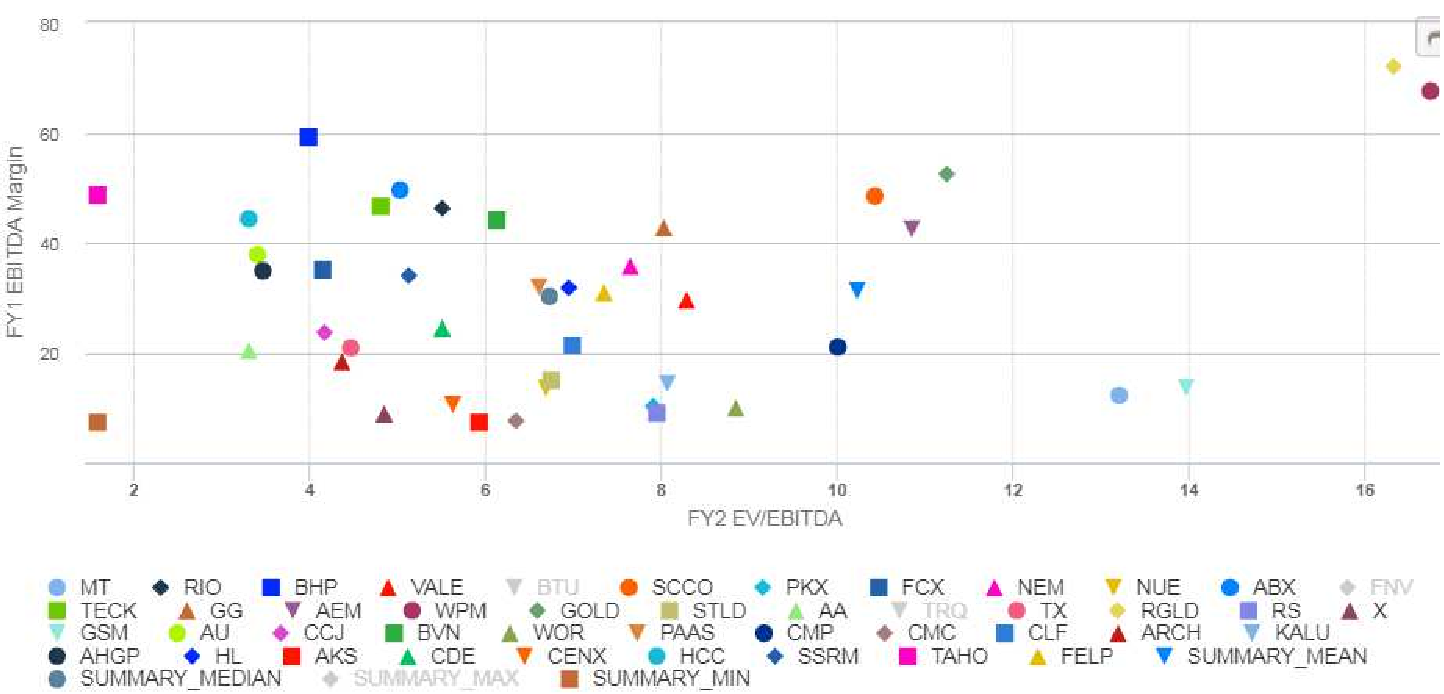
Newmont Mining (NEM) is this year's pick in gold miners, though last year's pick Franco Nevada (FNV) seriously outperformed with a 35% YTD return as a royalty play, looking at NEM as more attractive into 2018. The $19.85B Co. trades 27X Earnings, 1.78X, Book, 16.6X FCF and 8X EBITDA. NEM has focused on increasing production and cutting debt, and also on the verge of making potential strategic moves to reinvigorate its portfolio. NEM has a best-in-class balance sheet and consistently outperforms peers operationally. Compared to peers it has strong EBITDA growth, higher ROIC, and trades cheap on a FCF basis. It has a leading growth pipeline with excellent IRR. NEM has 12 years of operating reserves versus the industry average of 9.9 years and 129oz reserves per share versus the sector average of 77oz. NEM is the superior play for the goldminers with strong FCF ahead and operational excellence.

Ternium (TX) is a $5.6B specialty steel play trading 7.5X Earnings, 0.65X Sales, 1.14X Book, 22.7X FCF and 4.4X EBITDA. TX has a strong balance sheet versus peers and excels on a ROIC, ROA, and margin basis. TX has strong exposure to Mexico and the Automotive/Construction industries. TX should benefit from a normalization in Argentina's economy (25% of revenues), and the integration of its CSA acquisition.

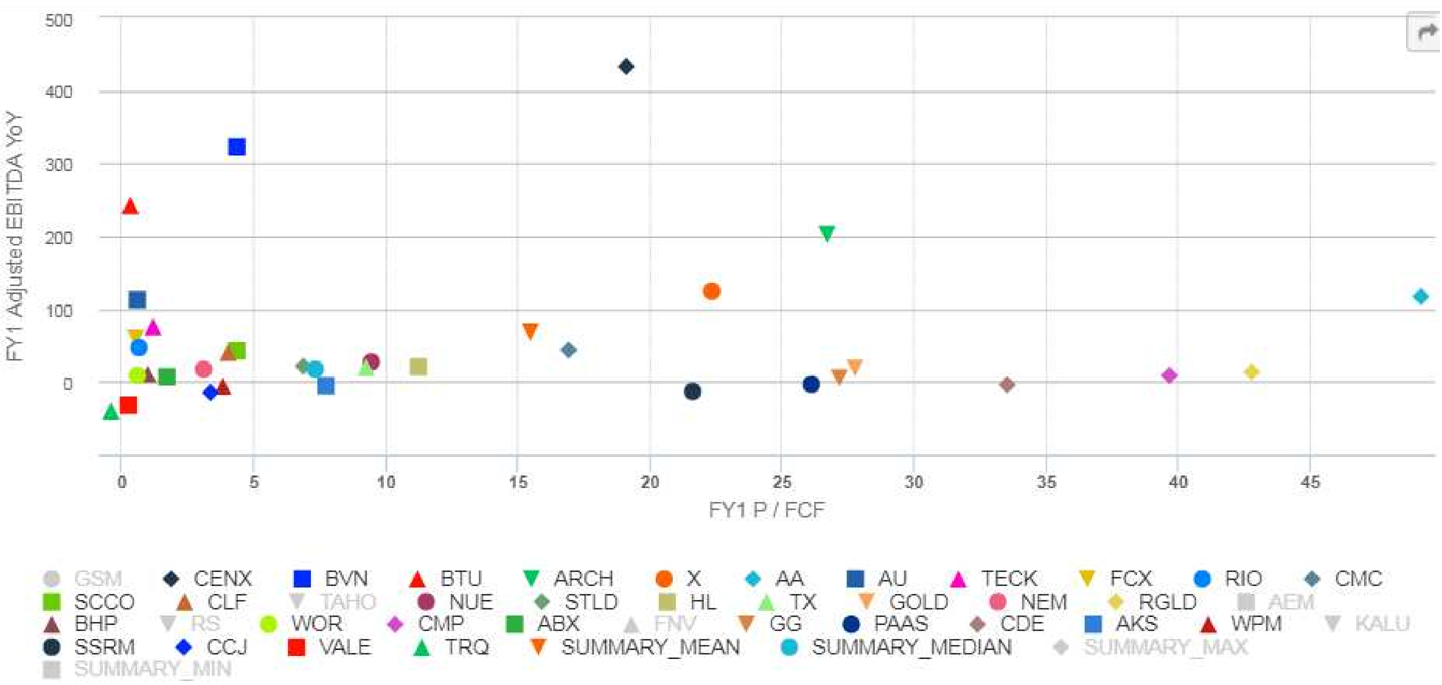


Ferroglobe (GSM) is a $2.7B silicon and specialty metals maker trading 15.3X Earnings, 3.05X Book and 13.8X 2018 EBITDA with shares climbing 48% in 2017. GSM is considered a leader in growing advanced materials industries with best in class operations. It has ties to megatrends like population growth, urbanization, energy efficiency, and connectivity / IoT. GSM has been able to continuously improve cost structure leading to better margins, and is considered the low cost producer with leading market share. GSM recently announced a deal for Glencore manganese plants in France and Norway. GSM is seeing a combination of rising volumes and prices and benefitting from strong end-markets as well as ongoing trade cases, while limited supply, rising global growth, and anti-dumping rulings are all positive tailwinds. GSM is a niche metals play with strong metrics and a positive pricing outlook with excellent margins.

EV/EBITDA versus EBITDA Margins



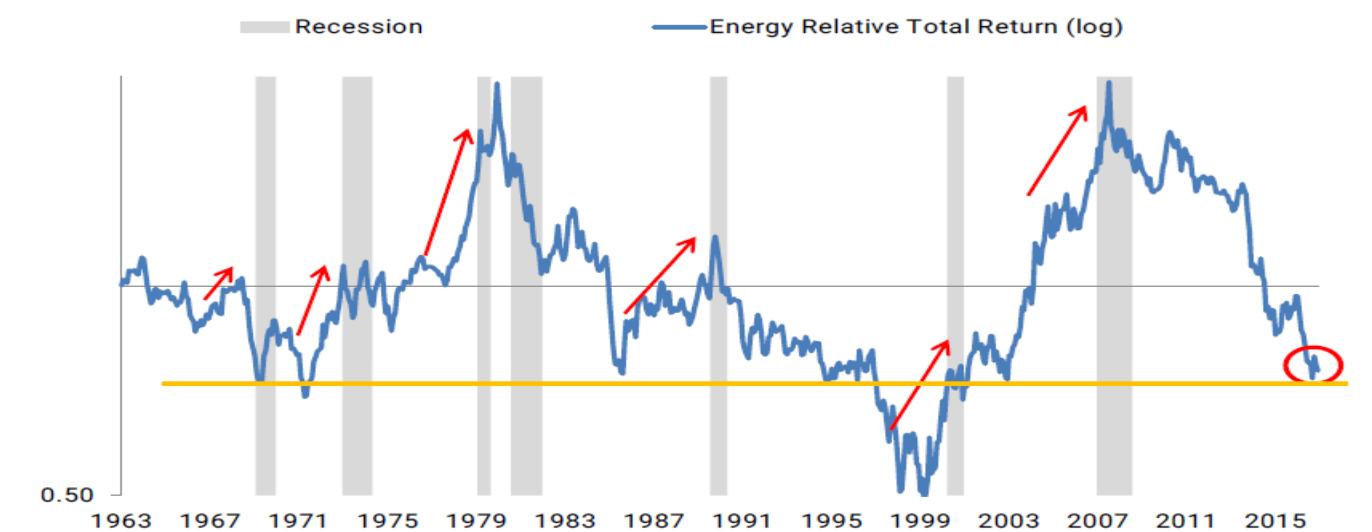
P/FCF vs. EBITDA Growth



Oil & Gas Exploration (Upstream):

Components:*APA,APC,AR,CDEV,CHK,CLR,CNQ,COG,COP,CRZO,CVE,CVX,DO,DVN,EGN,EOG,EQT,ESV,FANG,HES,HP,JAG,MRO,MTDR,NBL,NBR,NE,NFG,NFX,OXY,PDCE,PE,PXD,RIG,RRC,SU,SWN,WLL,WPX,XEC,XOM*

Exhibit 12: Energy is a Classic Late Cycle Performer. Is that Out Performance about to Begin?



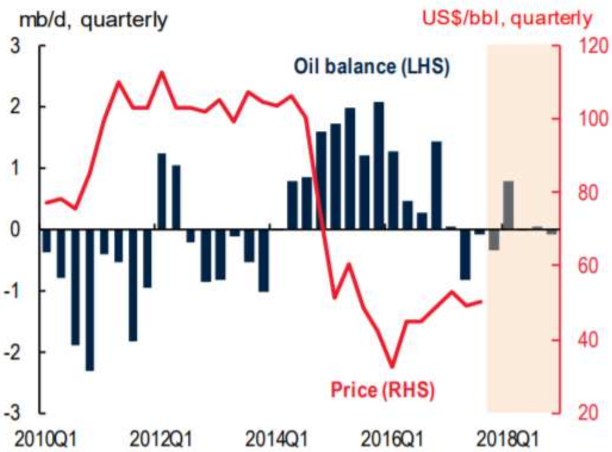
Similar to the Metals & Mining group, the Oil & Gas E&P names also operate in a cyclical nature and much of the trading is closely correlated with the underlying commodity, Oil or Gas, and the weekly data points on supply and demand. Seasonality shows that February and April are strong months for the E&P names, while September, November and December tend to be weak.

The group can really be divided into two, the Oil producers and Gas producers. While many names produce both, the percentage of production is generally skewed in one direction, and the notable Natural Gas dominant producers are AR, COG, CNX, SWN, EQT and RRC. Another way to divide the group is with onshore and offshore, the latter mainly featuring ESV, DO NE, RDC, RIG, and HP. Lastly, in the entire Energy complex, the companies are often separated into Upstream, Midstream, Downstream, Services, and Integrated Majors. The industry is currently undergoing an efficiency drive that is driving up well productivity rates and lowering breakeven prices.

In evaluation this group, EV/EBITDA and P/FCF are valuable, but better metrics that are not as easily found such as EV/Proved Reserves, EV/2P and EV/Daily Production can give better insight. It is also always important to understand the cost leaders, names that can withstand down-cycles better with stronger balance sheets and a lower cost of breakeven. Similar to Financials, the balance sheet is often the most important with these stocks, as the reserves are the asset that will generate future revenues/earnings. The debt/cash flow ratio can be a useful gauge of balance sheet health. Revenues are difficult to model with the wild price swings, and a sensitivity analysis can be performed for an expected range and probability of outcomes, but also have to take into account the company's hedging efforts. P/E and Revenue multiples lose a lot of value because Energy companies have large depreciation numbers, impairment charges, write-downs, and unusual tax situations. EBITDAX is also a modification often used, the X being exploration expenses. Acreage valuation is another method using transactions in the various regions as a guide to figure out $M/Acre. Reserve replacement ratio is yet another metric for this industry,

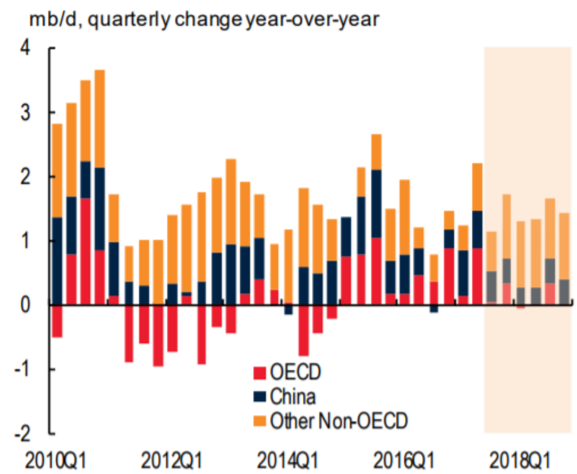
I put together some of the most telling charts for this group below including industry relative metric comparisons.

4 World oil balance and oil price



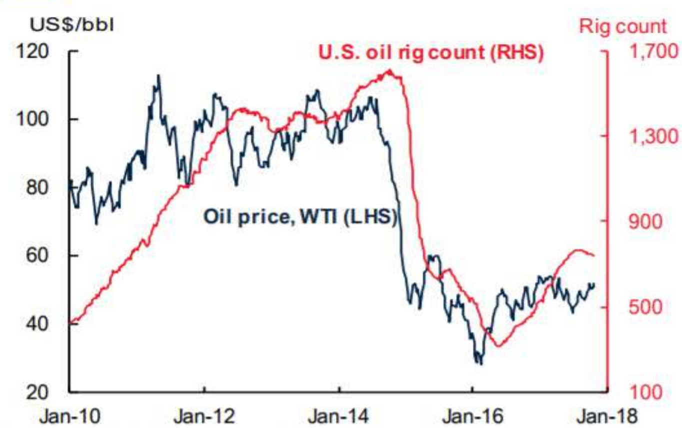
Sources: International Energy Agency, World Bank.

5 World oil demand growth



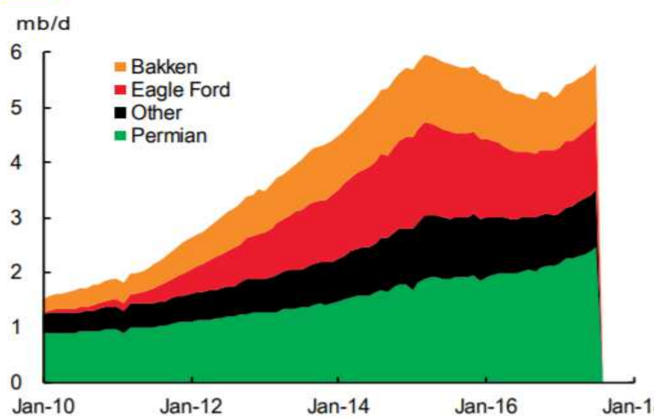
Source: International Energy Agency.

7 U.S. oil rig count and oil prices, weekly



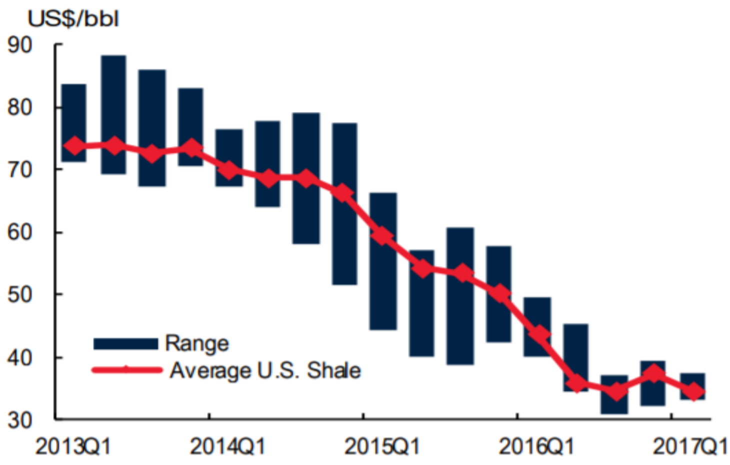
Sources: Baker Hughes, Bloomberg.

8 U.S. shale oil production

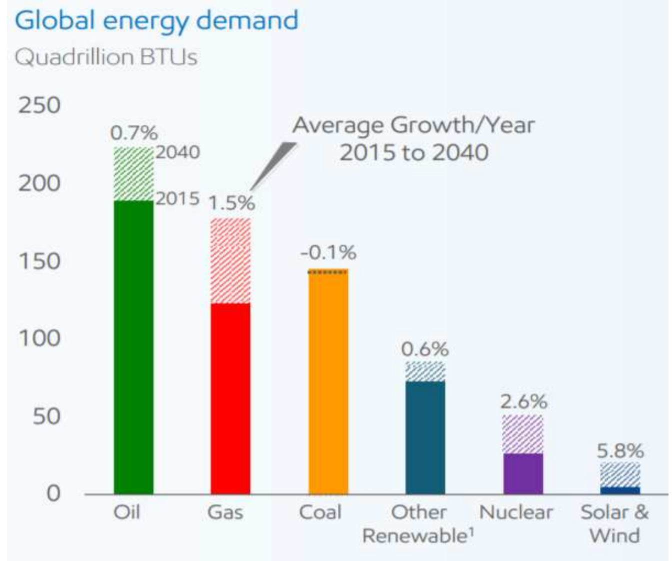


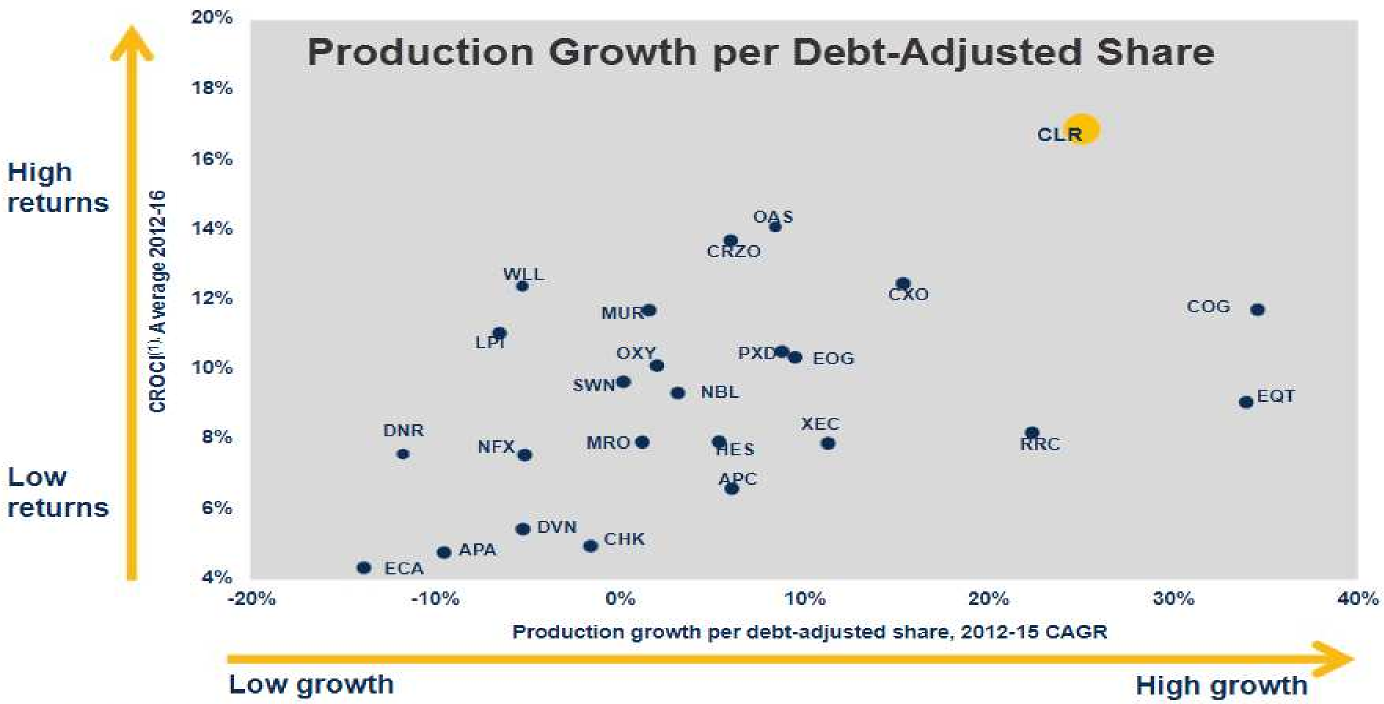
Source: U.S. Energy Information Administration.

9 U.S. shale average breakeven oil price



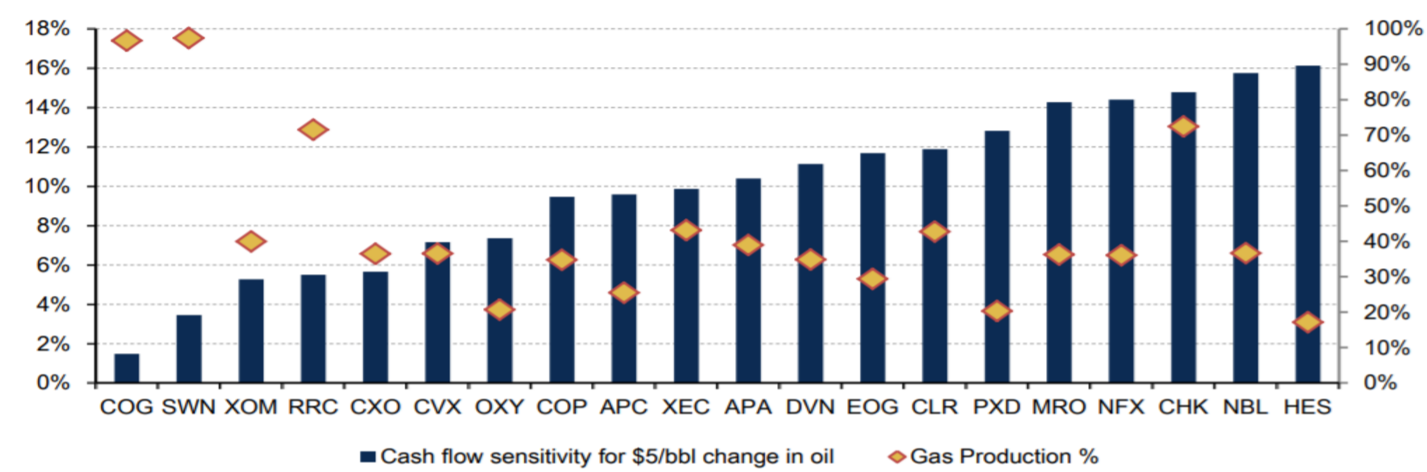
Source: Rystad Energy NASWellCube Premium.



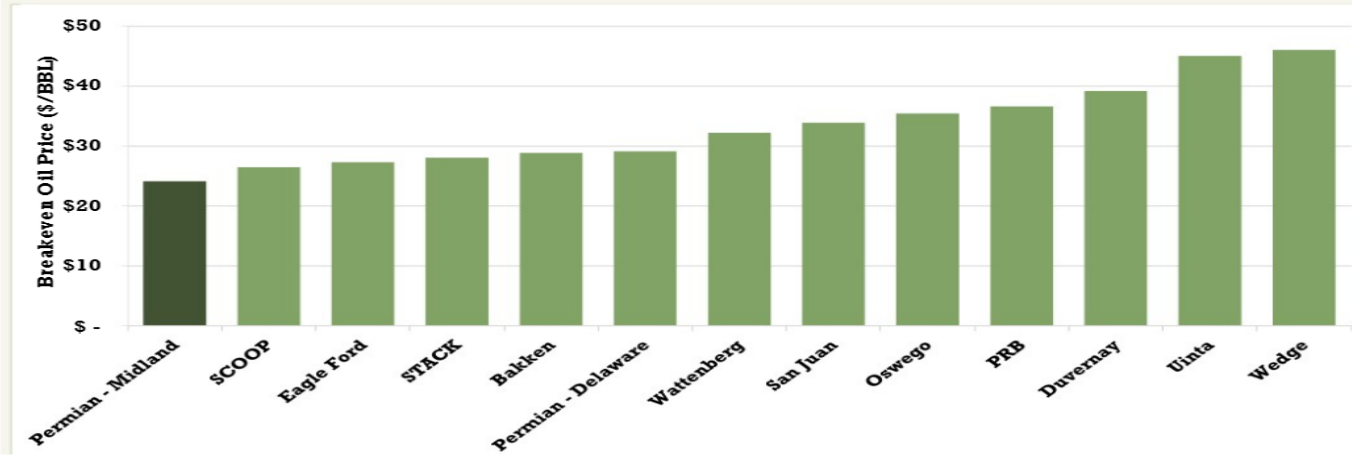


Source: Goldman Sachs Global Investment Research, October 2017

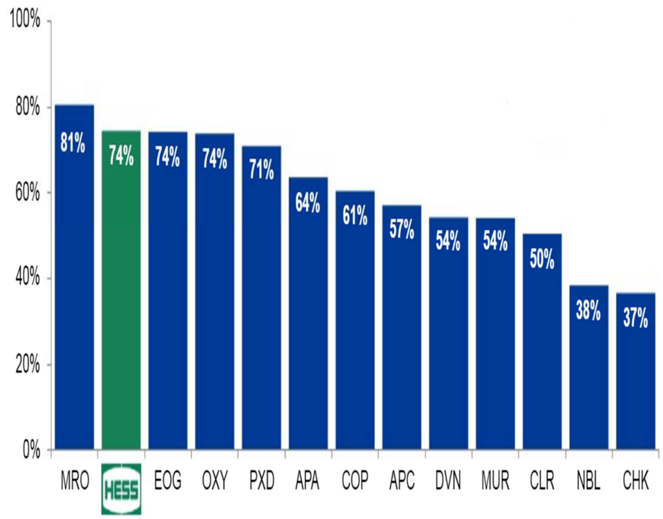
Chart 3: Oil beta favors international oils



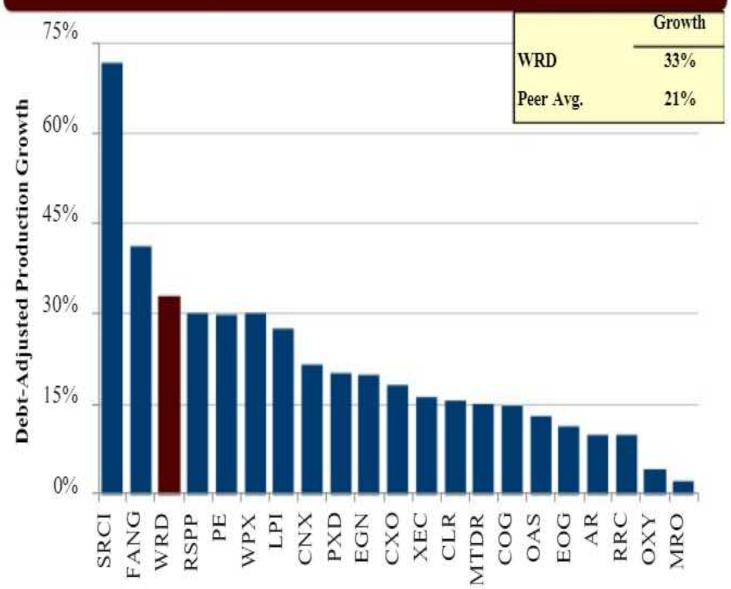
OIL BREAKEVENS BY SHALE PLAY IN NORTH AMERICA

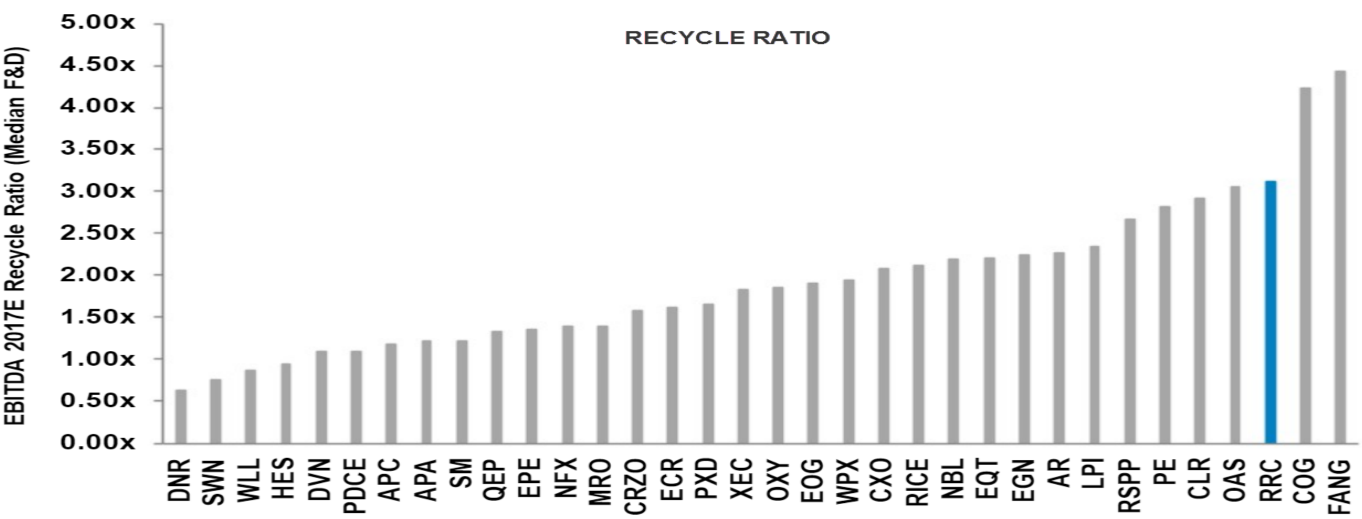


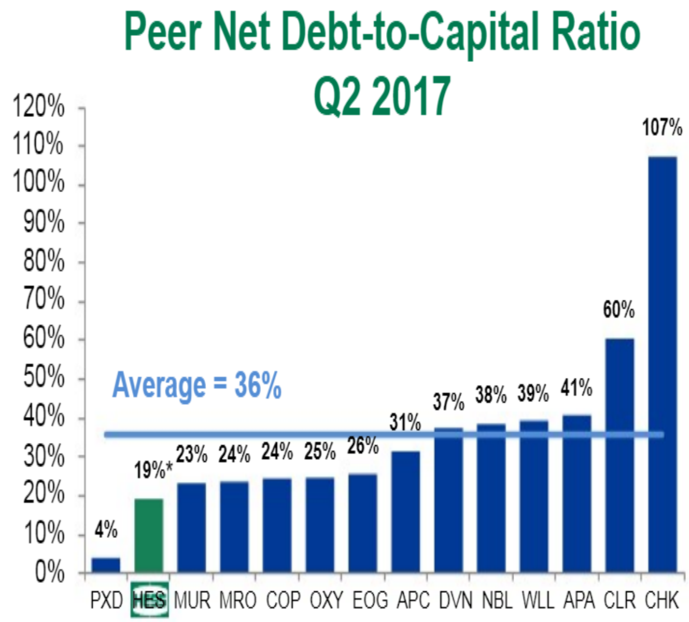
Liquids % of YE 2016 Reserves

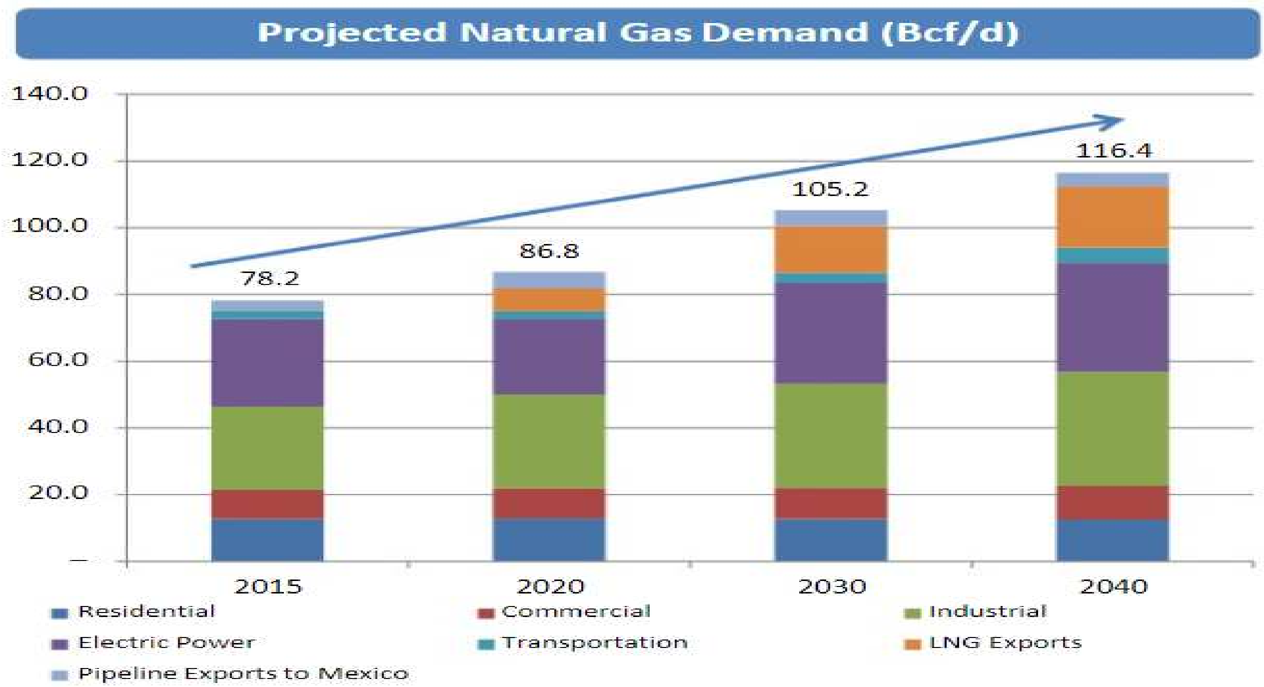


Debt-Adjusted Production Growth 2016-2018E (2)









I put together a sheet breaking down all the key metrics for the Oil & Gas Upstream names. Sentiment in the sector is improving with Crude Oil trading at an 18 month high and the industry is in a new era of capital discipline, realizing it needs to be ready to navigate downturns in pricing. The global oil market looks better balanced as we enter 2018. Monetization of assets remains a major theme in the industry with companies focusing on higher rate of return wells. When assessing this group there are so many industry-specific metrics to observe but overall I am looking for cost leaders (efficient drilling), strong balance sheets, production growth, and a higher Oil mix and trading at a reasonable valuation.

Majors	EV	EV/DA CF	EV/EBITDA	Debt/EBITDA	Oil Mix	2017 Production Growth	2018 Production	EV/Producti	Production (Operating) Costs per BOE	Acreage
COP	71,648	7.2X	8.2X	2.2X	85%	5%	1259	56.91	$15.00	Bakken, Eage Ford, Niobara
OXY	60,233	9.5X	11.6X	1.7X	63%	5%	663	90.85	$13.23	Permian; Middle East
XOM	386,895	9.8X	9.5X	1.1X	58%	2%	4265	90.71	$17.00	Permian;
CVX	256,672	9X	8.3X	1.7X	66%	8%	3015	85.13	$15.00	Permian;
Large Cap E&P										
DVN	32,391	9.4X	8X	2.4X	44%	15%	714	45.37	$4.30	STACK; Delaware
PXD	26,963	9.5X	12.4X	0.4X	59%	15%	310	86.98	$8.11	Permian & Eagle Ford; Midland
HES	19,865	11.6X	8.4X	2.4X	61%	10%	277	71.71	$10.00	Bakken, Guyana, Gulf of Mexico
CLR	23,953	8.4X	11.3X	3.3X	57%	10%	297	80.65	$3.75	Bakken, STACK, SCOOP
APC	39,917	7.8X	8.2X	3X	57%	15%	695	57.43	$8.25	DJ Basin; Delaware Basin; GoM
MRO	17,336	8X	6.7X	2.3X	55%	10%	385	45.03	$5.75	Bakken, STACK, SCOOP, Permian, Eagle Ford
EOG	64,282	10.4X	13.5X	1.1X	51%	20%	699	91.96	$10.52	Permian, Bakken, Eagle Ford, Powder River
NBL	20,058	8.5X	8.2X	3.4X	42%	23%	544	36.87	$9.94	DJ Basin, Delaware Basin, Eagle Ford
APA	23,827	6.4X	6.6X	2.3X	52%	1%	478	49.85	$16.30	Egypt, North Sea, Midland Basin
CHK	15,425	8.5X	6.6X	15.5X	25%	3%	570	27.06	$11.90	Haynesville, Eagle Ford, Powder Basin
Gas Levered E&P										
RRC	8,371	7.3X	7.9X	5X	10%	30%	407	20.57	$1.34	Marcellus Shale; N. Louisiana
COG	14,628	7.7X	13.3X	0.8X	5%	10%	284	51.51	$1.10	Marcellus and Eagle Ford
SWN	8,421	7.7X	5.7X	3.2X	10%	5%	408	20.64	$1.14	Appalachia; Fayetteville
SMID Cap E&P										
PE	9,597	16.4X	10X	2.2X	70%	16%	104	92.28	$11.70	Permian; Midland; S. Delaware
RSPP	7,218	11.6X	9.4X	2.7X	73%	20%	73	98.88	$9.10	Midland and Delaware Basins
PDCE	3,907	5.7X	6.1X	1.5X	40%	40%	112	34.88	$9.40	Wattenberg; Delaware Basin; Utica
XEC	12,058	8.9X	10.4X	0.9X	30%	19%	93	129.66	$8.90	Delaware Basin; Mid-Con
NFX	8,125	6.5X	8.6X	2.1X	42%	15%	175	46.43	$10.15	Williston; Uinta; Anadarko Basin; STACK/SCOOP
CXO	23,667	10.8X	12.9X	1.7X	61%	25%	228	103.80	$9.80	Permian
FANG	12,639	10.9X	10.2X	1.4X	73%	80%	108	117.03	$7.70	Permian
CRC	5,809	9X	7.5X	6.5X	65%	-8%	130	44.68	$19.50	California
MTDR	3,685	10.7X	10.6X	1.4X	51%	52%	45	81.89	13.38	Permian
OAS	4,814	6.8X	6.6X	3.7X	85%	15%	76	63.34	$17.10	Williston Basin
WLL	5,017	5.8X	4.9X	3.5X	71%	10%	131	38.30	$23.00	Williston Basin; Redtail
LPI	3,884	8X	8.5X	1.4X	46%	17%	69	56.29	$5.50	Midland Basin
EGN	6,205	7.8X	7.5X	1.2X	64%	29%	92	67.45	$8.90	Midland, Delaware, Central Basins
SM	4,814	5.9X	5.3X	3.8X	32%	118%	138	34.88	$9.12	Midland and Eagle Ford
WPX	8,074	8.4X	7.4X	3.6X	65%	43%	139	58.09	$15.35	Williston and Delaware Basins
JAG	3240	8.5X	8.5X	0.6X	81%	200%	34	95.29	$10.75	Delaware Basin
WRD	2735	6X	6X	2.7X	59%	60%	46	59.46	$7.50	Eagle Ford and N. Louisiana
CDEV	6101	15X	12.1X	0.9X	61%	215%	48	127.10	$11	S. Delaware Basin

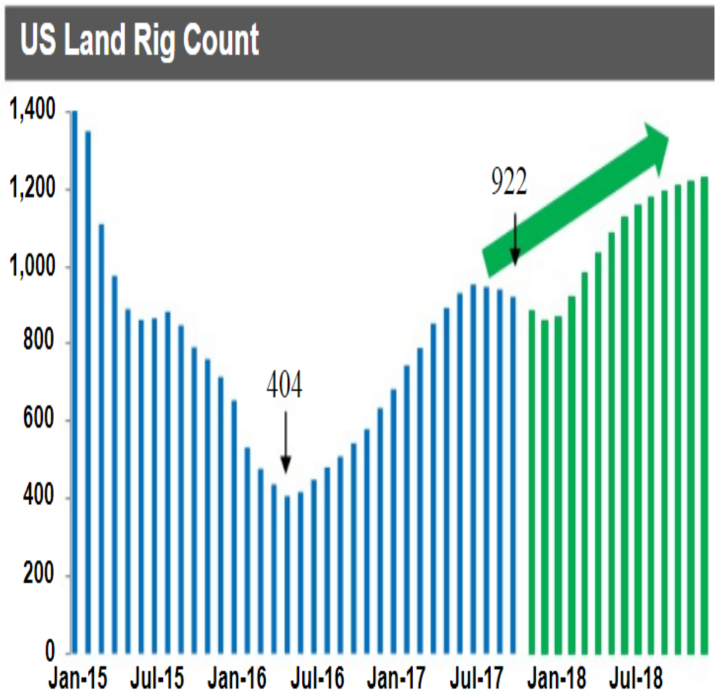
Among the majors and large cap E&P names, the standouts across various metrics are **Occidental Petro (OXY)**, a top Permian producer with a healthy dividend yield and asset optionality, and **Continental Resources (CLR)** as a low cost and high growth producer trading at a discounted valuation. **Hess (HES)** would be the third name of interest trading at cheap valuation with the standout balance sheet in the group.

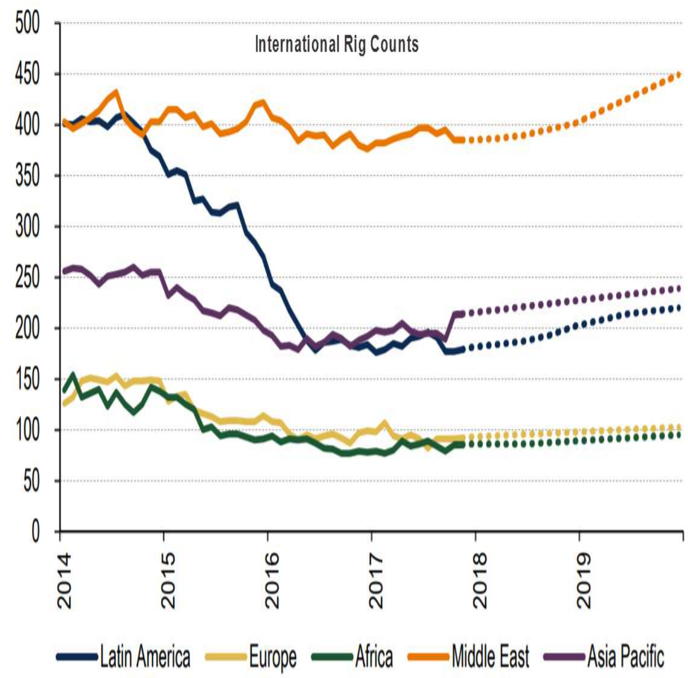
For the smaller name a few that stand out among peers are **Diamondback Energy (FANG), Jagged Peak (JAG), Energen (EGN), and RSP Permian (RSPP). PDC Energy (PDCE)** shares are down 40% YTD but seem like a major value play at 5.7 X EV/DACF, 6.1X EV/EBITDA, and 34.9X EV/Production.

Oil & Gas Services:

Components: *BRS,CKH,CLB,DNOW,DRQ,FET,FMSA,FTI,GE,HAL,HCLP,MDR,MRC,NOV,OII,OIS,PDS,PUMP,RES,SLB,SLCA,SPN,SYRG,TUSK,WFT,USAC*

The Energy Services group also trades very correlated to its underlying commodity and is closely tied to the E&P companies as their CAPEX budgets directly impact demand for the services group. With the sharp downturn in Oil prices, a lot of companies cut production targets resulting in a major downturn in earnings for this group, but recent indications from the CEO's of leaders like Halliburton (HAL) and Schlumberger (SLB) are seeing a modest uptick and signs of stabilization. The weekly rig count data is also closely correlated with performance in this group.

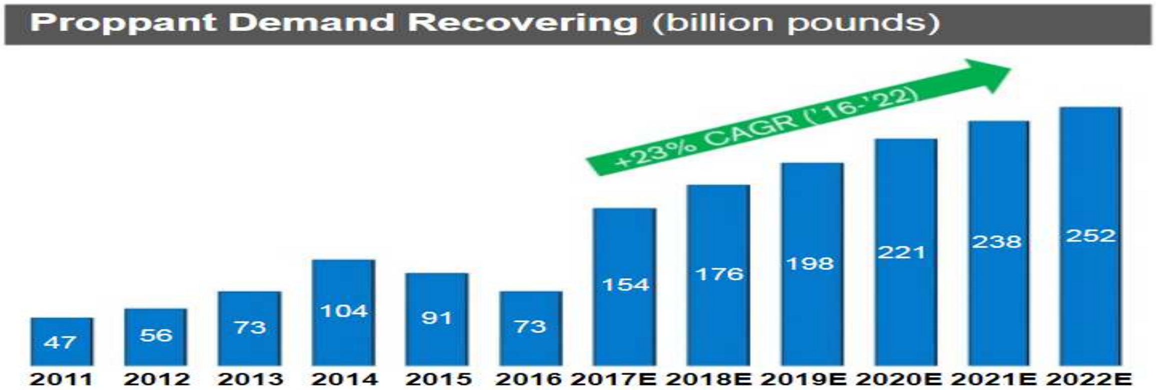




In October 2016 a $30B deal that saw General Electric (GE) merge its Oil & Gas Services unit with Baker Hughes (BHI) created BHGE. In May 2016, Technip announced a $13B merger with FMC Tech (FTI) creating Technip-FMC (FTI). In August of 2015, Schlumberger (SLB) acquired Cameron (CAM) for $14.6B. The deals in the space has left a limited amount of investment options outside of the big 5, SLB, HAL, FTI, NOV and BHGE. 2017 was an ugly year for the group with the majority of the names down 20% or more YTD, while **RPC (RES)** has been one standout performer +27% and a newcomer **ProPetro (PUMP)** at +30%.

EV/EBITDA, EV/Revenues, EBITDA margins and looking at debt levels with balance sheet ratios will all be appropriate in analyzing this group. The stocks are still trading rich to historical EV/EBITDA around 8.5X. The group currently has an average EV/EBITDA of 11.4X, EV/Sales 2X, EBITDA margins 19.6%, and ROE of 2.1%.

North American Land has been a stronger area for that group as International and North American Offshore have been relatively weak. Overall, the declining of flattening rig counts have weighed across these names. The E&P companies have been adamant about capital discipline seeing a relatively lower upside for the pricing environment. Into 2018 the environment may improve modestly, announced E&P 2018 budgets are +5% for majors and +15% Y/Y for Independents. There also has been increased hedging activity for the E&P companies that provides downside protection for activity levels. International rig counts mostly bottomed in early 2017 although Europe and Latin American activity has remained subdued. This is a tough group that is unlikely to ever return to its highs, but there is some value as the worst of times also appears well behind the names. One potential tailwind is improving offshore activity with projects being reworked and breakeven costs coming down. The stocks do set-up much better in 2018 after sharp earnings revisions and facing easier comps. Operating costs are coming down which is beneficial but pricing also remains constrained with average day rates under pressure.



Halliburton (HAL) is my favored large cap name with its North American Land exposure, best-in-class execution, fair valuation, rising margins, strong free cash flow, and ability to take market share. It has a great management team focused on optimizing returns.

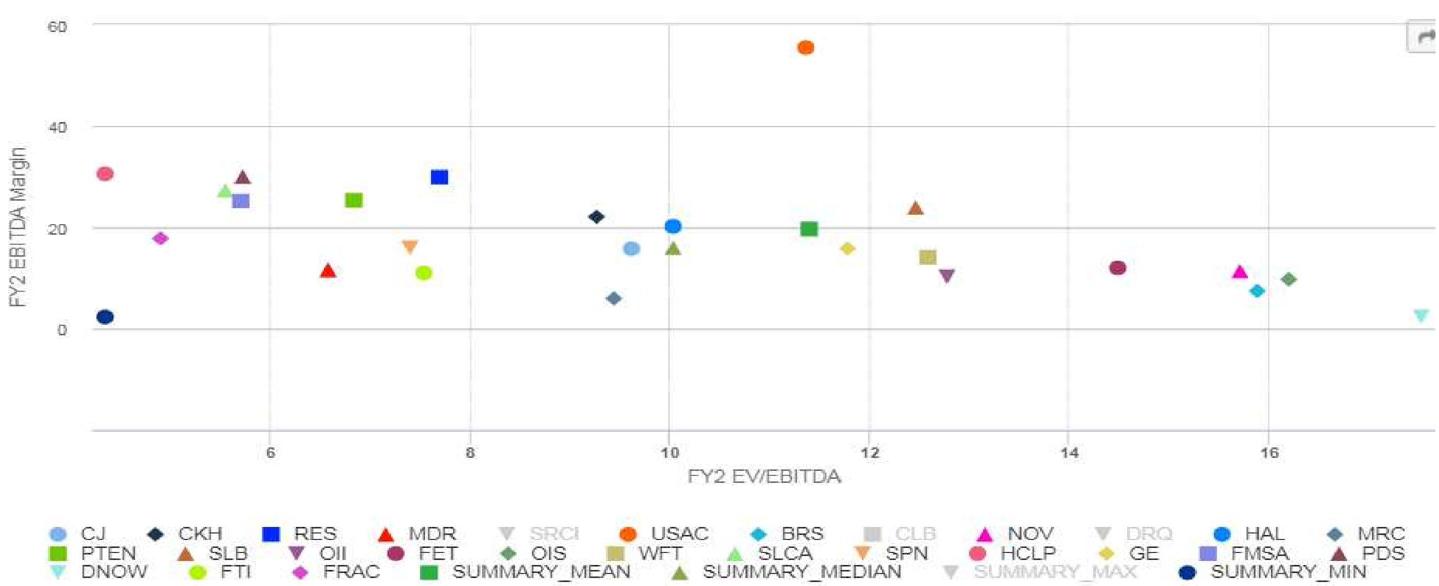
RPC Inc. (RES), one of the only names performing well in 2017, continues to look attractive at 7.7X EBITDA with no debt, strong margins, and a solid growth outlook. RES is primarily US-Land focused with a strong presence in the Permian Basin. Pressure Pumping accounts for 64.5% of revenues and it has exposure to the current upcycle in service-intensive well completions. RES has recently indicated increased customer activity.

USA Compression (USAC) is a $1.24B provider of natural gas compression services trading at a slight premium valuation of 11.4X EBITDA but a major EBITDA margin leader at 55.4%. USAC has a presence in all the strong North American land areas, and is directly correlated with industry drilling activity. Shale is the focus moving forward and it requires more compression, a benefit to USAC. USAC is my preferred small cap play in Natural Gas, as a services Company, as I do not see a lot of value in the E&P names.

ProPetro (PUMP) and Mammoth Energy Services (TUSK) are two interesting small cap plays that are newer companies to come public in this group. PUMP is coming off a quarter that saw revenues grow 32.4% Y/Y, a dedicated pumping name with strong growth opportunities as a pure-play frac provider benefitting from scale and best in class profitability due to 100% utilization. PUMP also is Permian Basin concentrated. TUSK is also coming off a strong Q3 that included strong EBITDA margin growth Q/Q. TUSK is an integrated play with completion/production services, natural proppant production, and other services. At 4.2X EBITDA it is a value play to peers across all its operating segments, pressure pumping accounting for 51% of revenues, and also comes with standout margins.

The frac proppant plays are always tricky because of the volatility, but the demand side of the equation remains strong. **Hi-Crush Partners (HCLP)** screens cheap at 4.7X EBITDA with 30%+ EBITDA margins and a clean balance sheet with a 5.63% yield, the name I would prefer. HCLP is strategically positioned close to the Permian Basin and wells are now using more than double the sand as before, and wells are being drilled at a more rapid pace so HCLP is leveraged to greater drilling efficiencies seen across the industry.

EV/EBITDA versus EBITDA Margins



Pipelines/Midstream - MLP's:

Components: *AMID ANDX APU BKEP BWP CAPL CCLP CNNX DCP DKL DM EEP ENBL ENLC ENLK EQGP EQM ETE ETP FGP GLP GPP HEP MMLP MPLX NBLX NGL NS NSH OKE PAA PAGP PBFX PSXP SEP SHLX SMLP SNMP SRLP SUN TCP TEGP TEP TLP USDP VLP WES WGP WPZ BPL CEQP ENB EPD GEL KMI MMP SPH TRGP TRP*

The midstream energy group consists mainly of MLP's and traditional EBITDA-based multiples are often used to value the companies, and a group where dividend yield plays a larger role for investors and take into considering distribution history and growth. Similar to the other Energy-based industries, the underlying commodity determines much of the movements of these stocks as it impacts the demand for midstream operations, and as we saw earlier in 2016 when credit was a concern in the Energy industry from weak prices, much of this group sold off sharply and has yet to recover. The Distributable Cash Flow Coverage ratio is one way to evaluate the health of a MLP. 2017 was a tough year for the group once again with many of the names down 20% or more, and the JPM Alerian MLP ETN is -16.6% YTD. I do not see a lot of opportunity in this group but will break down all the key metrics in a table I compiled below. In general we want to concentrate on names with growing and safe distributions as these are utilized more as instruments for income rather than growth.

Ticker	Name	Distribution Rate	Distribution CAGR (2015-2018)	2018 EV/EBITDA	2018 P/DCF	DCF Coverage	Debt/EBITDA	1 Year Return	Dividend Yield
AMID	American Midstream Partners, LP	11.70%	-4.40%	9.7x	7x	1.2x	5x	-25.00%	13.92%
ANDX	Andeavor Logistics LP	7.70%	12.80%	12.5x	10.9x	1.5x	3.1x	-6.83%	8.41%
APU	AmeriGas Partners, L.P.	8.40%	2.00%	11.7x	11.7x	1x	1x	0.58%	8.47%
BKEP	Blueknight Energy Partners, L.P.	9.90%	0.50%	9.1x	7.3x	1.1x	3.9x	-22.31%	11.49%
BWP	Boardwalk Pipeline Partners, LP	2.50%	0.00%	7.9x	7.2x	5.5x	4x	-24.51%	10.70%
CAPL	CrossAmerica Partners LP	9.50%	3.90%	11.9x	9.6x	1.1x	4.6x	-23.16%	3.02%
CCLP	CSI Compressco LP	16.80%	-27.70%	6.9x	3.7x	1.6x	5x	-8.45%	10.57%
CNNX	CONE Midstream Partners LP	6.50%	14.60%	8.4x	10.1x	1.3x	0x	-50.48%	14.56%
DCP	DCP Midstream, LP	9.20%	0.00%	11.6x	10.4x	1x	5.3x	5.79%	9.74%
DKL	Delek Logistics Partners, LP	9.00%	9.00%	11x	10.6x	1x	3.1x	-19.13%	6.85%
DM	Dominion Energy Midstream Partners, LP	4.40%	22.00%	15.9x	14.8x	1.3x	2.3x	-0.14%	9.01%
EEP	Enbridge Energy Partners, L.P.	9.20%	-15.50%	11.9x	8.1x	1.3x	4.1x	10.58%	9.60%
ENBL	Enable Midstream Partners, LP	8.30%	0.20%	11.5x	10.4x	1.2x	4x	18.08%	3.78%
ENLC	EnLink Midstream, LLC	2.50%	2.10%		14.5x	1.1x		-40.34%	9.94%
ENLK	EnLink Midstream Partners, LP	9.60%	0.30%	12.1x	8.8x	1.1x	4.3x	-8.27%	4.98%
EQGP	EQT GP Holdings, LP	3.00%	45.00%		26.2x	1x		-6.22%	8.60%
EQM	EQT Midstream Partners, LP	5.00%	18.60%	13.6x	12x	1.3x	2.1x	-9.09%	6.24%
ETE	Energy Transfer Equity, L.P.	6.60%	1.80%		11.2x	1.5x		-12.07%	10.10%
ETP	Energy Transfer Partners, L.P.	10.90%	8.40%	10.5x	-	1.3x	5x	-2.94%	6.73%
FGP	Ferrellgas Partners, L.P.	9.00%	-41.60%	8.2x	3.2x	3.4x	6.7x	8.65%	3.55%
GLP	Global Partners LP	10.10%	-9.90%	8.5x	7.1x	1.4x	5.6x	-2.93%	5.71%
GPP	Green Plains Partners LP	9.60%	8.00%	9.7x	8.4x	1.2x	1.9x	3.24%	7.11%
HEP	Holly Energy Partners, L.P.	7.30%	6.00%	14.3x	12.4x	1x	4x	-26.95%	14.14%
MMLP	Martin Midstream Partners L.P.	11.00%	-14.90%	9.4x	7.5x	1.2x	4.9x	-26.36%	8.68%
MPLX	MPLX LP	6.40%	11.70%	13.7x	11.5x	1.2x	4x	-33.14%	8.96%
NBLX	Noble Midstream Partners LP	3.40%	20.60%	10.5x	9.9x	2.1x	2x	8.20%	10.79%
NGL	NGL Energy Partners LP	15.50%	-13.00%	8.9x	4.3x	1.5x	5.9x	6.44%	9.68%
NS	NuStar Energy L.P.	10.50%	0.00%	11.6x	9.5x	1x	5.3x	5.47%	7.65%
NSH	NuStar GP Holdings, LLC	9.90%	0.00%		10.5x	1x		-20.13%	2.92%
OKE	ONEOK, Inc.	5.60%	10.30%					-15.79%	14.71%

Ticker	Name	Distribution Rate	Distribution CAGR (2015-2018)	2018 EV/EBITDA	2018 P/DCF	DCF Coverage	Debt/EBITDA	1 Year Return	Dividend Yield
PAA	Plains All American Pipeline, L.P.	8.60%	-7.50%	11.5x	10x	1.1x	4.4x	-4.04%	5.25%
PAGP	Plains GP Holdings, L.P.	8.40%	-					14.70%	6.45%
PBFX	PBF Logistics LP	8.90%	10.70%	9.8x	8.2x	1.3x	2.8x	54.88%	3.78%
PSXP	Phillips 66 Partners LP	5.10%	23.30%	15.4x	12.8x	1.2x	4.5x	-28.61%	12.14%
SEP	Spectra Energy Partners, LP	6.20%	7.60%	13.1x	12.4x	1.2x	3.7x	-38.75%	14.69%
SHLX	Shell Midstream Partners, L.P.	4.40%	27.70%	15.4x	15x	1.2x	3.5x	-48.15%	15.57%
SMLP	Summit Midstream Partners, LP	10.60%	0.20%	9.7x	7.7x	1.2x	4.3x	-7.23%	5.69%
SNMP	Sanchez Midstream Partners LP	17.30%	4.60%	8.6X	6.6x	1.2x	2.4x	-37.02%	6.08%
SRLP	Sprague Resources LP	9.00%	10.90%	9.8x	7.4x	1.3x	4.7x	-39.13%	5.77%
SUN	Sunoco LP	10.60%	4.60%	10.3x	9.2x	1x	4.8x	0.00%	9.77%
TCP	TC PipeLines, LP	7.20%	4.80%	12x	10.7x	1.2x	4.7x	3.52%	5.44%
TEGP	Tallgrass Energy GP, LP	5.50%	39.00%		15.2x	1x		-7.21%	7.25%
TEP	Tallgrass Energy Partners, LP	7.50%	22.60%	11x	8.4x	1.3x	2.2x	-0.95%	4.66%
TLP	Transmontaigne Partners L.P.	6.70%	6.10%	10x	9.4x	1.4x	2.6x	-12.75%	11.79%
USDP	USD Partners LP	11.80%	9.00%	7.8x	25.6x	1.3x	2.8x	-8.77%	17.31%
VLP	Valero Energy Partners LP	4.10%	23.80%	15x	11.7x	1.5x	3.1x	-16.52%	10.02%
WES	Western Gas Partners, LP	6.90%	8.50%	14.8x	11.8x	1.2x	3.7x	-5.86%	10.33%
WGP	Western Gas Equity Partners, LP	5.20%	5.20%		17.2x	1x		15.05%	11.48%
WPZ	Williams Partners L.P.	6.10%	-8.80%	11.6x	12.8x	1.2x	3.5x	-2.50%	7.89%
BPL	Buckeye Partners, L.P.	8.20%	4.10%	11.8x	11.1x	1.1x	4.5x	-3.69%	6.05%
CEQP	Crestwood Equity Partners LP	9.40%	-24.20%	9.6x	7.3x	1.1x	4.7x	-5.27%	8.55%
ENB	Enbridge Inc.	4.60%	13.10%	14.3x	11.9x	1.6x	5.5x	-6.75%	7.62%
EPD	Enterprise Products Partners L.P.	6.30%	5.00%	13.5x	11.8x	1.3x	4.1x	-15.58%	8.08%
GEL	Genesis Energy, L.P.	9.70%	7.00%	11.3x	7.9x	1.2x	5.2x	10.42%	4.02%
KMI	Kinder Morgan, Inc.	2.50%						-27.44%	13.73%
MMP	Magellan Midstream Partners, L.P.	5.10%	8.80%	14.5x	14.8x	1.2x	3.3x	4.71%	4.59%
SPH	Suburban Propane Partners, L.P.	14.70%	-12.30%	9.2x	7.1x	1.4x	4.4x	-18.20%	8.05%
TRGP	Targa Resources Corp.	7.90%	3.40%	13.5x	11x	1.1x	4.3x	-14.39%	5.92%
TRP	TransCanada Corporation	3.90%	9.30%	12.7x	15.5x	1.4x	5.4x	1.37%	6.60%

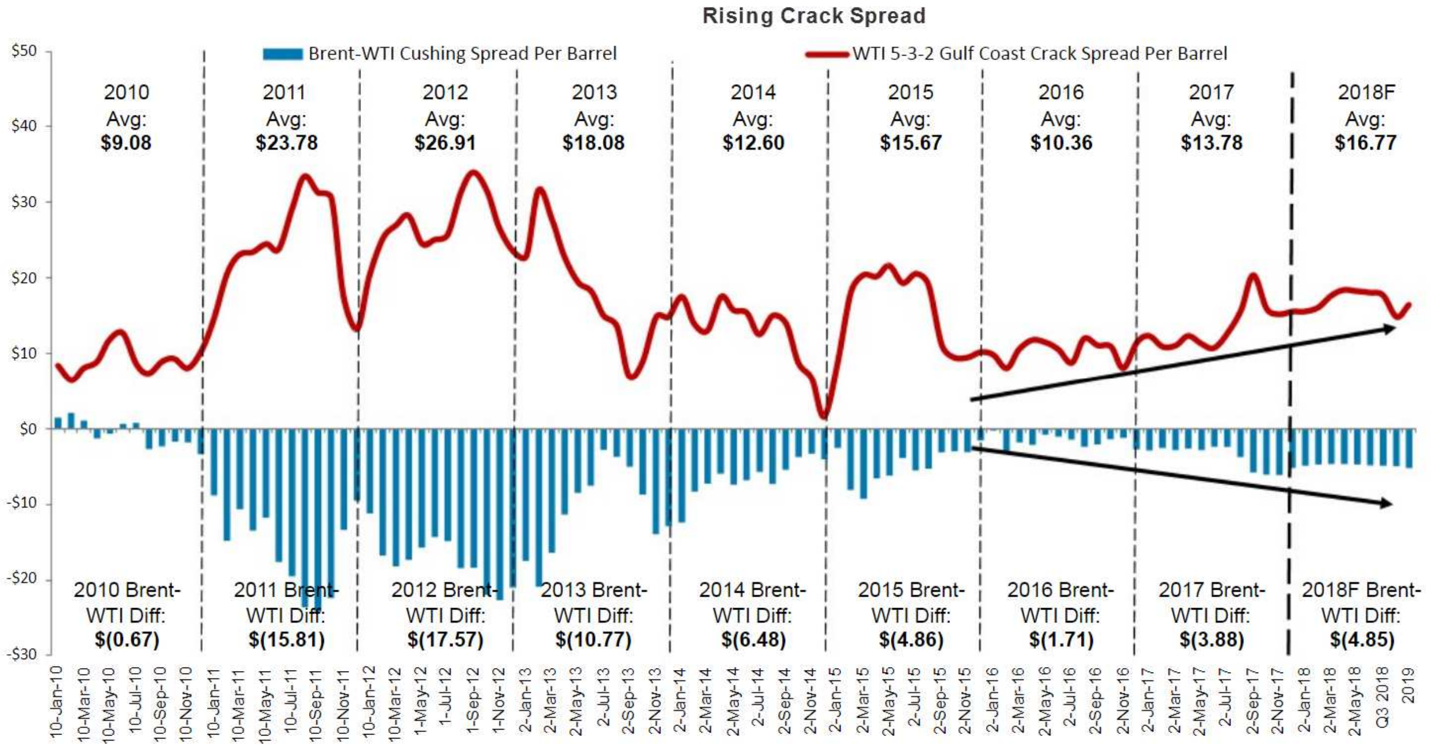
Taking into account all of the valuation, growth, balance sheet, and distribution metrics, the names that screen the best for this group are **Enbridge (ENB), Andeavor Logistics (ANDX), Magellan (MMP), Tallgrass Energy Partners (TEP), Noble Midstream (NBLX), CONE Midstream (CNNX), Green Plains Partners (GPP), and Sprague Resources (SRLP).**

Citi held a MLP/Infrastructure Conference in August where many of these companies presented and the presentations can be found at their respective IR sites for those wanting to do further research.

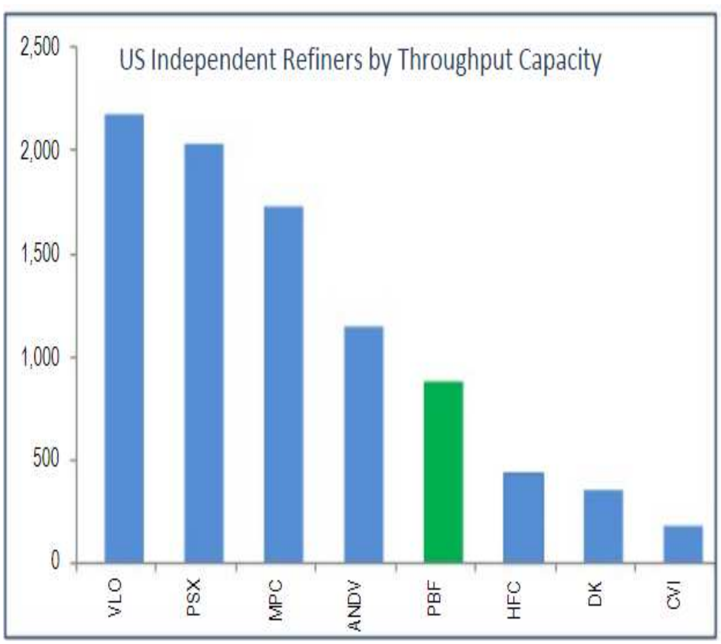
Refiners (Downstream):

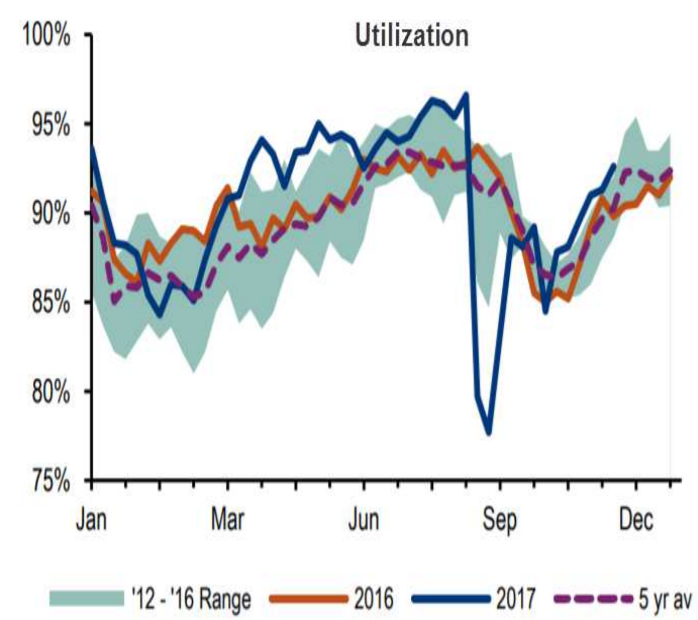
Components: *ALDW,CLMT,CVI,DK,HFC,INT,MPC,PARR,PBF,PSX,SUN,ANDV,VLO,VVV*

The refining group is one of the smaller ones and has always been one of the more correlated, the names tend to move together in multi-day trend moves, and much of it is tied to the crack spreads, the price of selected finished products minus the total barrels of crude needed to create those products. The crack spread benchmarks differ across various regions, and I provided a useful table below. It is a group that is great to trade, but less alluring to invest with the ever-changing margins leading to very inconsistent and volatile earnings. It is also a group where geographical presence is important due to the differing prices from supply/demand in different regions of the US, and the World for that matter. Every Wednesday the EIA releases oil demand and inventory data that can gauge US refined products demand, an indicator worth paying attention to for trading this space. Another metric in refining is the Nelson Complexity Index, which assigns a number to the complexity of a certain physical or chemical process, and scores the refinery on how much crude can be run by those complex processes in relation to the facility's overall processing capacity, the higher the number the better. Cost efficiency is also extremely important in this group as the companies have little pricing control, so refinery utilization is often a number observed as well as operational costs per barrel of produced product. Levered FCF Margin and ROIC are two key metrics for this group as overall industry dynamics leave little room for income/revenue growth, so cash flow generation is important.



In terms of performance it has been a strong year with 13 of 14 names positive on the year and 8 names +25% or more YTD. The group saw strength after Hurricane Harvey damaged a lot of energy infrastructure knocking refining capacity offline. The group has also seen upside after the passing of the GOP tax plan. Strong refining margins continue to benefit from the clean-up of an inventory overhang that weighed on the group earlier in the year, but normalization looks on the horizon as the robust margins have now been exploited. Barclays sees a long term equilibrium of the Brent/WTI Cushing spread at $4-$6/bl and possibly higher if US oil exports overwhelm European refiner demand and the industry is forced to rely on Asia. For perspective, this spread averaged $0.60/bl in 2016. It also sees US refiners well positioned for new standards supporting distillate margins and the light/heavy oil differential beginning in 2H19. It calls this the golden age of refining with years of running room.



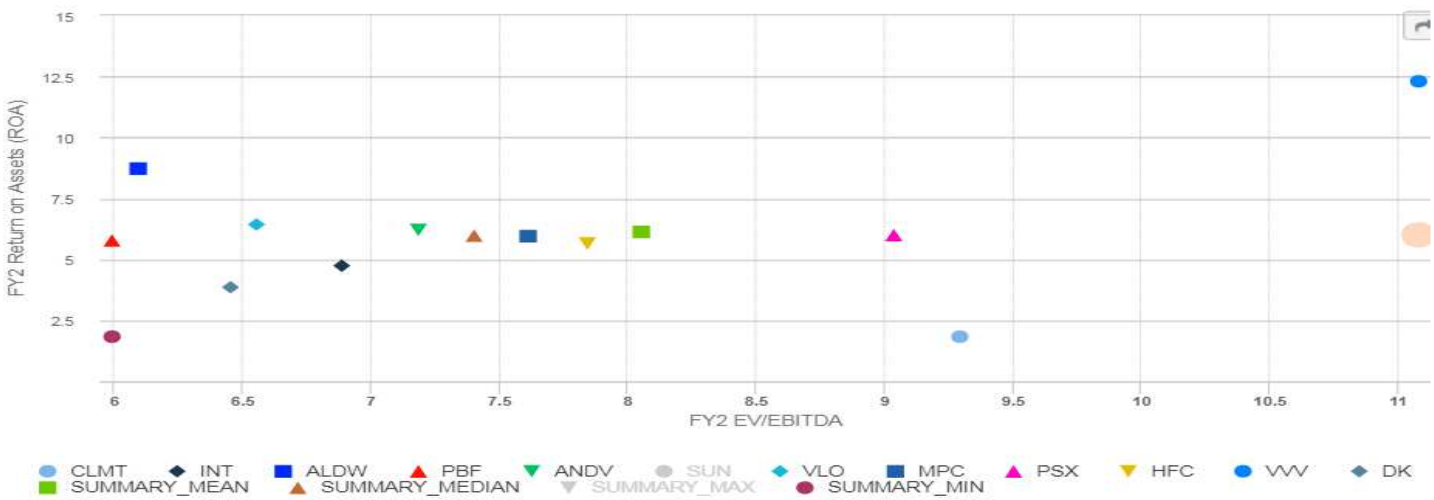


Andeavor (ANDV) is a favorite name in this group with its leverage to the California market which has stronger underlying demand trends, while the company is also integrating its Western Refining (WNR) deal and has entered the Mexican market. It is transitioning from 80% of its EBITDA from Refining in 2010 to just 42% in 2016 as Marketing and Logistics segments are now larger contributors.

PBF Energy (PBF) screens cheap at 12X Earnings and 6X EBITDA while having a healthy ROA, solid balance sheet, while EBITDA margins below peer averages is the one area needed for improvement. PBF is a turnaround story after making key changes to its Chalmette and Torrance refineries and showing signs of an improving margin outlook with healthy cash flows. PBF is more of a pure play refinery and has less leverage to the widening WTI-Brent spreads as most of its capacity is on the coasts.

Valvoline (VVV) is a less traditional play in this group trading rich at 11.1X EBITDA but having a ROIC of 48.3% and 22.6% EBITDA margins, so the premium is deserved. In Q4, Valvoline saw strong same store sales growth, a premium mix shift, and solid International volume growth as it also works on digital initiatives and returning capital to shareholders. VVV is a recent spin-off executing well in the early going and seeing positive trends across its businesses, a story likely to gain more recognition moving forward.

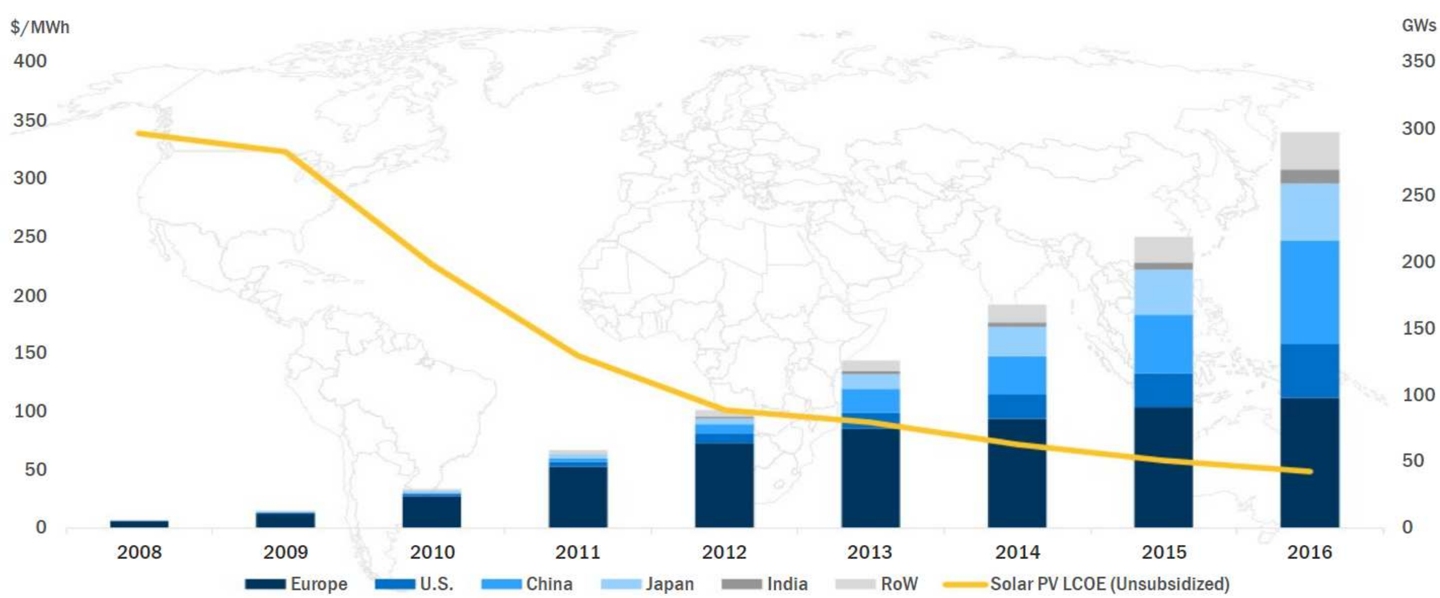
EV/EBITDA versus ROA



Renewable Energy:

Components: *CSIQ,FSLR,HASI,ITRI,NEP,NYLD,ORA,PEGI,SEDG,SPWR,TPIC,VECO*

There are a limited number of ways to play the renewable energy group but for the most part we are looking at solar energy providers and Alternative Energy Utilities. 2017 was a surprisingly good year for Solar with SEDG +178.5% and FSLR +90% two of the leaders. The recent Senate tax bill contained provisions that could harm wind and solar energy investment and deployment moving forward, though upside could be realized if the Administration follows the ITC's recent recommendation for a 35% tariff on imported solar modules. The Global PV Market outlook estimates 92-97 GW of solar to be installed in 2017, up from 75 GW in 2016, and for 2018 forecasts 94 to 111 GW, then growing to 107 to 121 GW in 2019. FSLR recently held its Analyst Day discussing in detail the outlook for the Solar industry and its Series 6 transition will result in higher margins and ROIC.



First Solar (FSLR) remains the optimal way to position in this group with its leadership position and benefitting from and tariffs against Chinese imports, also at a stage of improving profitability and ROIC. FSLR has plenty of momentum entering 2018 and the ramping of Series 6 is a positive tailwind. **Solar Edge (SEDG)** is the more risky way to play the group, but it has demonstrated flawless execution to this point growing fast and gaining market share.

Ormat Tech (ORA) is the preferred way to play alternative energy from a Utility manner, the $3.17B geo-thermal energy provider trades 24.55X Earnings and 2.7X Book with a 0.5% yield. ORA has been a strong growth story and expecting accelerating to growth in 2018. The global potential of geothermal is 10X the current installed capacity and very cost effective. ORA has a wide moat and has seen gross margins rise steadily the last few years in its largest electricity segment as operating costs have come down. It is a very interesting niche name with strong market share, high barriers to entry, and positive trends in all important financial metrics.

Consumer Goods: *The outlook for the consumer goods sector in 2017 is mixed due to some new emerging trends. The Food & Beverage names trading at historically high valuations are coming under competitive pressures from private labels which was exacerbated when Amazon did a deal for Whole Foods. On the other hand there are a number of M&A deals that give upside optionality to a number of names with multiple suitors. The Auto industry is facing the major shift underway to autonomous driving which will have an impact to a number of companies. On a positive note consumer confidence continues to trend higher to multi-year highs, and consumers are generally in great financial health, so the spending side of the equation is there, making stock selection crucial across these industries. The Millennial peak spending years plays an important part here, identifying consumption trends.*

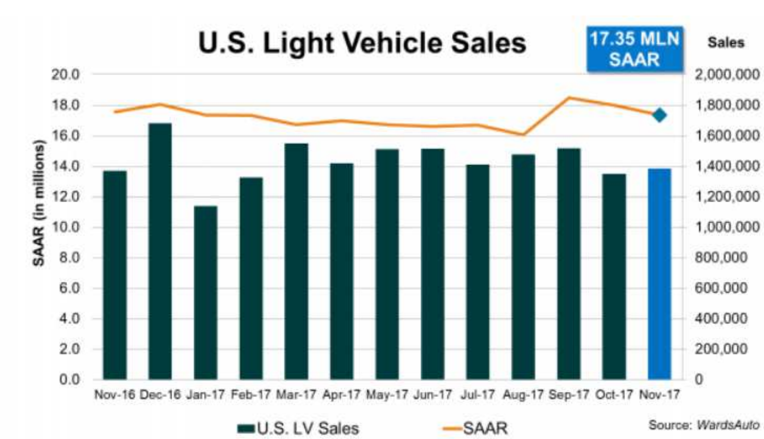
<u>Truck and Auto Related:</u>

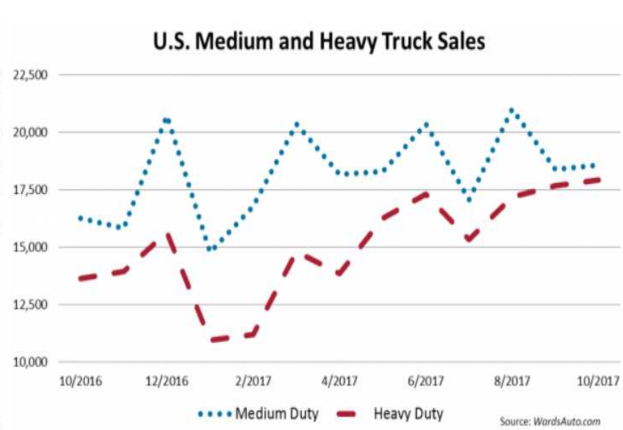
Components:*ADNT,ALSN,ALV,AN,APTV,AXL,BWA,CARG,CARS,CVNA,CMI,CPRT,CTB,CWH,DAN,DLPH,DORM,LCII,F,FCAU,GM,GNTX,GPC,GPI,GT,HOG,HY,KAR,KMX,LAD,LEA,LKQ,MGA,MNRO,MOD,MTOR,NAV,OSK,PAG,PATK,PCAR,PII,RACE,RBA,TEN,THO,THRM,TSLA,TTM,VC,WBC,WGO*

This group I compiled has a few industries wrapped under the same Truck & Auto theme, so we have Auto Dealerships, Auto Manufacturers, Auto Parts, Recreational Vehicles, and lastly the Heavy Truck makers. There were a number of outstanding performers in 2017 with the RV related names (WGO, THO, CWH), doing very well again. Visteon (VC) and Delphi (DLPH) had excellent years as well with a focus on Infotainment. The group is seeing a lot of change as well with the break-ups at DLPH and ALV.

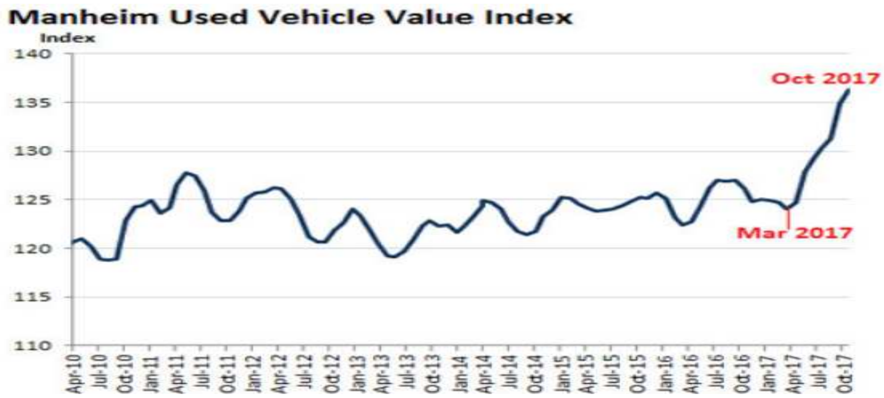
We can return to more traditional valuation metrics for this group like EV/EBITDA, P/E, and P/OCF while also taking into account debt coverage ratios, inventory turnover, and operational efficiency ratios in a highlight competitive industry with high capital expenditures such as gross margins, ROIC and ROE. Specific to the auto dealerships, same store sales trends is a required metric.

Industry data is also very important in timing investments in this group with the cyclical nature of auto production levels, so taking into account gasoline prices, consumer financial health, and overall state of the economy are a must. Government regulations, such as CAFÉ mandates will require automakers to invest in technology to improve fuel efficiency and reduce emissions, set to rise to 55mpg in 2025 from 38.6mpg in 2016. Safety features and connected car are also top themes in this industry with Automaker becoming pseudo-tech companies. Autonomous vehicles is another major theme that is set to change the automotive landscape. Class 8 truck sales hit their best levels in October and have trended higher much of the year, though the recent unveiling of the Tesla Semi has caused some shakeout among the truck makers and suppliers.





The auto dealerships is the first group to look at and there is a whole new group of online marketplace names to consider this year with **Cars.com (CARS), Carvana (CVNA), and Car-Gurus (CARG).** These names are a major disruptive element to the traditional players and have a long runway for growth. They operate in a $30B addressable market and the three companies have a combined market cap of $7B. Tightening inventories has created a very strong pricing environment for used cars, seen both in the Cox Automotive and Manheim indexes. Autonomous driving is one potential headwind down the road to be aware of as accident frequency is likely to decrease.

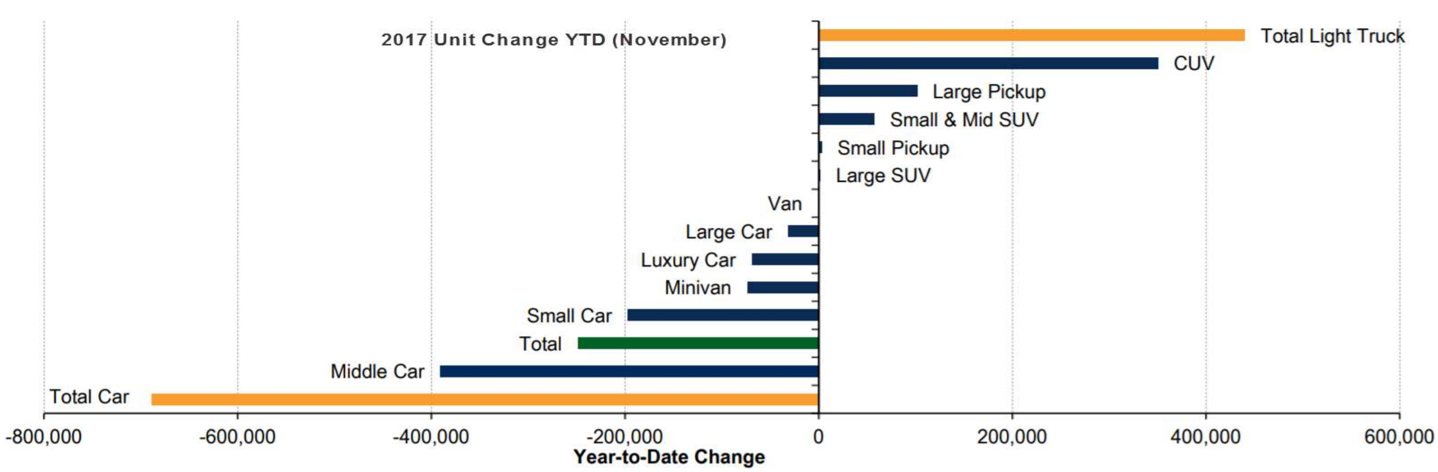


Carvana (CVNA) looks to have the best growth potential and at 3.3X EV/Sales is fairly cheap as a disruptive name in a heavily fragmented and large market. Auto is in the early stages of a transition to more online purchases and think there is a nice longer term opportunity as a riskier way name. **Copart (CPRT)** was a top pick from last year and shares +56% this year, trading at 14.5X EBITDA, a premium to peers but continues to stand out with margins and ROIC. **CarMax (KMX)** is the largest name in the group but also a favored one as many of the bearish concerns are abating and trades at a discounted valuation of 9.7X EBITDA with a better than peer average 10.7% ROIC. KMX is also just starting to benefit from its digital initiatives that includes home delivery. The company is seeing strong demand and management sees a lot of opportunity for cost efficiencies.

For the auto manufacturers in 2017 we have seen a return of the SUV and Trucks while cars are seeing negative Y/Y sales. Incentives continue to increase to multi year highs while prices have stagnated. Miles driven continues to trend upwards to new highs with gasoline prices rather subdued and manufacturers have also enjoyed a period of lower raw material costs per vehicle. My two favorites in the group are the same as last year with GM and RACE while **Tata Motors (TTM)** has some appeal as well as an International name.

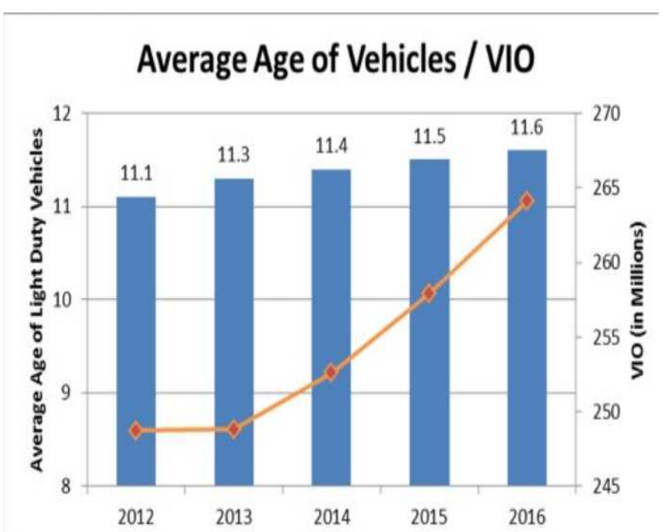
General Motors (GM) continues to be undervalued for having stronger ROIC and margins to peers and its recent Analyst Day showing the upside optionality in autonomous driving. Citi was recently out with a $134 long-term upside target for shares. GM is cheap without the upside potential from its technology initiatives, and adding in that potential it is one of the better looking investments for 2018 after climbing 20% in 2017.

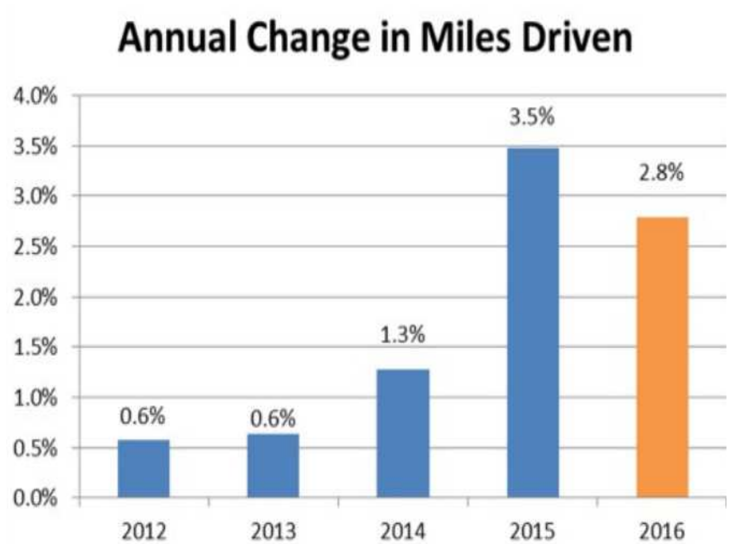
Ferrari (RACE) trades at a major premium valuation to peers but has best in class financial metrics such as ROIC and margins while providing the strongest growth and pricing power as a luxury vehicle maker. RACE is on a path to double EBITDA by 2020 and although 2018 faces tougher comps after multiple new product launches in 2017 it still is an attractive name for a growth investor. RACE is likely to unveil a new 4 year plan in early 2018 and is set to raise unit volumes, prices, and margins. RACE also will be transitioning toward hybrid starting in 2019.



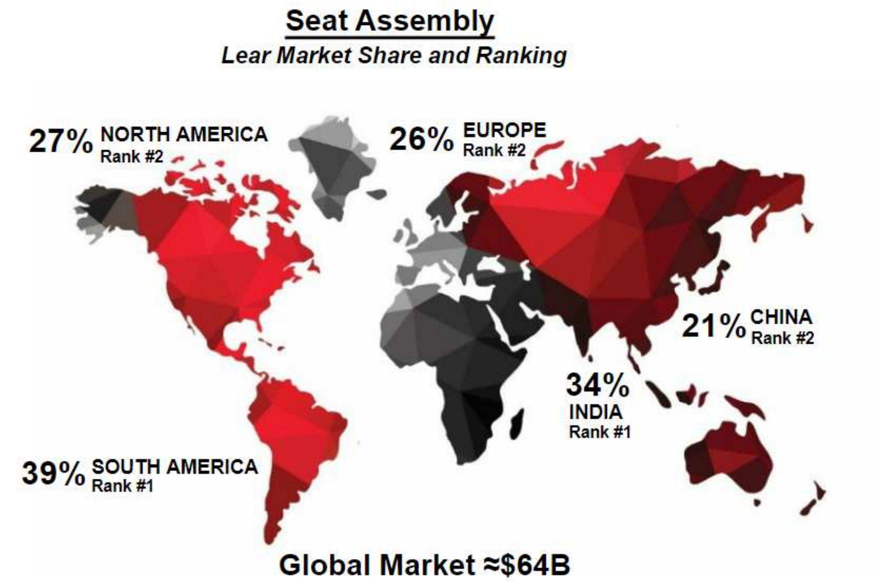
In the Recreational Vehicle group we have seen strong moves with very strong business trends for the RV plays specifically with WGO +67%, THO +48%, and CWH +43%. Polaris (PII) has also seen a recovery year with shares 53% higher. A rebounding economy with improving consumer confidence and discretionary spending as well as positive demographic trends is boosting the RV industry. The RVIA expects 2017 shipments at 472,200 units, a 9.6% increase Y/Y and seen reaching 487,200 units in 2018. The industry is seeing unprecedented growth due to product innovations drawing the appeal of retiring baby-boomers and younger buyers. A favorable credit market, stable fuel prices, and low interest rates are also positives. **Thor (THO)** is the favored play here when comparing the names, trading cheap at 8.9X EBITDA with a 25.6% ROIC and solid balance sheet. THO is raising its market leading share and is coming off another stellar quarter. **Camping World (CWH)** trades at a premium valuation but does have the best margins and growth outlook as well as an 11.7% ROIC, so a name that could offer the most upside at these levels. **LCI Industries (LCII)** is the small cap name as a supplier to the industry and at 10.3X EBITDA with impressive growth and ROIC, a worthwhile investment for riding the RV industry trend.

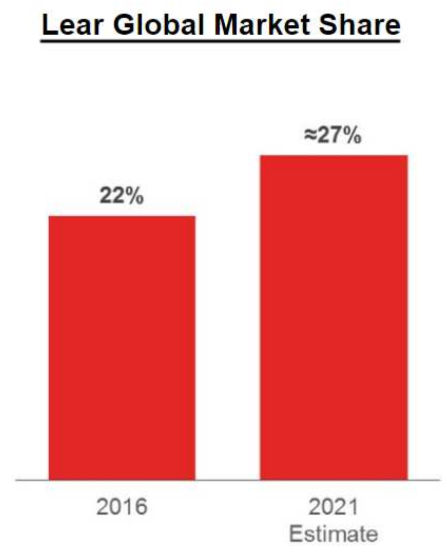
The auto parts segment can further be broken down into specific focuses which each trade at different historical multiples. The interior includes names like LEA and ADNT, Fluid/Air Systems is TEN, Body & Chassis with DAN, AXL and MGA, Powertrain with BWA/DLPH, SAFETY/Electronics are APTV, GNTX, MEI, VC, THRM, and ALV, and Aftermarket are FDML, SMP, DORM, MPAA, and LKQ. With total auto sales seeing limited growth ahead you really want to focus on the companies seeing higher content per vehicle as well as the ones more focused on Trucks/SUV in this environment. Mobility is the big trend in vehicles with autonomous driving, rideshare, connected cars, and efficiency/emissions.

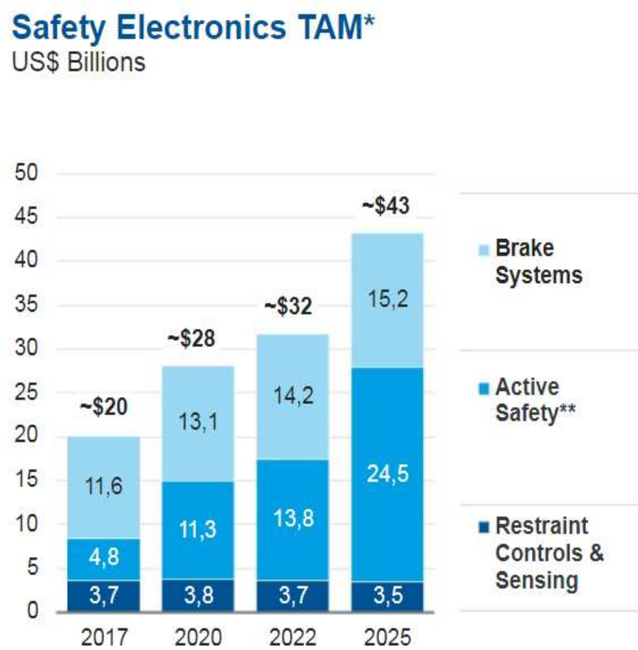


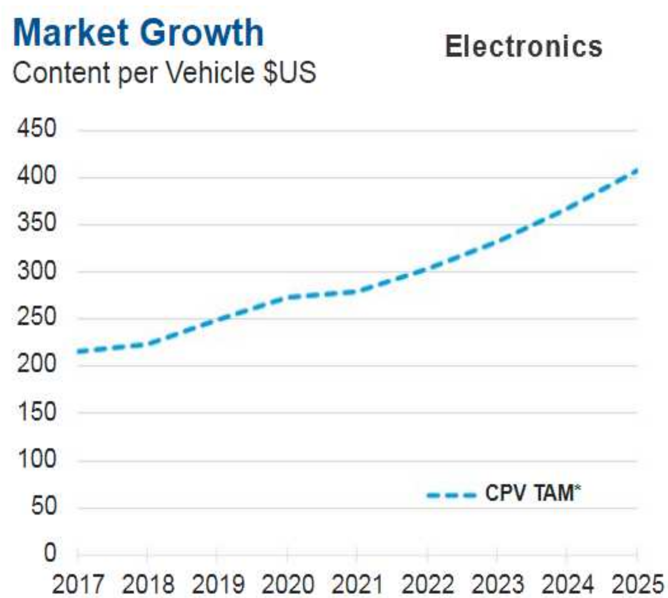


Lear (LEA) is my preferred play in automotive seating as it trades very cheap at 5.9X EBITDA and has a better growth, margin and ROIC profile than competitor Adient (ADNT). It is a leader in seating but also has an E-Systems division seeing long term growth with emerging industry trends. It sees the total market opportunity for this division at $44B by 2027. LEA forecasts CPV rising to $750 in 2022 from $650 in 2012. LEA has been a top performing automotive parts name while remaining cheap on valuation to peers and is eyeing market share gains in seating over the next few years. Its 38% share in luxury brands, which carries a CPV double that of an average car, positions it well for the growing global economies.



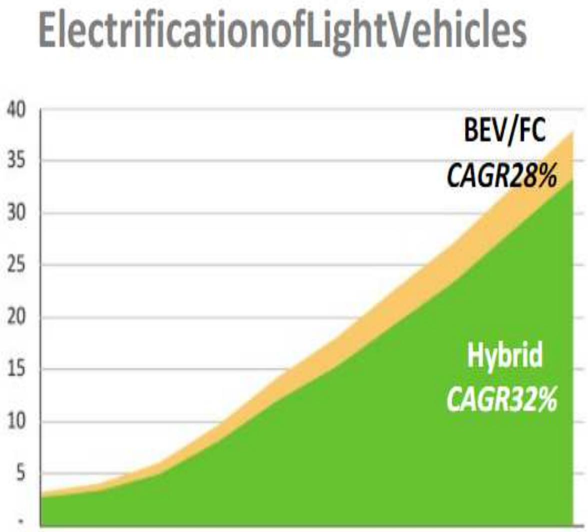


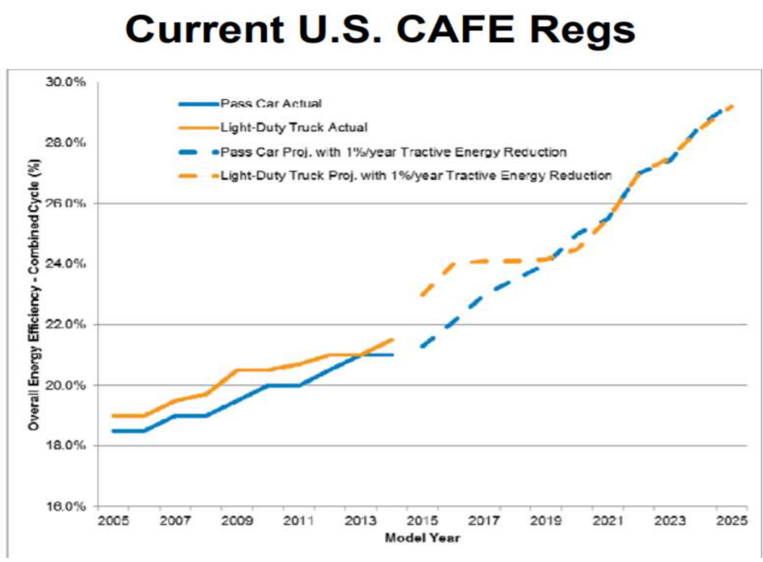




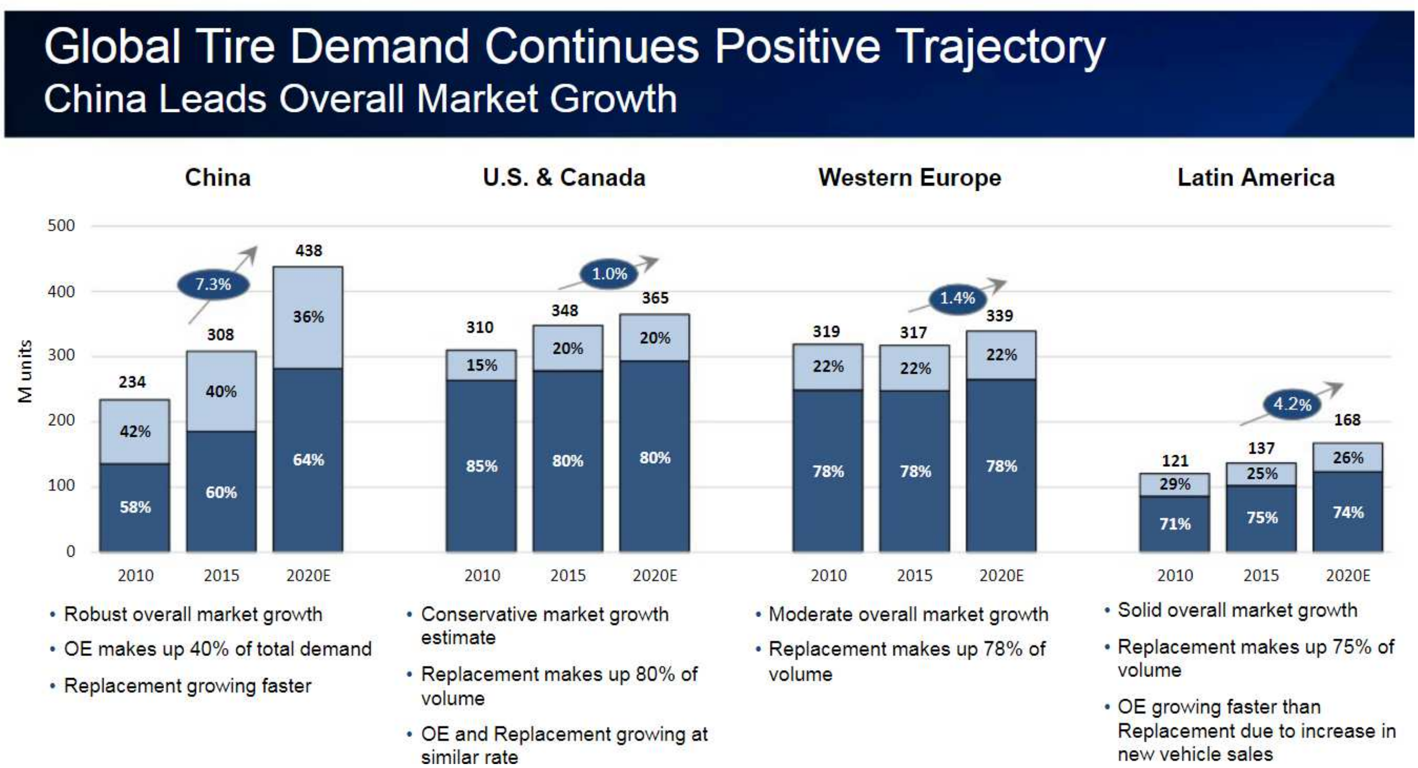
Dana Inc. (DAN) is a preferred name, the $4.6B Company trading 6.6X Earnings coming off its strongest year of growth since 2011 and seeing margin expansion ahead while carrying a 13.5% ROIC. DAN has exposure to Engine, Transmission, Driveshaft, Motion, and Axles, a diversified play and also across light vehicles, commercial vehicles and off-highway. It is just starting to see traction in mining & construction and is set to have a fully integrated E-Axle for electric vehicles next year.

Tenneco (TEN) remains a top value play at 7.7X Earnings and 7.85X FCF and benefitting for clean air initiatives. TEN has an impressive 22.6% ROIC though EBITDA margins at 9.5% are well below industry averages. TEN has strong content growth from the push towards electrification with exposure to hybrid powertrains. TEN shares took a hit recently due to margin pressure concerns with the rising price of Steel. The issues are likely transitory and TEN remains a great value positioned well to capture some positive auto trends.

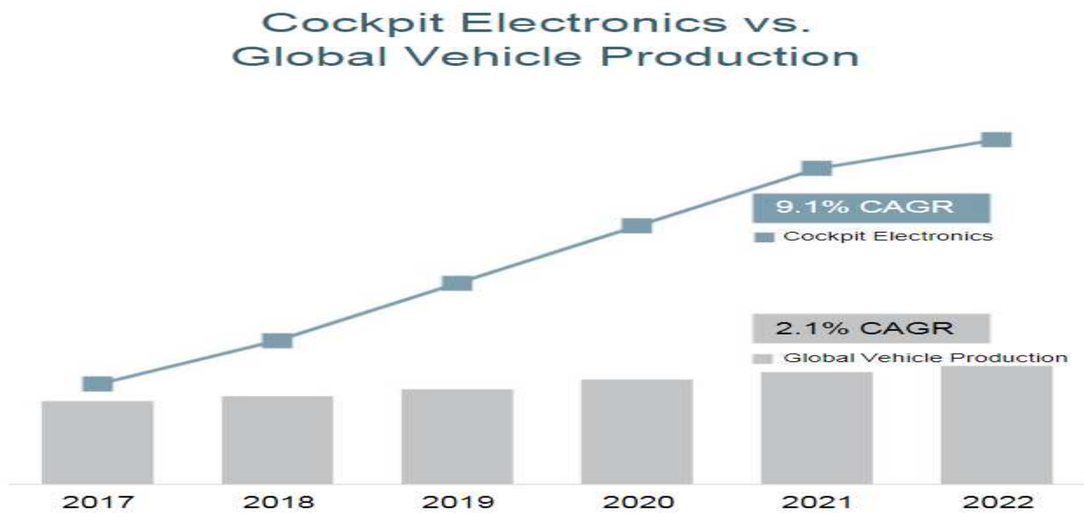


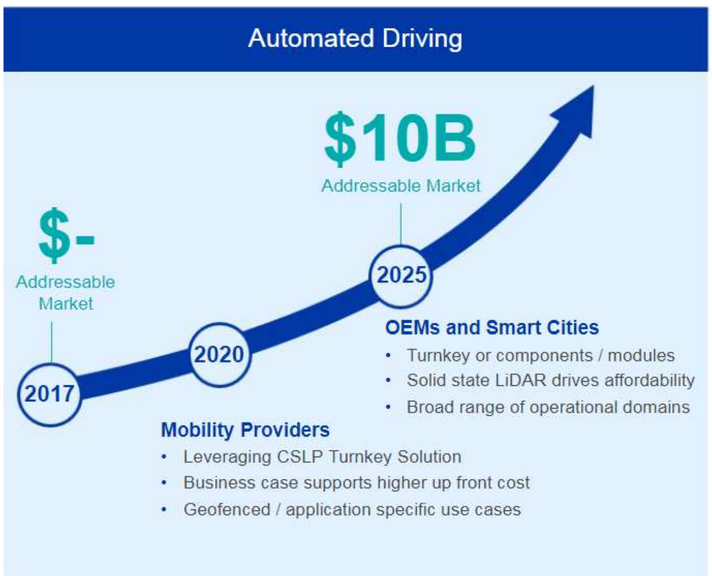


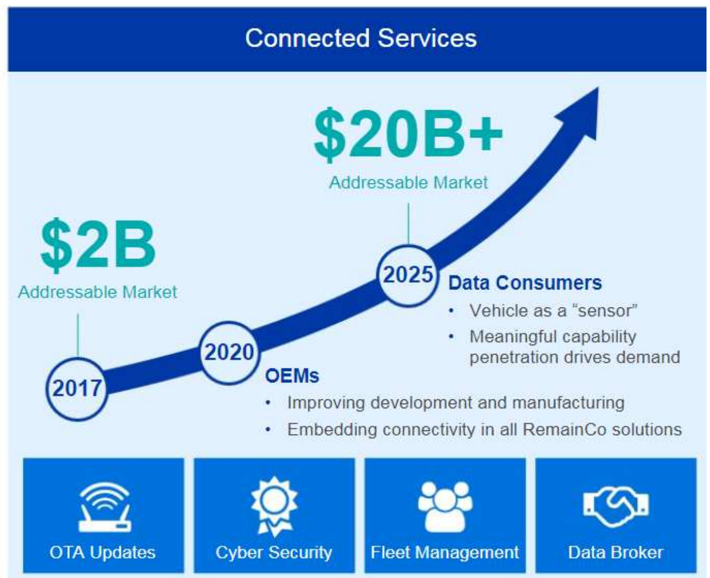
Cooper Tires (CTB) is the favored play on tires, limited ways to play here unless looking overseas at Michelin and Bridgestone. At 4.4X EV/EBITDA shares trade at a discount to Goodyear (GT) while having superior EBITDA margins and a ROIC way up at 27% as well as a cleaner balance sheet. CTB has been implementing price hikes to absorb rises in raw material prices and overall global tire demand remains strong with China leading. CTB is planning to enter Phase 2 of its strategic transformation driving mix and margin enhancement.



Methode (MEI) is a small cap at $1.5B trading 14.2X Earnings, 1.8X Sales and 16X FCF with very little debt, 17.5% EBITDA margins and a 22.7% ROIC. MEI gets 76% of revenues from Auto with 54% of that from Integrated Center Consoles, while also having Interface and Power Products segments. MEI has a strong track record of growth as an under the radar name and in October did a $114M accretive deal for Pacific Insight. MEI also has an interesting Dabir medical business emerging.

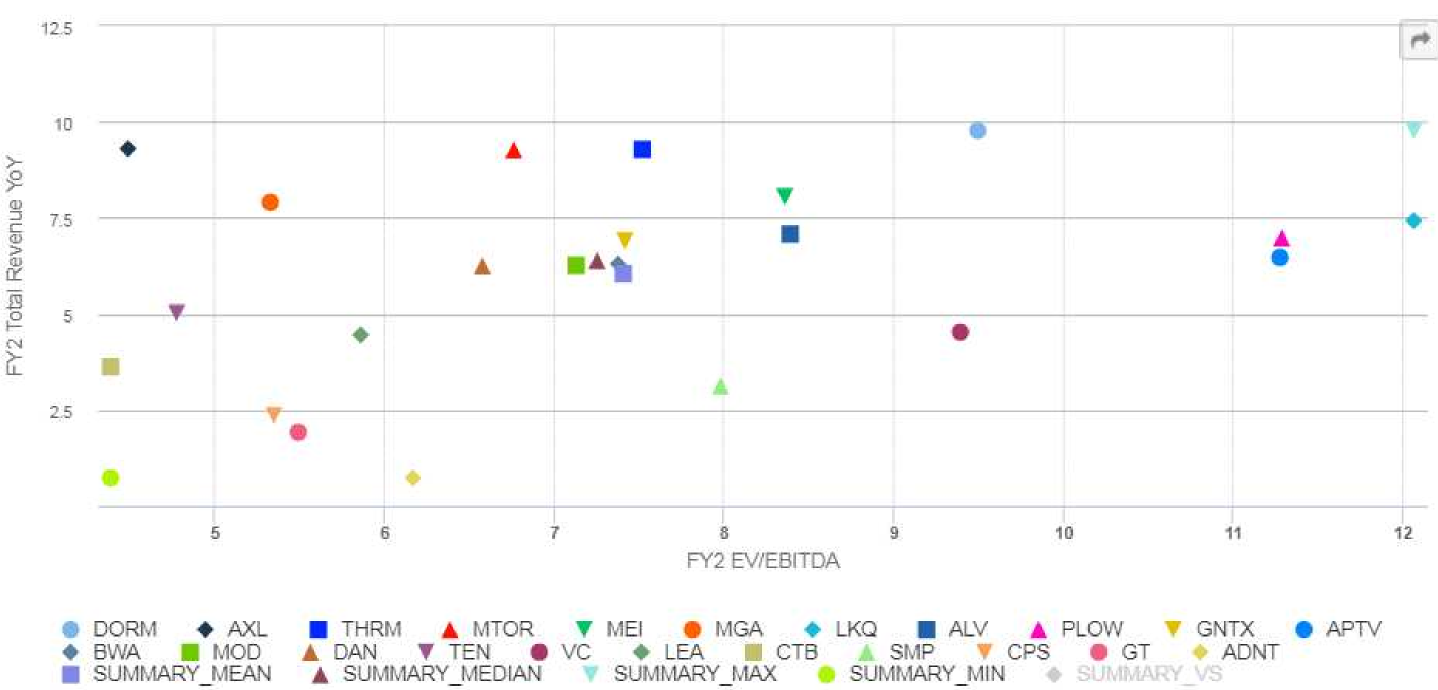






Connected car platform provides significant data monetization opportunity

EV/EBITDA vs. Forward Revenue Growth



The medium and heavy truck group is fairly small for names with a major focus, though a lot of Industrials have a role, such as Eaton (ETN) with 18% exposure to Vehicle as a leader in fuel economy and emission reduction. Ametek (AME) is a leader in dashboard instruments for heavy trucks, Idex (IEX) exposure to powertrains for medium & heavy trucks, Donaldson with engines, and Parker Hannifin (PH) with hydraulic transmissions. These names will be covered later in Industrials as there are many business segments.

Cummins (CMI) is the best way for exposure to this group as a best of breed name trading at a discounted valuation of 9.2X EBITDA while having industry-leading ROIC and EBITDA margins. CMI sees an opportunity from emission regulations and market share growth in India & China. CMI has a heavy emphasis on shareholder returns with consistent dividend raises and the shares outstanding has been declining for many years. Warranty costs were a hindrance for shares in 2017 but shares are cheap as a global leader in improving truck markets.

OshKosh (OSK) was a top pick from last year that I continue to like at 9.5X EBITDA. The provider of specialty vehicles should benefit from increased Defense spending as well as improving global economies, 74% of revenues in the US. It can be a big beneficiary of Infrastructure spending as a leader in concrete mixers and wreckers & carriers. Access Equipment is its largest segment and seeing positive construction trends as we head into 2018. As a leading maker of Fire Trucks there is a direct correlation with home prices, property taxes, and rising sales of replacement vehicles.

<u>Food, Beverage, and Cigarettes:</u>

Components:*APFH,BGS,BUD,BUFF,CAG,CALM,CCE,COT,CPB,DEO,DPS,FIZZ,FLO,GIS,HAIN,HRL,HSY,INGR,JJSF,K,KHC,KO,LANC,LNCE,LW,MDLZ,MGPI,MKC,MNST,MO,NOMD,NTRI,PEP,PF,PM,POST,PPC,RAI,SAFM,SAM,SMPL,SODA,SJM,STZ,SYY,TAP,THS,TR,TSN,TWNK,USFD,VGR*

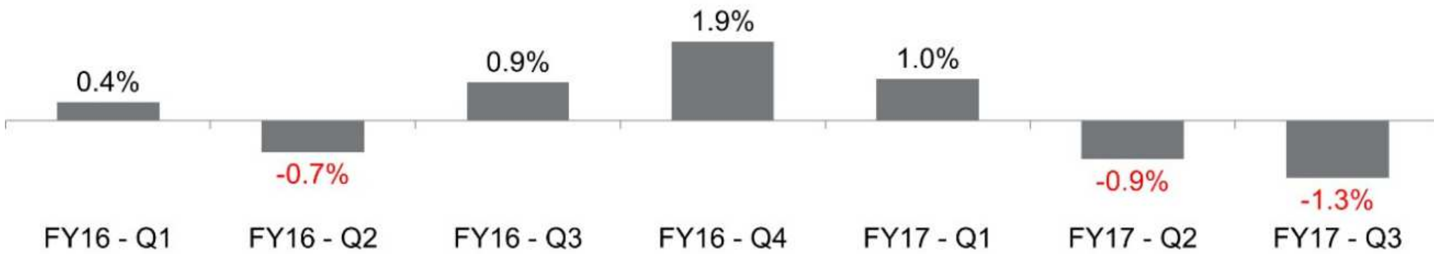
The Food & Beverage industry was struggling most of 2017 with dual concerns of rising Bond yields making these less attractive for investors looking for safety/yield and the threat of private label competition following the Amazon/Whole Foods deal. M&A still remains a theme within the group as larger companies reshuffle portfolios and look to capitalize on growth trends within the industry such as health & wellness. The group has rallied back nicely due to benefits it will see from lower tax rates. The biggest beneficiaries of a lower tax rate on EPS change would by LW, MO, PF, DPS, CHD, CAG, CLX, and CPB. Beverage has outperformed Food for the most part with strong gains this year from National Beverage (FIZZ), Soda Stream (SODA), Cott (COT), Diageo (DEO), Constellation Brands (STZ), and Monster (MNST). Protein has a strong year with Tyson (TSN), Sanderson (SAFM) and Lamb Weston (LW) outperforming the market. The US Food Industry is expected to grow at a 2.9% CAGR through 2022 according to PMMI with meat and snack foods expected to outperform. Another headwind is rising soft commodity prices that can impact margins as the group seems to have found a price bottom.

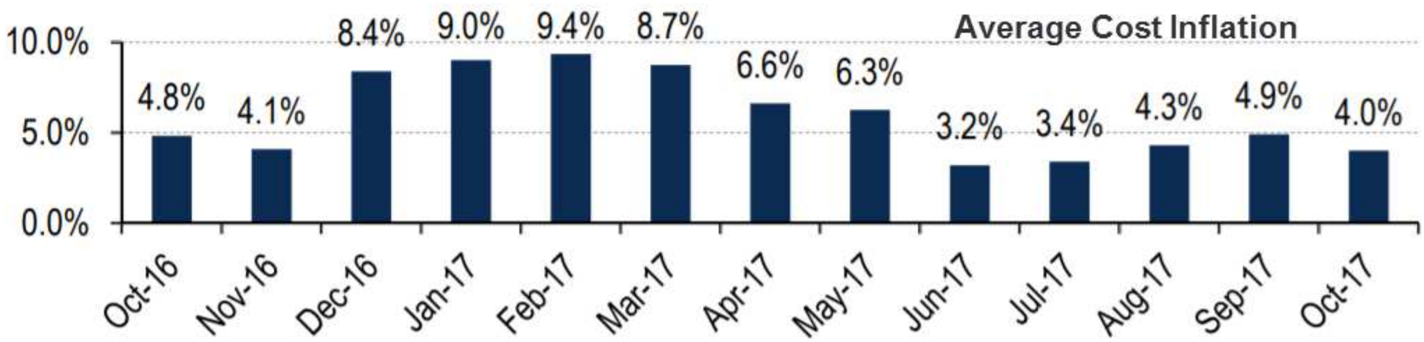
Hershey (HSY) has 53% exposure to soft commodities, and General Mills (GIS) and Kellogg (K) each with around 13% exposure to grain prices. Packaging costs impacts Dr. Pepper (DPS) at 50%, Campbell Soup (CPB) at 31.5%, Coca Cola (CCE) at 25% and Coke (KO) at 24%.

The push towards natural and organic is one trend dominating the food industry. Health and Wellness (H&W) now accounts for 10-15% of overall sales with the following CAGR: Natural Products 11.3%, organic 12.4%, and Gluten Free at 15%, which is a large discrepancy with the 1.5% growth for traditional products. The large Food & Beverage manufacturers have spent more than $18B in deals since 2012 in acquiring H&W companies, and estimate multiples growing to above 2X sales in Food and 3X in Beverages. The impact of new brands coming to market, as seen with over 20% of current brands available appearing within the last four years, is impacting shelf space and a competitive threat to the larger players losing market share. Many of the larger players are undergoing major cost savings initiatives programs offsetting rising raw material costs and resulting in improving margins, however. On the demand size diet changes always worth observing, a strong trend into 2018 is consumers adding more protein to their diets. Overall this is not the most attractive sector for a variety of reasons including limited growth but there are a few great operators in a rapidly changing environment.

Volume % Change Year Over Year

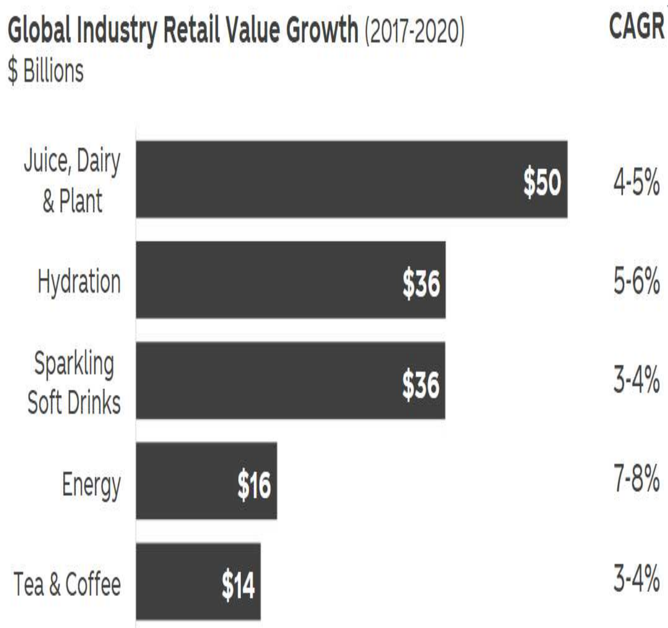
Total Retail Food & Beverage

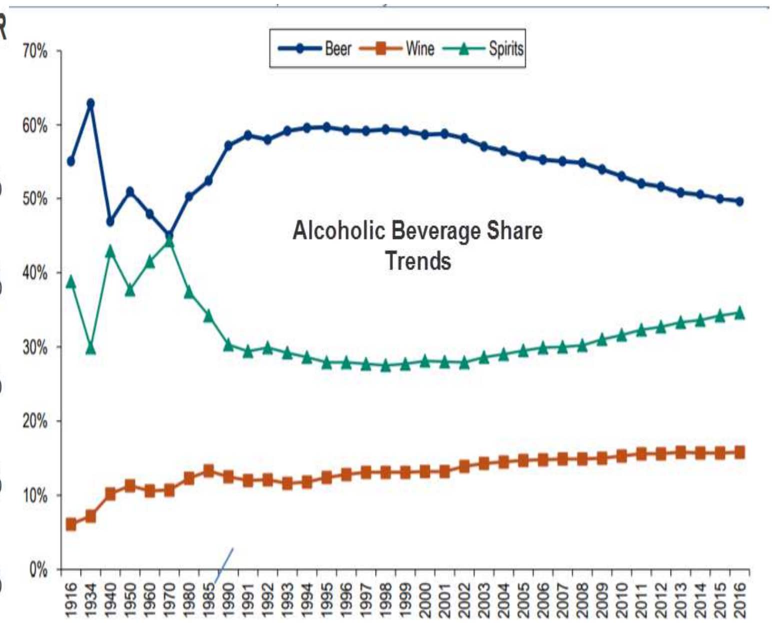




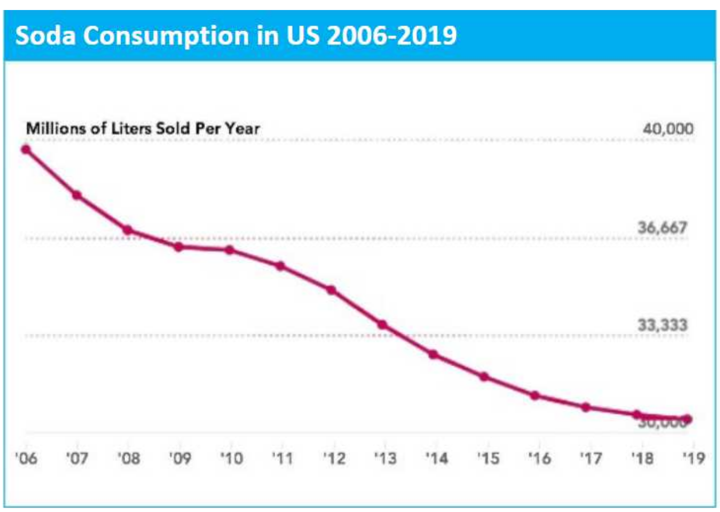
	Inflation Estimate	
	FY17E	FY18E
Paper Packaging	3.5%	4.9%
Plastic Packaging	-1.0%	5.0%
Steel Packaging	9.0%	9.0%
Crude	15.4%	10.6%
Energy (Nat Gas)	14.0%	4.6%
Labor	1.0%	1.0%
Freight	7.9%	5.0%
Total Packaging, Labor & Freight Cost		
Durum Wheat	1.6%	9.9%
Vegetable Oil	-0.8%	4.5%
Sugar	8.7%	-11.1%
HFCS	-8.9%	-5.0%
Coffee	-1.7%	1.5%
Eggs	-14.3%	25.6%
Cheese	3.4%	4.9%
Milk	3.9%	-1.6%
Tomatoes	-1.2%	0.0%
Potatoes	4.6%	1.5%
Peanuts	0.1%	0.0%
Almonds/Tree Nuts	2.4%	0.3%
Pork	5.9%	3.3%
Beef	1.5%	-1.1%
Chicken	14.6%	3.1%
Other		
Total Food Costs		

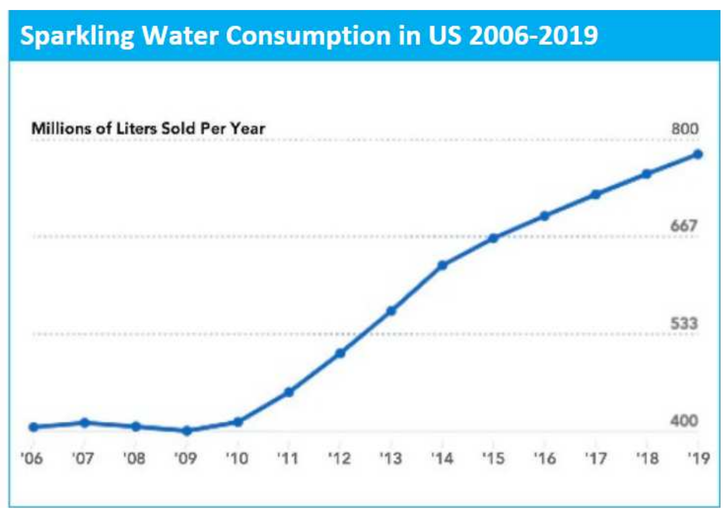
Traditional valuation metrics are useful in this group with P/E, EV/EBITDA, P/S, and EBITDA margins, while FCF/Debt is a custom ratio that has long correlated with strong stocks in this industry.



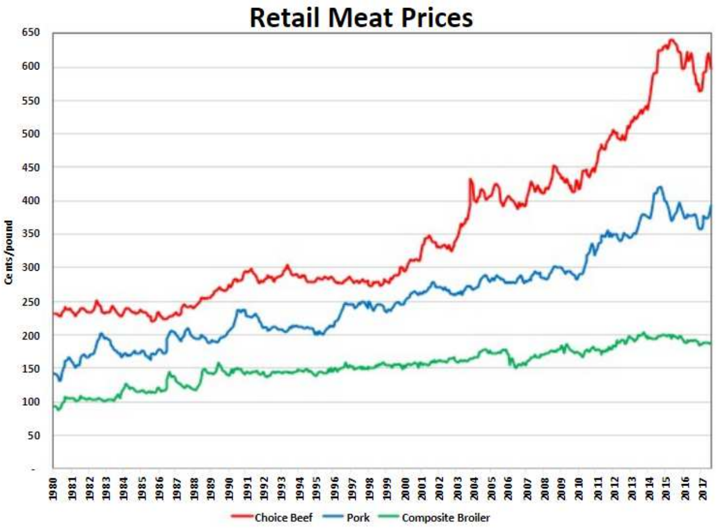


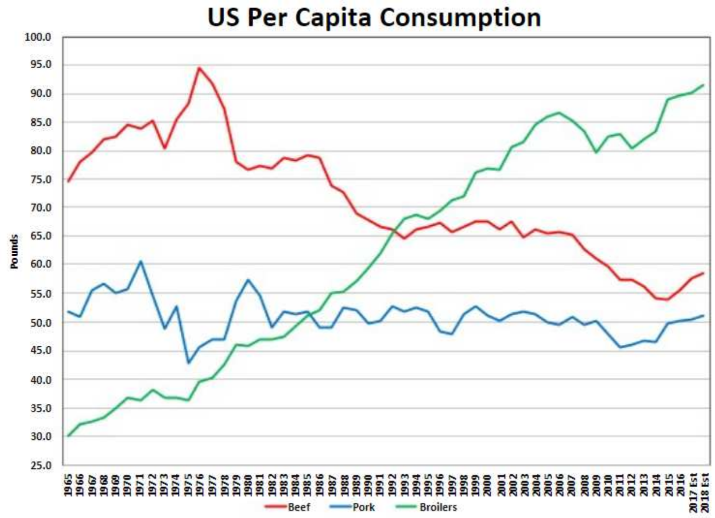
Starting with the Beverage industry, the two names that continue to standout with posting strong quarters and positioned well for continued growth/espansion are **Constellation Brands (STZ) and Monster (MNST).** I also continue to like **Coca Cola (KO)** under new management making startegic moves into better growth categories in Beverage, and has a lot of firepower if looking to venture into snack foods via M&A. **Boston Beer (SAM)** is a small cap name that looks to be making a comeback and has a strong growth outlook to peers with a strong 23.2% ROIC. I have been negative on SAM in the past due to erosion of market share in a highly competitive craft beer market, but it is now trading at more attractive levels and I like the M&A moves. **Soda Stream (SODA)** is another small cap I prefer and has shown nice momentum on the chart while also having a lot of bullish longer term upside positioning in Jan. 2019 call options. SODA has a high margin recurring revenue stream with a large global market opportunity, tripling its operating margins over the last 6 quarters.





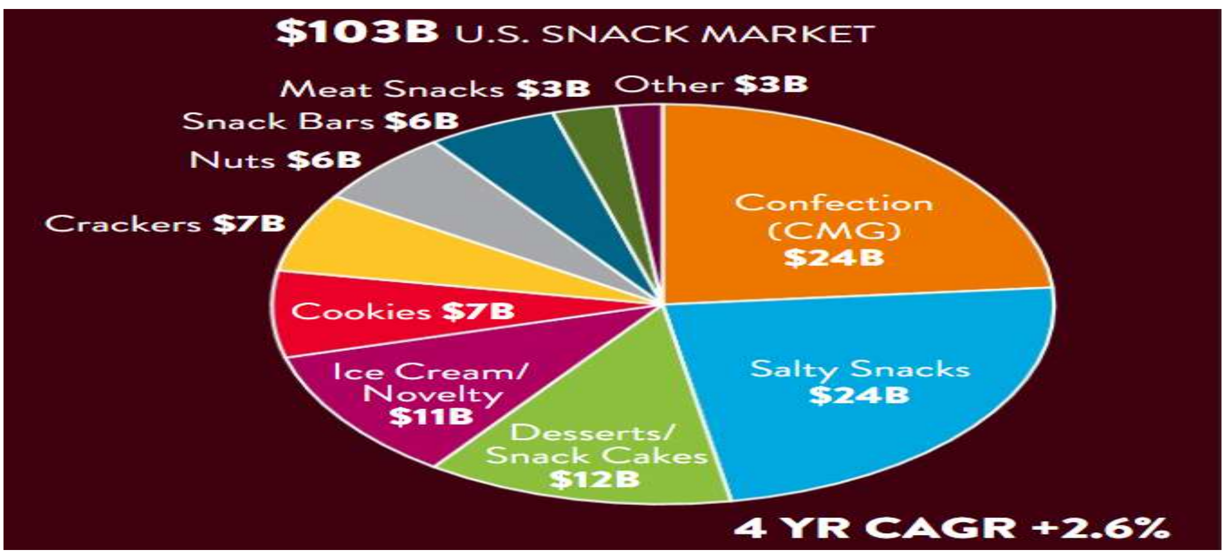
Moving on to the Protein category, **Lamb Weston (LW)** continues to standout as a top name despite already gaining 65% in 2017, trading a bit rich to peers at 13X EBITDA but impressive 22.5% margins and EPS growth outlook. LW is a great operator in an industry seeing strong fundamental improvements, so a name to stick with in 2018. **Pilgrim Pride (PPC)** is the value name at 7.9X EBITDA despite having better than peer margins, ROIC nad a healthy balance sheet. JBS opwns 78.5% of PPC and it would not surprise me to see them buy the remaining 21.5% in 2018. The trends in protein are positive, one of the best places to have food exposure right now, and leaders like Tyson (TSN) and Sanderson Farms (SAFM) also continue to execute very well.



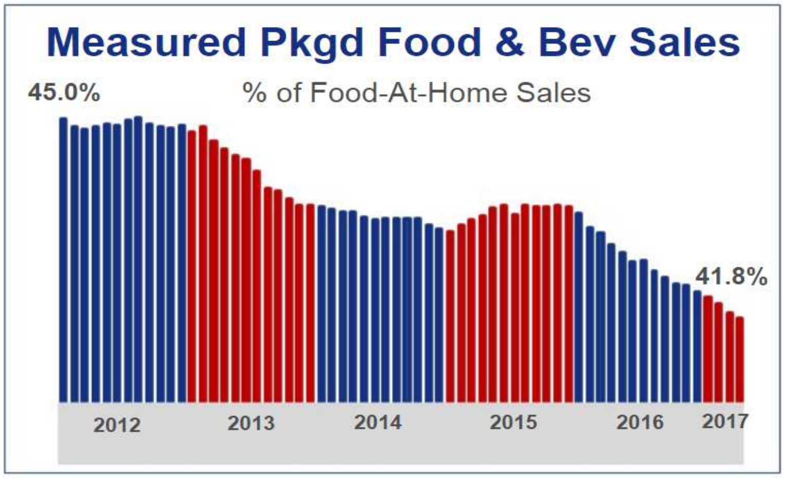


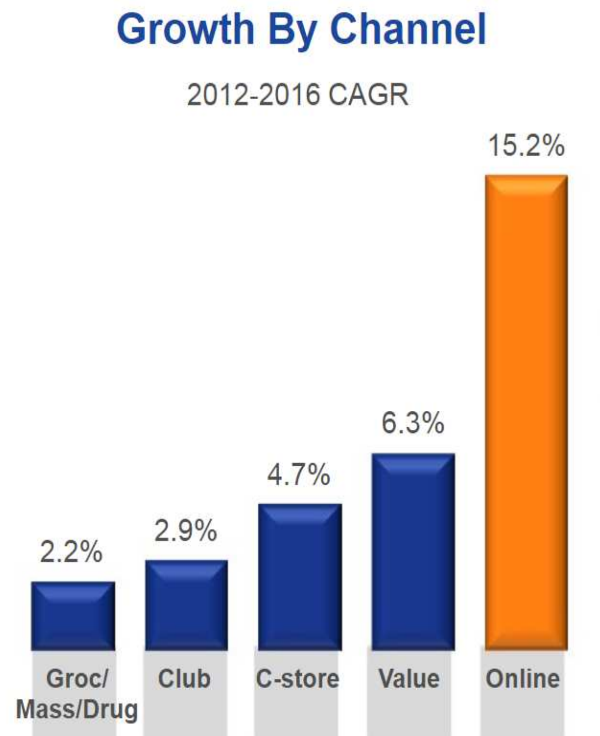
The packaged foods industry is the one seeing the most disruption, ranging from consumer trend shifts liking eating away from home, ordering online, favoring private labels, and moving towards healthier alternatives. The snacks names like Hershey (HSY) and Mondelez (MDLZ) face less private label threats.

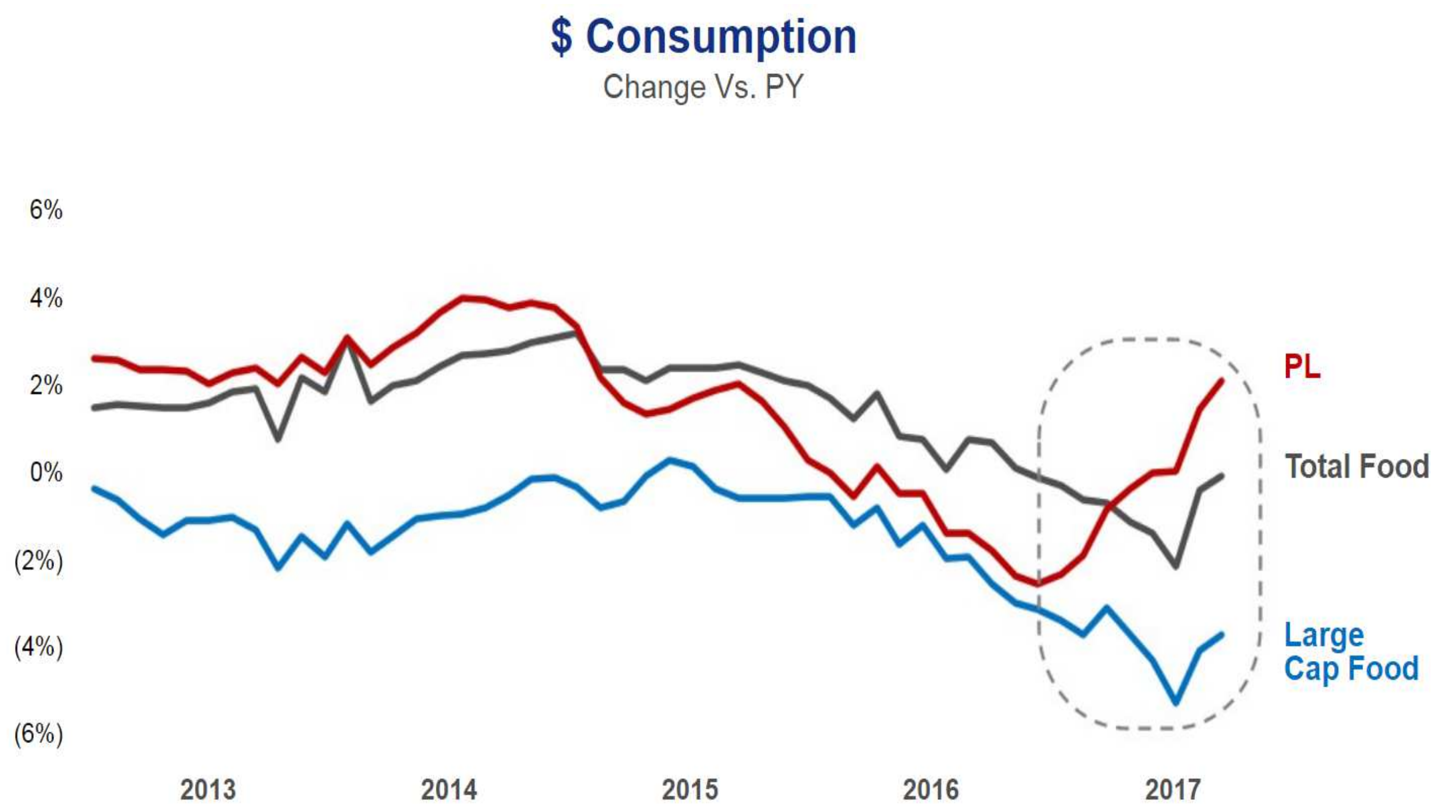
Starting with the $5B+ names using that FCF/Debt ratio the names that screen the strongest are CPB, INGR, HAIN, HSY, CAG, and GIS in that order. CAG, HSY, CPB and INGR are the 10%+ ROIC names in the group. **Ingredion (INGR)** screens well on FCF/Debt, ROIC, Revenue Growth and is cheap at 9.9X EBITDA and 16.8X Earnings. It is seeing strong growth in specialty ingredients which it aims to be 32-35% of net sales by 2022. **Hain Celestial (HAIN)** is just under a $5B market cap but is a name that could attract M&A interest in the midst of its turnaround. **Campbell Soup (CPB)** was a top pick last year that has not performed well, down 13.7% YTD, but still screens as cheap with industry-best margins and a 12.5% ROIC. **Hershey (HSY)** is the other top play in the group was it positioned nicely as a market share gainer in the large snack foods industry, an impressive 24.3% EBITDA margins and 16% ROIC though trading at a premium valuation. It also screens as 4th best for FCF/Debt. **Pinnacle Foods (PF)** is a name that has been able to gain market share and has a fairly attractive growth profile versus peers while also being considered a top M&A target.



There are three small caps that stick out after screening across all the key metrics. **MGP Ingredients (MGPI)** is a high growth play as a supplier of inregients to food & beverage industries, also a name with a lot of skeptics carrying a high short float. MGPI defintiely trades at a rich premium, but to this point deservedly so as it keeps on delivering. It is positioned for the trend in Spirits which is seeing the strongest growth for alcohol intake. **Hostess (TWNK)** is another name that stands out with 29.5% EBITDA margins and strong revenue growth. TWNK has iconic brands and its major sales channel at Convenience Stores is the one seeing the best growth. TWNK is coming off a strong beat and raise quarter and the CEO has been buying stock. **NutriSystem (NTRI)** is the other name I like in this group trading 1.8X EV/Sales with a 19.5% ROIC and strong FCF. NTRI is capitalizing on the diabetes epidemic with proven results from its home-meal delivery. It is expanding into retail channels and has a growing online presence. It is building out its South Beach brand as another leg of growth as well.







Home/Office Related Goods:

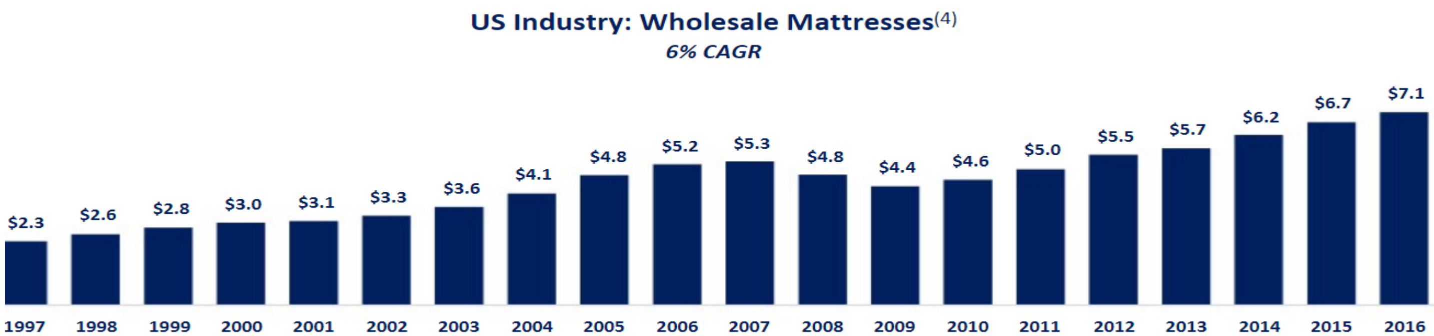
Components: *ENR,FBHS,HELE,HNI,IRBT,KNL,LEG,LZB,MLHR,NWL,POOL,SCS,SCSS,SPB,TPX,TUP,WHR*

This is a fairly diverse group of housing related products ranging from appliances to pool equipment to batteries. The group underperformed for the most part in 2017 with Fortune Brands (FBHS) and Pool Corp (POOL) two strong performers. POOL remains attractive as a growth play into 2018 though now at 26.7X Earnings shares feel fully valued.

Fortune Brands (FBHS) is a favored name with a $10.3B market cap trading rich to peers at 12X EBITDA but a solid growth profile and better than average margins and ROIC. FBHS is tied closely to the strength being seen in the US housing market as a leading brand position in Cabinets, Plumbing, Doors, and Security. It also has 66% exposure to repair/remodel, a hot area. FBHS has steadily been growing ROIC and margins the past few years giving me increased confidence in management to continue to outperform its peer index.

Herman Miller (MLHR) stands out among the home/office furniture names trading 7.1X EBITDA, 0.9X EV/Sales and a better growth/margin profile as well as a leading 15% ROIC and strongest FCF and balance sheet. MLHR is seeing strong trends in its business and forecasts for higher spending in Education and Healthcare markets provide a tailwind while its cost initiatives will continue to drive expanded profitability.

Tempur Pedic (TPX) with a $3.15B market cap remains an attractive business trading 8.2X EBITDA with 18.8% margins and a 13% ROIC. The industry remains in growth mode as one that is highly fragmented and has strong free cash flows, an industry private equity often invests. TPX posted $3.1B sales in 2016 and the overall Retail + Wholesale market opportunity is near $100B. Consumers have been shifting to higher priced mattresses, a spot where TPX has strong exposure.



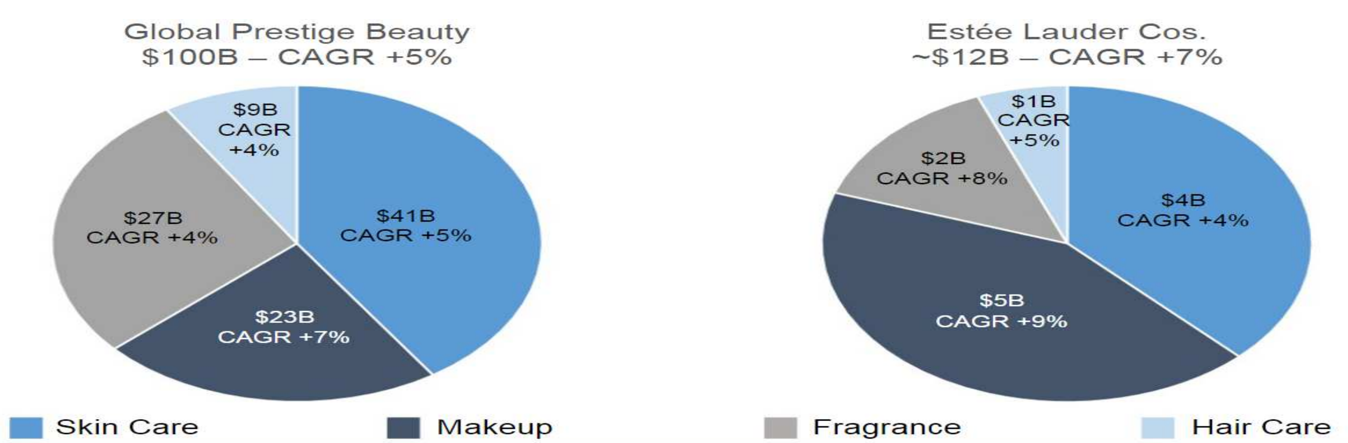
Household, Personal Care & Services:

Components: *BFAM,CHD,CL,CLX,COTY,ECL,EL,ELF,EPC,HAS,HLF,KMB,MAT,MATW,NUS,PG,SCI,SCL,UL*

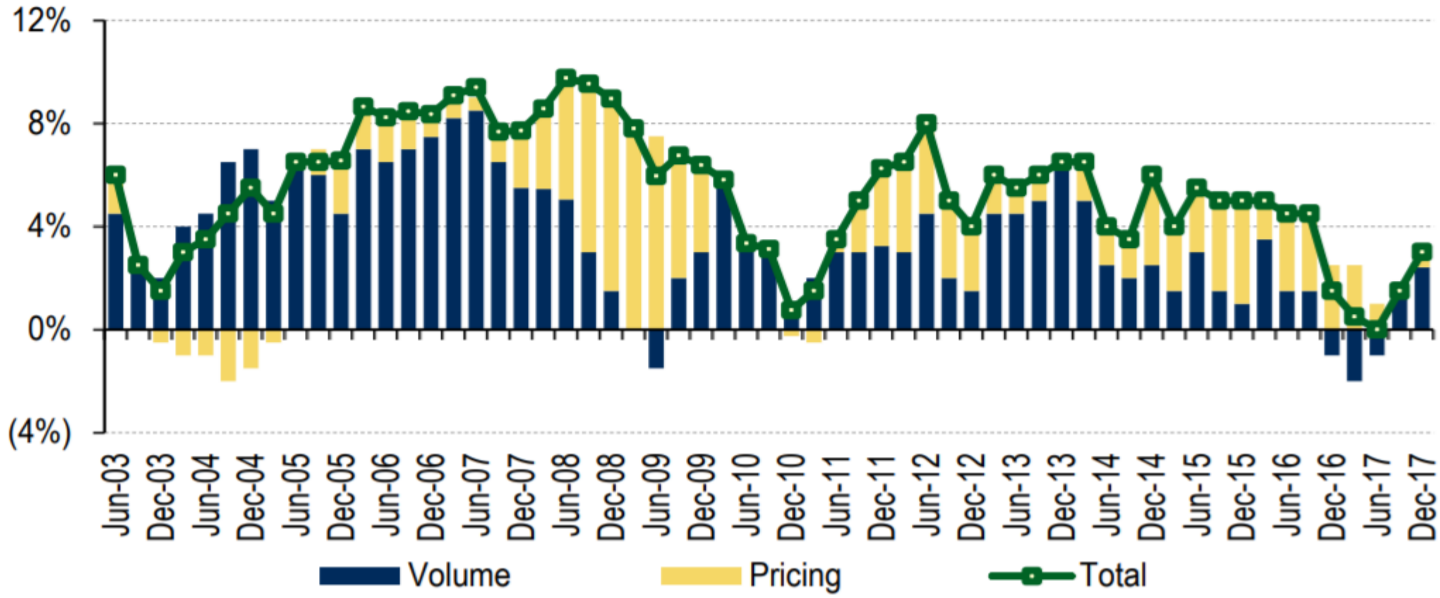
The top growth trends in consumer personal care are Male Grooming, Food for Skin Products, Natural/Organic Products, and Hand-Crafted Products. The primary driving force to the global personal care market is rising disposable income.

It was a mixed year for these names with some major underperformers like MAT, ELF, and EPC. News in the toy group in Q4 with Hasbro (HAS) attempting to buy Mattel (MAT), but unsuccessful to this point. Unilever (UN) is having a strong year after denying an attempted takeover by Kraft Heinz (KHC) who is seen to now possibly target Colgate (CL). Estee Lauder (EL) was the clear standout in the group posting very impressive results every quarter while Clorox (CLX) has become a top performing consumer products name. The top beneficiaries of tax reform are CHD, CLX, CL, KMB, NUS, and SPB. M&A remains a theme within the group and Nelson Peltz winning a board seat at P&G (PG) should see some action play out in 2018.

Estee Lauder (EL) is a top name into 2018 as there are no signs of its dominance slowing. It projects 11% revenue growth in 2018 along with 20% EPS growth. Shares are trading 27X Earnings, a premium valuation, but is impressive across the board on profitability metrics. It is seeing 25% growth online as its fastest growing channel and strong growth in Asia and Latin America.



Colgate (CL) is another favorite as a margin and ROIC leader and with its exposure to emerging markets as well as the potential for M&A upside. It has been investing in digital and has withstood industry pressures better than peers showing it has one of the best management teams in the industry. It will face easier comps in 2018 and also is set to be a big tax reform beneficiary. The chart below shows an inflection in volume and pricing in mid-2017.



Church and Dwight (CHD) rounds out the group of favorites as a top revenue/EPS growth combo with leading EBITDA margins, a 10.9% ROIC, and low Debt/EBITDA. It has power brands like Arm & Hammer, Trojan, Nair, Oxi-Clean, Waterpik, and Orajel, most of these via acquisitions which has been a big part of its strategy. CHD has high US exposure with 82% of sales and one of the highest tax rates in the industry, certain to benefit from tax reform. CHD has a nice balance with 47% exposure to household and 45% to personal care and as one of the smaller operators in "a land of giants" has outperformed peers for many years.

Packaging and Paper:

Components: *ATR,AVY,BERY,BLL,BMS,CCK,GEF,GPK,IP,KS,MNI,OI,PKG,SEE,SLGN,SON,SWM,UFS,WRK*

The packaging industry is mainly broken into Rigid, Paperboard, Plastic and Labels and industry average EBITDA multiples have risen to 10X. For the stocks above, the breakdowns are as follows: Plastics: BERY, ATR, BMS, SEE; Paperboard: GEF, GPK, IP, WRK, PKG, KS; Metals/Glass: BLL, CCK, OI, SLGN; and Labels: LABL. Sonoco (SON) is a diverse player that does not fit in one group.

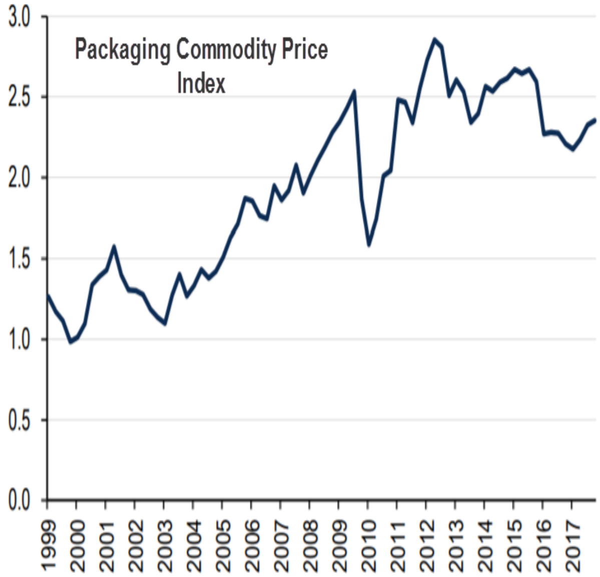
The industry is strongly tied to demands from consumer packaging, and raw material and energy costs play a key role. There is a strong correlation with consumer confidence as an indicator of personal consumption to the packaging industry. The seven success factors for companies in this sector are management of raw material inflation, reduction of waste, effective capital expenditure, operation performance measurement, profitability management, innovation, and supply chain management. Also consumer shifts to online commerce has played a role in breaking out the winners and losers of this group.

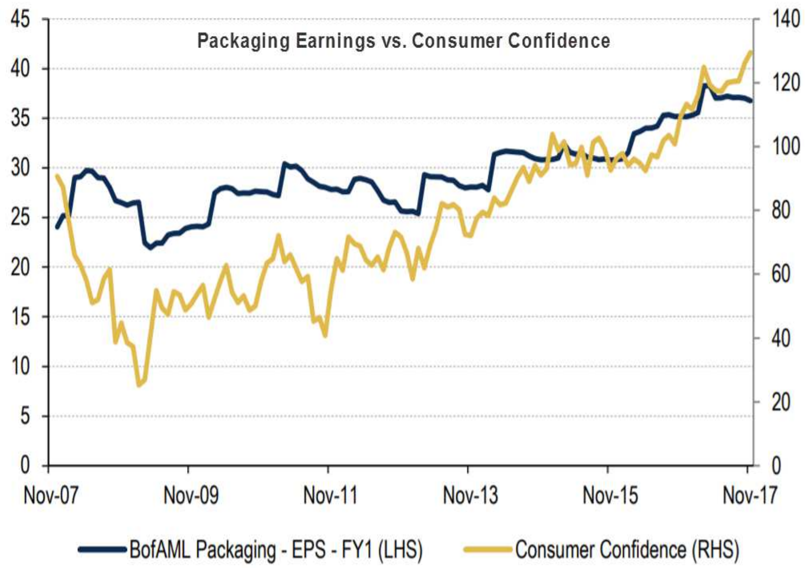
EV/EBITDA, Revenue Growth, EBITDA Margins, and Cash Flows are all important metrics to observe in this group. EBITDA-Capex spread has been found to be a useful measure of performance of packaging companies. Working Capital Metrics like days sales outstanding, says inventory outstanding, and says payable outstanding are also useful to assess management.

The group currently trades above 10.7X EBITDA which is above its 8X historical average over a 10 year period, and EV/Sales at 1.8X compares to an average of 1.1X. A steepening yield curve, the spread between the 10 year and 2 year, has historically been positive for the paper/forest stocks in the group.

In 2017 Avery Dennison (AVY) was the standout performer gaining 60% YTD while Owen Illinois (OI) has been a strong comeback play and Packaging Corp. (PKG) continues to outperform its peers. For 2017 input costs are expected to be up around 17% Y/Y causing a notable headwind. In a group trading rich to historical multiples it is important to find the best operators positioned for continued growth in the right end-markets. Names benefitting the most from tax reform at

SON, BERY, SLGN, GPK and RYAM. M&A has been an ever present theme in this group as well, the notable Ball (BLL) deal for Rexam in 2016 and recent reports that Bemis (BMS) has hired bankers for a sale.





Avery Dennison (AVY) was a top performer in 2017 but stands to continue its winning ways, the $9.9B Company is the premium valuation name at 12.4X EBITDA but posting impressive growth and the ROIC leader at 11% while also have a strong balance sheet for bolt-on deals. It is targeting aggressive operating expansion through 2021 and a 10%+ EPS CAGR. AVY is a graphics/label play with strong competitive advantages in large and growing markets. Shares are extended on the chart and valuation, but a name to own on weakness as a best-in-class operator.

Sealed Air (SEE) is another top pick in this group with the $8.65B Co. trading at a premium valuation of 12.5X EBITDA but a leading 11% ROIC, Day Sales Inventory ratio, and growth profile. SEE is the best operating company in plastics benefitting from current market trends such as Meat and also the largest footprint in E-Commerce. SEE has been effectively cutting expenses and has large addressable markets with its top 20 customers generating 28% of sales, well diversified.

Packaging Corp (PKG) is my favored name in containerboard, although trading at a slight premium to International Paper (IP), it carries better growth, margins and a stronger balance sheet. It profiles as the best across the industry on many measures and has the lowest leverage. It clearly has the best management team in the industry and continues to be smart with capital allocation decisions. With expectations for a rebound in pricing in 1H18 I see it as the best way to play that trend.

EV/EBITDA vs. Revenue Growth

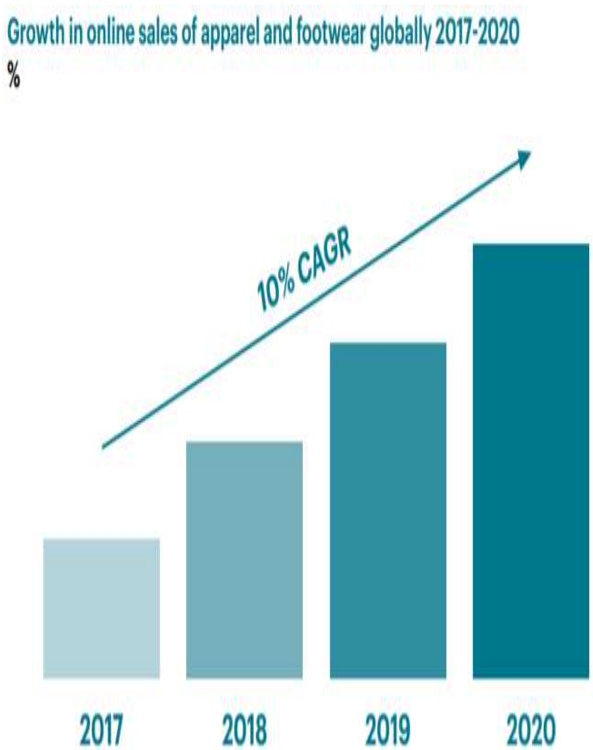
Textile – Apparel & Footwear:

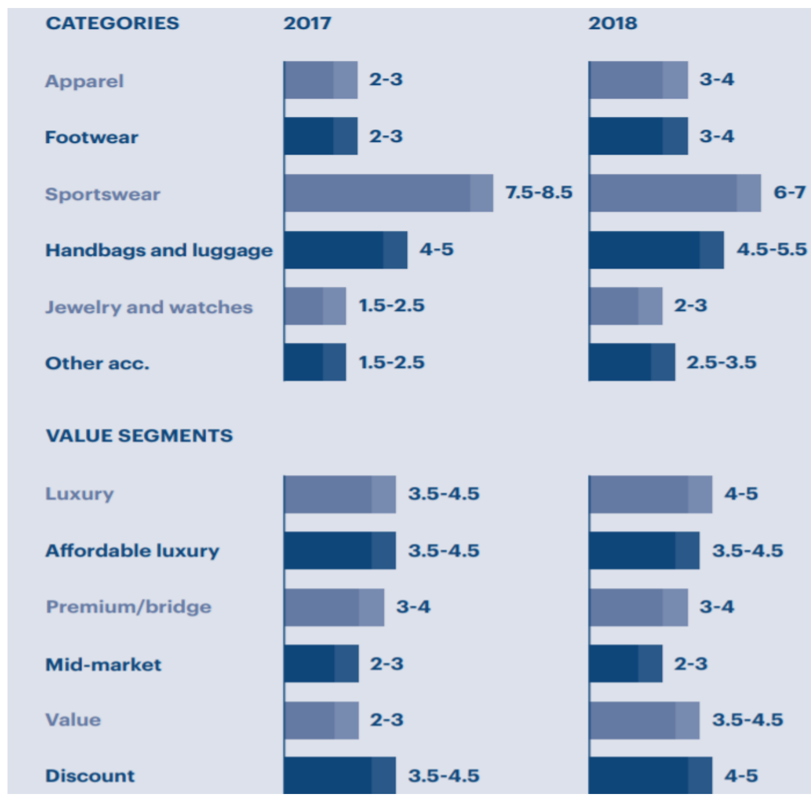
Components:*CAL,TPR,COLM,CRI,DECK,FOSL,GCO,GIII,GIL,GOOS,HBI,KATE,KORS,LULU,NKE,OXM,PVH,RL,SHOO,SIG,SKX,TIF,UAA,VFC,WWW,CROX,VRA, SFIX*

The apparel industry has seen plenty of headwinds continue in 2017 with store traffic weakness from excess retail capacity with the growth of e-commerce, a weak pricing environment with heavy promotional activity, and market shifts to lower margin value stores and "Fast Fashion." Personal Consumption data is showing clothing/footwear as taking less of the pie over the last few years, a downward trend. Athletic footwear was long the impervious group but recent sales numbers have sharply declined as have the ASP's while Adidas has emerged as the new leader in the group. Online continues to show growth while brick and mortar sales struggle, so having a strong e-commerce infrastructure is vital.

Evaluation of this group uses basic metrics like P/E and P/S, and also have to pay close attention to margins and inventories.

In 2017 performance was very split in the group with 25%+ gainers including GOOS, CROZ, PVH, SKX, KORS, DECK, VFC, WWW, and CRI while 40% or more losers including FOSL, UAA, GCO and SIG. The common theme in the winners are high ROIC, Y/Y gross margin improvement, and high levered FCF margin. There also looks to have been a move from growth to value underway in the group with the low P/E names outperforming the high P/E names by a wide margin. Many names in this group are set to benefit from tax reform as Retail has some of the highest effective tax rates.





Tapestry (TPR), formerly "Coach" is an attractive value in the group at 9.3X EBITDA while offering a 3.22% dividend yield. TPR has strong margins and growth and set to benefit from its deal for Kate Spade over the next few years. Shares have climbed 20% in 2017 but remain well off 2012 levels and starting to see a comp inflection point to revalue shares higher. TPR is seeing momentum into the Holiday and management recently upped synergy guidance, so I think this will be a positive story in 2018.

Tiffany (TIF) with an $11.9B market cap has gained 23.35% this year and remains a resilient iconic brand, trading a bit rich at 22X Earnings and 11.2X EBITDA but looks to be nearing a positive inflection point on comps. The sales recovery looks to be underway starting last quarter with strength in China and the new CEO is focused on product innovation and controlling inventory/expenses. It also sets up against easy comps in 2018.

Gildan (GIL) is a $6.9B maker of apparel that screens really well against peers, trading 16X Earnings and 10X EBITDA with a 14% ROIC. GIL's print wear segment is demonstrating strong growth and it has been active utilizing M&A. Cotton is 30% of its COGS, an important material price to pay attention to for costs. GIL shares have navigated retail headwinds well with shares back near 5 year highs and seeing market share gains across its segments, including branded apparel.

Steve Madden (SHOO) was the small cap that stood out when comparing metrics, trading 10.9X EBITDA, 1.5X EV/Sales, and impressive 26.9% ROIC. SHOO is seeing positive early reads on its spring assortment and has been exacting well all year with tightly managed inventories. It has 14% exposure to Department Stores while E-Commerce now makes up 16% of business. SHOO's industry-leading 8X Inventory Turnover is another attractive reason to invest. International is currently only 10% of sales and leaves a long runway for growth in those markets.

Financials: *Financials are closing the year on a positive note with multiple tailwinds including tax reform, improving global economies, relaxed regulations, and rising interest rates. The Bank ETF (KBE) is up 9.5% YTD, Regional Banks (KRE) +6.5%, and Insurance (KIE) +11.5%, so lagging broader markets but remain at cheap valuations with rising dividend yields and an improving outlook. Banks are seeing better profitability and solid credit metrics. BAML sees another 30% upside in Banks with a 14.5% base case for ROE based mainly on tax and regulatory reform. Financial Services has seen a much stronger year with the payments ecosystem continuing to benefit from the move towards a cashless society and the e-commerce trends, and the area where there is the most growth opportunity. The flattening yield curve remains a headwind but prospects of increasing loan growth, healthier earnings and rising dividends make the group attractive.*

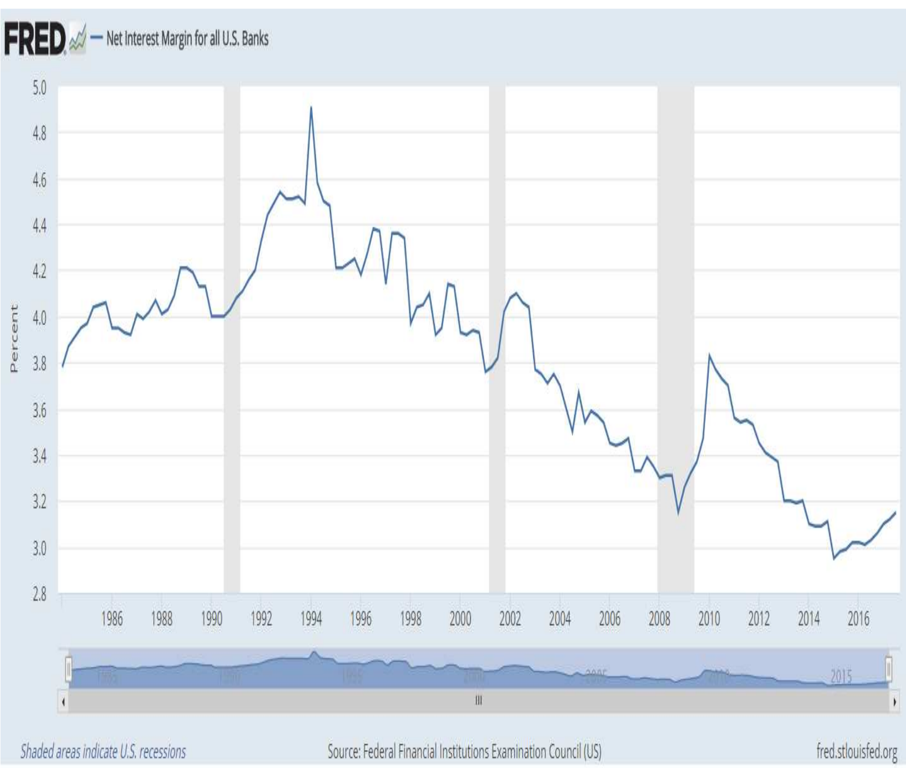
Banks:

Components:*ALLY,BAC,BBT,BOH,BOKF,C,CBSH,CFG,CFR,CIT,CMA,FHN,FITB,GS,HBAN,JPM,KEY,MS,MTB,OZRK,PACW,PB,PNC,RF,SBNY,SIVB,SNV,STI,TCBI,TFSL,USB,WAL,WFC*

This group is looking mainly at the $3.5B+ Banks, and there are a number of smaller cap options as well, but it becomes cumbersome for comparison purposes. There are 52 regional banks in the $1B to $3.5B market cap range. The group tends to trade very correlated as Macro influences outweigh individual company attributes, but there are still plenty of metrics to find the best investments.

The main metrics for evaluation Bank stocks include ROE, ROA, P/B, P/E, NIM trends, Dividend, Cost/Income Ratio, Balance Sheet (Deposits), Credit Quality (Charge-Offs, Nonperforming Assets/Loans, Loan Loss Reserves, Tier 1 Capital)

The strongest NIM levels among the Banks are ZION, BBT, CMA, MTB, HBAN and RF. On a Price/Book valuation, the names that continues to trade below book value are ALLY, CIT, and C. Stocks trading 1X to 1.3X Book Value include CFG, BAC, PACW, RF, and PB. Names with 10%+ ROE are BOH, WAL, USB, FITB, OZRK, SBNY, CBSH, CFR, FHN, WFC, SNV, JPM and GS.



Bank Ticker	2018 NIM Forecast
BBT	3.43%
C	2.84%
CFG	3.04%
CMA	3.40%
FITB	3.02%
FRC	3.15%
HBAN	3.32%
JPM	2.42%
KEY	3.22%
MTB	3.53%
PNC	2.96%
RF	3.38%
STI	3.14%
USB	3.08%
WFC	2.95%
ZION	3.48%

The top performing Bank stocks of 2017 that have gained 20% or more YTD are ALLY, SIVB, BAC, C, CMA, MS, PNC, JPM and WAL, a list dominated by the big banks this year after Regional Banks outperformed in 2016.

After looking through all the metrics, favored large cap Banks for 2017 are **US Bancorp (USB), Goldman Sachs (GS), Citi (C), Wells Fargo (WFC), Western Alliance (WAL), and Huntington (HBAN)**.

Insurance:

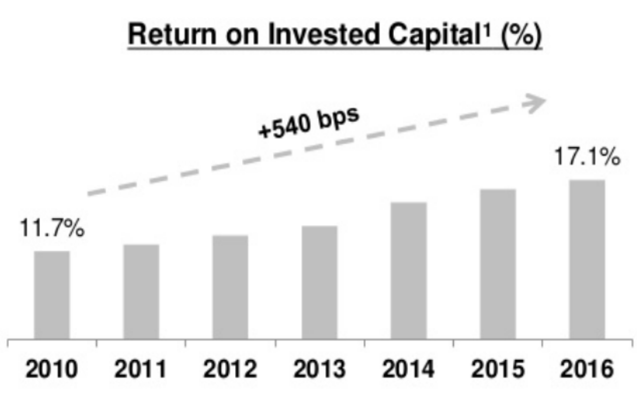
Components:*AFSI,AHL,AIG,AIZ,AJG,ALL,AON,AV,AWH,AXS,BRK.B,BHF,CB,CINF,CNO,ENH,FAF,FNF,HIG,ING,LNC,MET,MFC,MMC,ORI,PFG,PGR,PRA,PRI,PRU,RE,RGA,RLI,RNR,SLF,TMK,TRV,UNM,WLTW,WRB,XL*

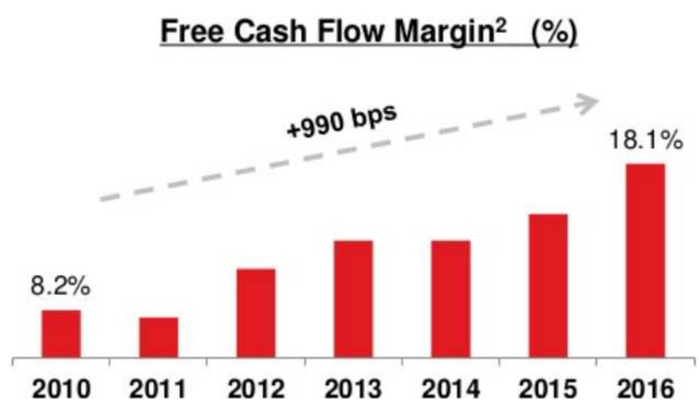
This group is broken into Life & Health (MET, PRU, AFL, LNC, UNM, TMK, PFG, BHF), Property and Casualty (BRK.B, ALL, TRV, CB, CINF, PGR, WRB, CNA, L), Multi-Line (HIG, AIG, AIZ), Reinsurers (RGA, RE, ACGL, RNR, AHL), and Brokers (AON, MMC, WLTW, AJG, BRO, PRI, AFSI). ROE is a strong measure of profitability and P/B often used in valuation, while specific ratios to the group are combined and operating ratios, underwriting leverage, investment yield, and investment return. The most simplistic, yet effective approach, is looking at Price/Book and Price/Earnings compared to ROE, which has shown the strongest coefficient of determination of performance.

The P&C Insurance group differs from many other companies as revenues hold less importance and metrics like Net Premiums Written and Net Premiums Earned, and their respective ratios are observed. The combined ratio is another metric, the sum of the Loss and Expense ratios, and 100% minus that ratio is the Underwriting Margin. Investment income is also closely watched, often called Float, and secondary source of earnings and closely tied to the rate environment. Reserves is another balance sheet item of important, and a Reserves-to-Loss ratio should be in the 2.5 to 1 range.

The Reinsurance group tends to insure the P&C companies against various natural disasters and other events. The combined ratio is one again important here, and this business is very cyclical with Hurricane Season, June 1st to November 30th, while most policies are written near the end of the calendar year.

Looking first at the Insurance Brokers, AON and MMC have the superior ROE, but each also trade more than 6X Book while peers are closer to 2.5X. **Arthur Gallagher (AJG)** was last year's top pick in the group and has outperformed nicely. **AON PLC (AON)** is the selection this year, the $34.65B CO. trading 17.2X Earnings with a 30.5% ROE. AON is targeting 23% EPS growth next year, best since 2012 and 6% revenue growth. AON reached record FCF in 2016 and has been steadily increasing ROIC.





Moving on to Life & Health, there are four names up more than 20% this year with UNM, AFL, PFG, and TMK. The group trades at an average of 11.7X Earnings and 9,5X EV/EBITDA with a 10.8% ROE. PRU is the name set to benefit most from easing regulations and rising interest rates. **Aflac (AFL)** stands out with the highest ROE at 14% and a 10% ROIC. AFL has a strong presence in Japan and a succession plan as well as further capital returns after restructuring will be in focus in 2018. It is a strong play on Japan's demographics and economic policies. **Principal (PFG)** stands out once again this year with a strong 13.8% ROE, 8.4% ROIC, and trading just 12.7X Earnings with the best growth profile in the group. It has a strong position in the annuity market and has provided steady returns while also yielding a 2.76% dividend.

The P&C group trades at an average of 17.4X Earnings with a 9.5% ROE. Progressive (PGR) led performance in 2017 gaining more than 50% followed by 35% gains in Allstate (ALL) and CNA Financial (CNA). **Progressive (PGR)** is no surprise as it screens as the best-in-class name with a 16.4% ROE trading 19X Earnings and posting way above industry-average growth rates on revenues and EPS. PGR only takes up 3.9% of the $608B P&C Industry. PGR is adding bundles at an accelerated pace and sees a major opportunity with the oncoming wave of first time home buyers, a name with strong brand awareness from Millennials. Although I do not see a great reason to own any of the names outside of PGR, **Chubb (CB)** would be next in-line from the value perspective at 14X Earnings with a healthy 11.2% ROE.

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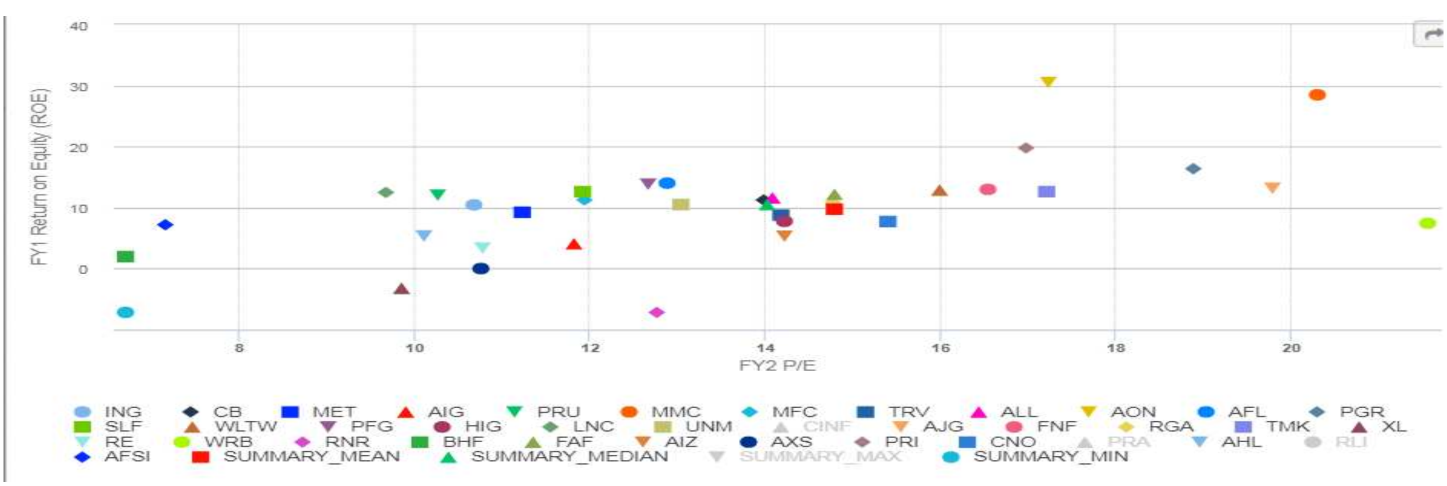
The reinsurance group had a tough year and the only standout performer was last year's pick, **Reinsurance Group (RGA)** which gained 27.5% and was a clear standout leader in last year's analysis of all the key metrics. It continues to be the most attractive looking name into 2018 with a 10.8% ROE at 14.6X Earnings with the best revenue growth in the industry and strong business momentum. It has grown its book value over the past 5 years by the highest rate to any of its peers and sees a significant opportunity in Asia.

I avoided sub $5B names in the above groupings and lumped them all in together to run a screen for the best names. The names that screened as very healthy are **Primerica (PRI)** in Life**, NMI Holdings (NMIH)** as a mortgage insurer, **Selective Insurance (SIGI)** in P&C, and **CNO Financial (CNO)** in Accident & Health.

P/E vs. ROE



Exchanges, Brokers, and Asset Mgmt.:

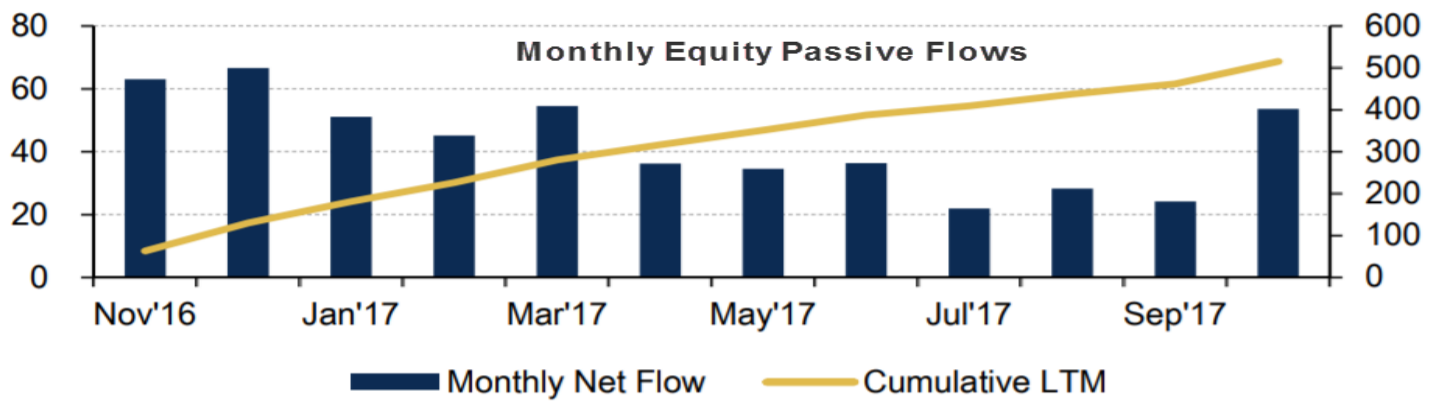
Components:*AMG,AMP,AMTD,APAM,APO,ATH,BEN,BK,BLK,BX,CBOE,CG,CME,ETFC,EV,IBKR,ICE,IVZ,KKR,LAZ,LM,LPLA,MKTX,NAVI,NDAQ,NTRS,OAK,RJF,SCHW,SEIC,SF,TROW,VOYA,WDR,WETF*

This group within the Financials includes the Asset Managers, Investment Brokerages and Exchanges. This is another group seen to benefit from a rising rate environment with Exchanges and Brokers particularly sensitive to rates.

In the investment brokerage group, DARTs is a group-specific metric released monthly, daily average revenue trades. The group also tends to benefit from strong markets and increased trading activity. Net Interest Margin, Net New Assets, and Total Client Assets are other observable metrics. The improving rate/market backdrop and lower tax rates are both tailwinds into 2017, while questions remain on potential rising costs/competition. Increased capital flexibility should lead to dividend raises, buybacks, and further M&A.

In the Asset Manager group, benefits should be seen from pro-growth policies and tax reforms as well as deregulation, though the ability to see new funds remains in question with the recent shift to passive investing. The group can be broken into Traditional (AB, AMG, APAM, ATH, BEN, BLK, CNS, EV, FII, IVZ, JNS, LM, OMAM, TROW, VRTS, WDR, WETF) and Alternative (APO, ARES, BX, CG, FIG, KKR, OAK, OZM). One specific ratio for the traditional names in Market Cap / AUM. For the Alternative Managers, Price / Distributable Earnings (DE), and Distributable Earnings / Unit.

Starting with the more traditional asset managers, it was a strong year for the most part with CNS, TROW, AMG, APAM, EV, BLK, and LM each up 35% or more YTD. **Blackrock (BLK)** remains best positioned to gain from the trends see in passive equity flows. BLK is now trading 20X Earnings but posting impressive double digit revenue and EPS growth for a company of its size. BLK is seeing massive inflows and its Aladdin business along is a compelling reason to own the name. BLK is seeing strong operating margins and gaining share in the ETF industry with iShares. **Eaton Vance (EV)** has excellent metrics with a 46.7% ROE, 31.2% ROIC and strong EPS growth while trading 17X Earnings. EV is priced a bit above peers but seeing meaningful robust flows though fee rate / mix came a bit under pressure last quarter. EV should also benefit greatly from tax reform. **Affiliated Managers (AMG)** was a top pick last year and has returned 33.25% this year, yet remains undervalued to peers despite screening much better on nearly every metric and is well positioned for inflows. AMG has above-average organic growth and active capital management while paying down debt. **Lazard (LAZ)** is a favorite among the Financial Advisors trading 13.8X Earnings with a 37.8% ROE and 9.3% ROIC while having an excellent growth profile. LAZ has been crushing quarterly estimates and benefitting from involvement in a number of large M&A deals. It is seeing solid AUM growth and net fund flows with a constructive deal environment lays ahead. LAZ should also see a 12% EPS improvement from a lowered tax rate.



The alternative asset management group tends to have a lot of moving parts and are tricky to evaluate, though options flow often gives way which names to be invested. **Apollo (APO)** remains the top play at 10.4X Earnings with a 10.6% ROIC with **Blackstone (BX)** a close second. APO recently raised a $25B fund, largest ever, and has nice opportunities with Athene, Delta Lloyd, and Mid-Cap Financial, while Athora is a big opportunity in Europe. APO is has the best PE returns in the business able to acquire a number of companies at low multiples over the years. APO may look to an IPO of ADT Corp. in 2018 and has healthy trends for companies in its portfolio while making progress growing its AUM.

The Exchanges have been steady performers in 2017 with CBOE leading the way at +65% YTD. Similar to the online brokers, the Exchanges announce monthly trading statistics which can be helpful in assessing. CBOE's largest contributor is Index Options at 46%, CME's more balanced with IR Futures at 26% and Energy Futures 19%, ICE's Commodities Derivatives at 30% and other at 45%, while NDAQ Other at 74%. Exchanges are generally valued on P/E with primary factors being revenue mix and growth expectations, competition and barriers to entry impacting pricing, and management's ability to manage margins, market share and cash flow. On 12/19 there were sizable June 2018 puts bought in NDAQ, CME, and CBOE all at the same time, something to be wary of into 2018.

Intercontinental Exchange (ICE) trades at a valuation gap to CBOE and CME, and seems undeservedly so with metrics just as strong. CBOE trades at a premium due to its 40.8% market share in US Options which is seeing the best growth. ICE has a high 31% tax rate that will benefit from reform and has been making a number of strategic acquisitions positioning itself in market data as a higher mix with stronger margins. A potential Saudi Armaco listing on the NYSE along with regulatory reform on fee caps and further M&A can act as additional upside catalysts in 2018. The whole group continues to have a favorable outlook.

Brokers SCHW, ETFC, IBKR, MKTX and AMTD all had strong years in 2017 led by IBKR at +65% and AMTD pulling up the rear at +19.7%. AMTD is integrating its Scottrade deal that could be a benefit in 2018. November DARTs are expected to rise 13% Y/Y for the group, and another group set to benefit from tax reform. **Schwab (SCHW)** is the best of breed name trading a bit rich to peers at 25.6X Earnings. SCHW is seeing strong growth in its retail client segment as well as RIA and has leading ETF and robo offerings. SCHW is winning the battle of asset transfers and has posted 10 straight months of over 100K account additions. **MarketAxess (MKTX)** is a $7.37B electronic trading platform for fixed income that trades 41X Earnings but impressive growth and a 35% ROIC. It does not receive a lot of attention outside of real savvy investors that see a great company that has executed flawlessly. It has controlled expenses while seeing strong International and Emerging Market trading volume growth while growing its US market share.

Financial Tech and Services:

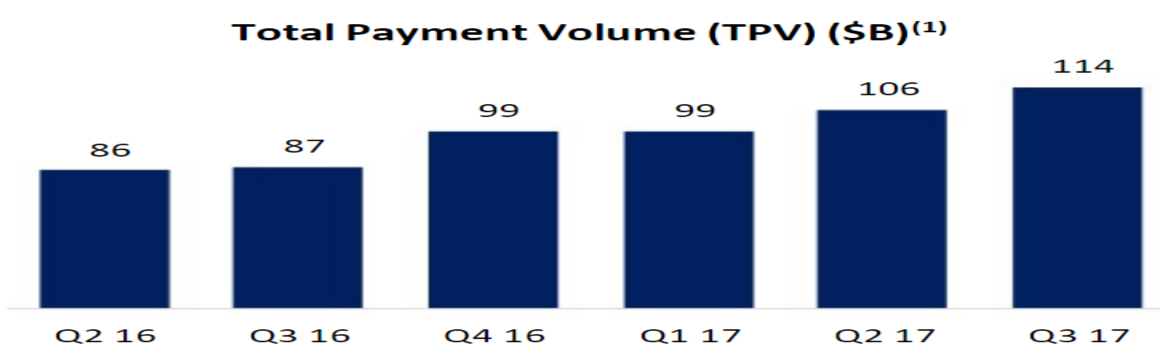
Components:ACIW,ADP,AXP,BCO,BKFS,BR,CATM,CBG,CLGX,COF,CSGP,DFS,EEFT,EFX,ENV,FDC,FDS,FIS,FISV,FLT,GPN,HAWK,HLI,HRB,INFO,MA,MCO,MORN,MSCI,NCR,PAYX,PYPL,RLGY,RMAX,SPGI,SQ,SYF,TNET,TRI,TSS,V,VNTV,VRSK,WEX,WU,TRU

This expansive groups falls under the Financials umbrella but features an array of different industries with Credit Services, Payment Processors and Technology, Financial Data Analytics, and Real Estate Services. In here we find some of the best growth names in this sector due to the prominence of online payments and overall higher global consumer spending.

The credit card / services group including MA, V, AXP, DFS, COF, SQ, PYPL and SYF is one where we look at industry-specific metrics like NCO (net charge-off) and DQ (delinquency) rates. It is also a group set to benefit from higher rates, reduced regulations, and increased consumer optimism. PayPal (PYPL) is the disruptor in this group with the increased amount of online transactions and now has partnerships with both V and MA. Square (SQ) is another up and coming name in the group with the growth in mobile payments.

In 2017 the group performed well, the only major laggards are the ATM plays Cardtronics (CATM) and NCR Corp. (NCR) as well as Western Union (WU), all names with struggling business models. Square (SQ) and PayPal (PYPL) were stellar performers while MasterCard (MA) and Visa (V) are each up 45% as well. The Financial service leaders MSCI (MSCI), Moody's (MCO) and S&P Global (SPGI) are each up around 60% on the year as well.

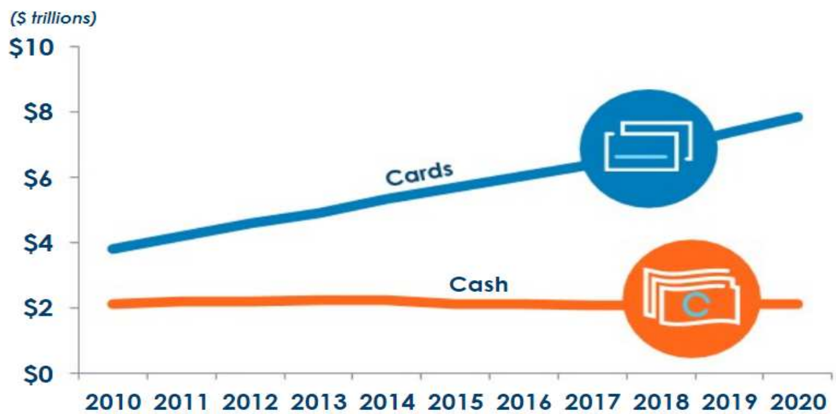
The four horsemen of this group, PYPL, SQ, V, and MA all continue to look great into 2018. I continue to prefer **Visa (V)** to **MasterCard (MA)** though both remain great investments. V trades a bit cheaper and still see upside with the Visa Europe integration. V is coming off a quarter with 10% payment volume growth and 13% transaction growth and better than expected expenses. **PayPal (PYPL)** trading 32X earnings is fairly cheap given its growth and has the firepower to do another key acquisition in 2018 that can be an upside catalyst. PYPL is best position to capture the explosion in digital payments. PYPL recently derisked its balance sheet as it sold its receivables to Synchrony (SYF). PYPL continues to take shares as the TPV chart below shows and is positioned well for mobile payments with Venmo which posted a 93% rise in volume last quarter.



The payment processors group includes ACIW, GPN, EEFT, VNTV, FISV, WU, FDC and TSS. Technological advancements such as mobile point of sale, contactless, and near-field communication has led to an increase in payment channels for retail customers. Consolidation has been a theme in this group with a number of deals, including Total System's (TSS) $2.35B purchase last year of Trans First and Global Payments (GPN) deal for Heartland Payments. In 2017 there was a major deal with Vantiv (VNTV) announcing a deal for World-Pay. This group benefits from rising transaction numbers which Tech is driving, and can expect a greater regulatory environment and heightened security. It is also opening up cross-sell opportunities for fraud-related tools, analytics, loyalty services, etc. for these companies to make money on value-add services.

Vantiv (VNTV) is a clear favorite in the group with its pending deal of World Pay that will expand its footprint International and move away exposure from brick and mortar to e-commerce. At 20X earnings shares trade at a small discount to peers while having a strong 13% ROIC. **Global Payments (GPN)** also continues to operate at a high level and projecting another year of double digit revenue growth. GPN has a strong history of beat and raise quarters and seeing solid growth organically and via M&A.

Cards vs. Cash: Historical & Projected Spend Volume



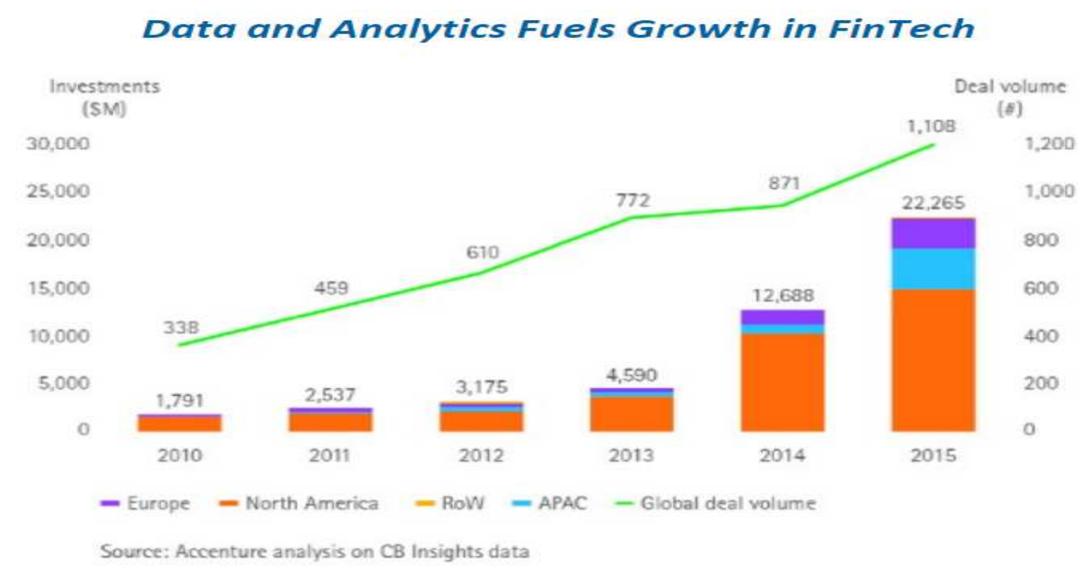
CAGR:		
	2010-16	2016-20
Cards	8%	7%
Cash	0%	0%

Looking at the more traditional credit card and prepaid card providers COF, AXP, DFS, GDOT, HAWK and SYF as well as specialty plays like FLT and WEX, it was a bounce-back year for American Express while Capital One and Discover struggled. **Synchrony Financial (SYF)** is my value play at 11.8X Earnings with a 16.5% ROE and generating 7-8% revenue growth with 22% EPS growth forecasted for 2018. SYF is the largest provider of private label credit cards and recently acquired receivables from PayPal. SYF has a strong balance sheet and the highest risk-adjusted yield to peers. SYF is starting to penetrate online/mobile more which could cause near-term challenges to credit ratios, but longer term growth upside. **FleetCor (FLT)** is my other favorite in this group trading 19X Earnings with a 10.8% ROIC and 21.5% ROE as well as outstanding growth numbers. FLT saw growth slow in 2016 but 22.5% revenue growth and 22% EPS growth in 2017. The provider of payment solutions for fleet and lodging industries has 91.6% revenue retention rate and recently announced an expanded relationship with Uber. FLT is an outstanding growth company with a leading and growing market position for its niche in the payments industry.

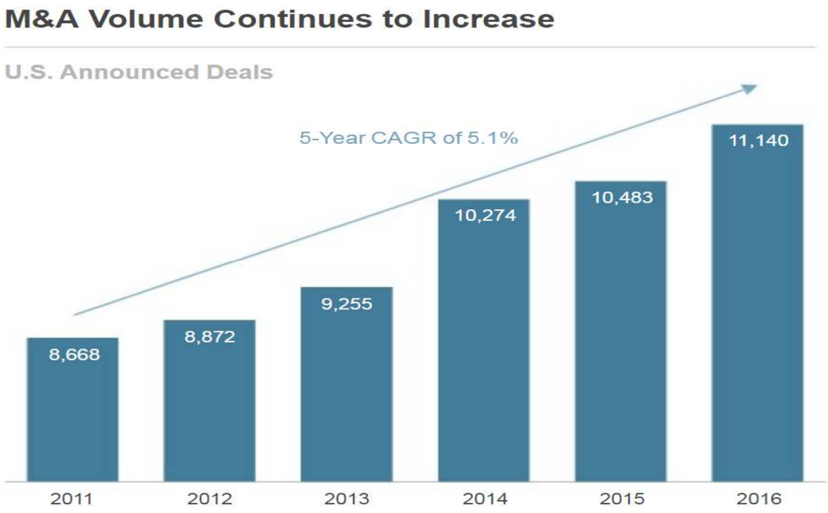
The property management and real estate focused names are RLGY, RMAX, CSGP, BKFS and CBG. CBG was the value pick last year and has returned +32% in 2017 while remaining the best ROIC name in this group. CSGP is up another 53% this year, the top growth name in the group. **CoStar Group (CSGP)** remains the best play here, the $10.45B provider of an online marketplace for commercial real estate trades rich at 47X Earnings and 55.5X FCF, but delivering fantastic growth. CSGP recently integrated the LoopNet database resulting in strong cross-selling opportunities for the CoStar Suite. CSGP is also a margin expansion story into 2018. CSGP has an impressive portfolio that includes Lands of America and Apartments.com.

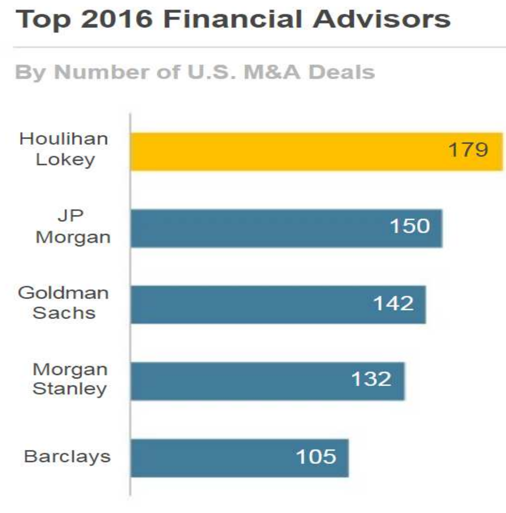
The Financial Analytics and Data names are TRI, CLGX, MSCI, FIS, BR, MORN, FDS, EFX, VRSK, SPGI, MCO, INFO, and ENV. There are a number of high quality names in this group with **S&P Global (SPGI), Moody's (MCO), MSCI (MSCI), IHS Markit (INFO), and Factset Research (FDS)**. Many are benefitting from the passive investing movement and the strong global issuance of bonds, while overall healthy financial markets correlate to the names as well. **MSCI** was the top pick last year and led performance here with shares up 62% on the year, and continue to like the name on the basis of inflows. MSCI now trades 28X Earnings but has impressive growth and metrics and with the current land grab in ETF, it could become an acquisition target. It is seeing strong performance from its Index product with AUM at a record high. **Moody's (MCO)**, although rich now at 23.3X Earnings and 17.4X EBITDA, continues to look great with its industry-leading ROIC, double digit growth, and well diversified businesses including a better mix story and move to more recurring revenues. MCO will continue to benefit from a strong issuance backdrop and should see further margin expansion in 2018. Much like the payments space, this group of Financial Services is a great momentum theme and really can't go wrong with these quality names.

Envestnet (ENV) is one of two small caps that does screen healthy with another year of double digit revenue growth expected in 2018, though a bit rich at 30X Earnings. ENV is the leading wealth-management platform for the $18 Trillion advisor marketplace, and has consistently outperformed the industry. Data & Analytics remains in the early stages of growth for a sizable addressable market. ENV has highly recurring revenues with strong cash flows and operating leverage.

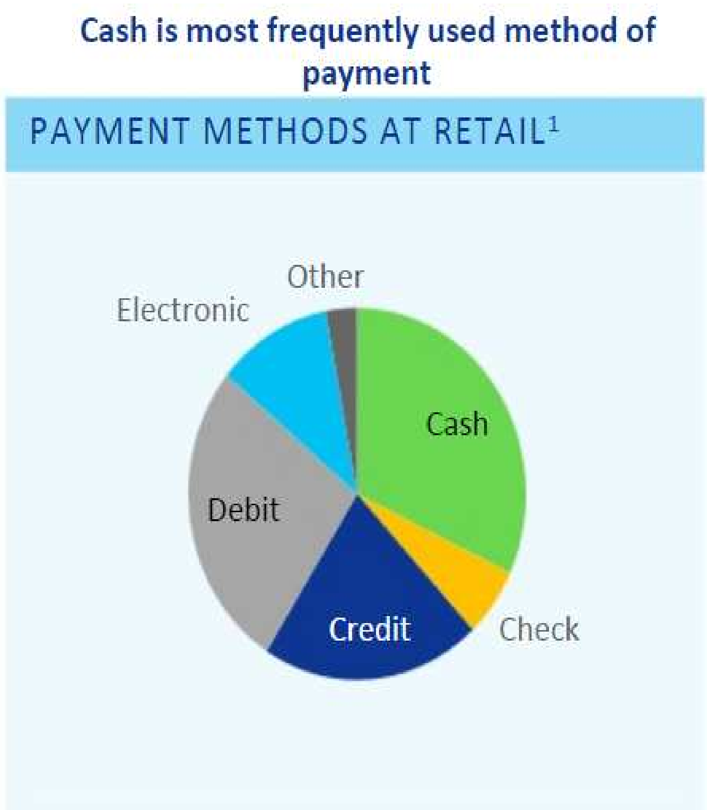


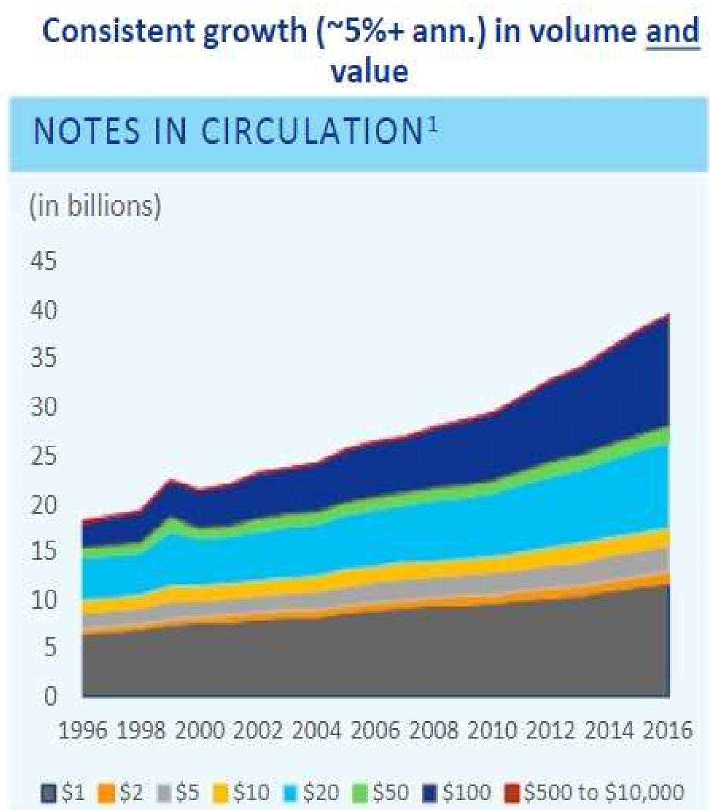
Houlihan Lokey (HLI) is a name that has impressed me with the numbers it has posted each quarter in 2017. The $2.93B provider of M&A advisory services trades 20.1X Earnings and 15.3X FCF with revenues jumping 25% in 2017. HLI does not receive a lot of coverage yet but is posting solid results with diversified customer and product mix. It is a market leader in M&A Advisory, Global Restructuring, and Fairness Opinion Advising.





Of the remaining names, **Brink's (BCO)** was a fascinating story in 2017 as shares gained 95%, the World's largest cash management Company with just 41% exposure to North America. Although there are concerns with the move to a cashless society it continues to post great results outside of the US. BCO is also an operational improvement story with margin expansion a continuing objective. The demise of cash appears to be more of a misperception currently with USD in circulation +7.4% Y/Y.





For the payroll service providers, **Automatic Data (ADP)** remains the best value for growth play, a leading provider of cloud-based HCM solutions. ADP has been growing revenues at a 7% CAGR and expanded operating margins 580 bps since 2011. ADP has a favorable Macro backdrop with interest rates and employment, and should be set for a strong year of ramping growth and margin expansion in 2018. Pershing Square took a vocal new stake in the company recently that could also eventually drive some positive changes. **TriNet (TNET)** is an interesting small cap with a $3B market cap trading 22X Earnings and 16.65X FCF, targeting the underpenetrated SMB market with technology, HR, benefits, and compliance solutions.

Healthcare: *Healthcare stocks have performed in-line with the market in 2017 and as we enter 2018 the same uncertainties remain regarding the repeal of Obamacare and whether the current administration will be able to come up with a feasible plan to tackle soaring healthcare costs in America. In Pharma/Biotech the drug pricing debate has faded from the front pages but remains a headline risk with many companies utilizing that to inflate profits, and not actual volume growth. M&A is always a focus and we are closing 2017 with a massive CVS Health (CVS) purchase of Aetna (AET) in managed care. Gilead (GILD) finally made its deal for Kite Pharma (KITE) and the tax reform should drive increased M&A in the group. Cancer remains a focus with CAR-T while gene therapy is the hottest group. The aging population theme remains a positive tailwind for the medical device companies.* |

	12/08/17 YTD 2017	2016	2015	2014	2013	2012
S&P 500 Healthcare Equipment & Supplies	30.2%	4.8%	4.6%	24.0%	25.7%	15.1%
S&P 500	18.4%	9.5%	(0.7%)	11.4%	29.6%	13.4%
NASDAQ	27.1%	7.5%	5.7%	13.4%	38.3%	15.9%
Russell 2000	12.1%	19.5%	(5.7%)	3.5%	37.0%	14.6%
MedTech Tier 1 (> $10B)	27.7%	5.4%	3.3%	17.3%	27.3%	12.2%
MedTech Tier 2 ($1B - $10B)	29.7%	5.5%	14.9%	13.8%	35.1%	14.3%
MedTech Tier 3 ($500M - $1B)	19.8%	3.9%	2.0%	33.9%	55.5%	16.3%
MedTech Tier 4 (< $500M)	30.1%	8.1%	(14.4%)	8.0%	65.3%	13.9%
Cardiovascular	21.1%	18.8%	14.6%	21.6%	37.7%	6.4%
Orthopaedic	21.1%	7.7%	4.2%	17.8%	28.7%	12.9%
Diversified	27.3%	3.4%	(4.9%)	13.5%	26.5%	13.2%
S&P 500 Healthcare Providers & Services	27.6%	2.6%	11.1%	27.1%	41.5%	11.5%
S&P 500 Pharma	9.7%	(4.0%)	3.3%	19.2%	31.1%	10.5%
S&P 500 Biotech	17.7%	(14.4%)	5.0%	32.6%	74.4%	37.7%

Biotech:

Components:*AERI,AMGN,GILD,CELG,BIIB,REGN,VRTX,ILMN,ALXN,INCY,GRFS,BMRN,ALNY,NKTR,SGEN,JAZZ,BLUE,EXEL,SAGE,JUNO,BIVV,BGNE,TSRO,GLPG,FGEN,ACAD,PBYI,SRPT,PTLA,AVXS,CLVS,AGIO,LGND,BPMC,OPK,HALO,ONCE,LOXO,CBPO,INSM,ARRY,FOLD,GBT,ANAB,CORT,SPPI,RARE,IMMU,EBS,CBM,AIMT,XON,PRTA,RGEN,ICPT,XLRN,TBPH,SGMO,RDUS,ESPR,MYOK,ASND,ARNA,ZLAB,AKCA,LXRX,DERM,DVAX,RVNC,EDIT,RXDX, IONS, UTHR, NBIX*

In this group of 74 stocks, only a select few are set to earn a profit in 2018, which makes traditional valuation metrics like P/E difficult. EV/Revenues is another approach, a 10 year average of 7X for companies with $500M+ in revenues. Risk-Adjusted-Value is one way to value early-stage Biotech companies, Market Potential*Market Share*Likelihood of Approval, though a lot of those inputs are subjective.

It is best to break the names into mid/large caps ($5B+) and small caps. The smaller cap names clearly carry more risk, but also better upside potential with more of the future valuation tied to uncertain futures for drugs in clinical trials. The potential for M&A in 2018 is great if there is more clarity on healthcare reform, and repatriation of overseas cash. The top 5 US Pharma companies hold nearly $250B in overseas funds. The larger cap names I see as top M&A targets are **Seattle Genetics (SGEN), Juno Therapeutics (JUNO), Bluebird Bio (BLUE), Exelixis (EXEL) and Vertex Pharma (VRTX).**

In terms of performance in 2017 there were 25 names that gained more than 100% showing how crucial stock selection is in this industry, more than any other. We have seen some recent success stories in the group from positive drug read-outs with Nektar (NKTR) and Sage Therapeutics (SAGE).

Starting with the $5B+ market cap names there are some clear hot names right now with NKTR, ALNY, SAGE, JUNO, and BLUE. To over-simplify, we are looking for Biotech companies demonstrating best-in-class data with large market opportunities and currently small penetration, leaving a long runway for revenue growth as well as strong pipelines. Companies in the early stages of commercialization are also ideal if showing strong uptake especially in areas of high unmet need.

Alnylam (ALNY) is a $12.B Biotech with strong APOLLO data recently and enters 2018 with some meaningful high probability catalysts. ALNY will present givosiran data in mid-2018 that could set it up for its 2nd commercial asset with their platform RNAi technology. ALN-GO1 recently showed clear biomarker evidence that could result in a fast pathway to market. ALNY has Sanofi (SNY) as a partner who could also be a potential acquirer.

Juno Therapeutics (JUNO) is a $6.7B cancer immunotherapy Biotech targeting markets with high unmet medical needs. JCAR2017 has the potential to be the best-in-class name in NHL and JCARH125 trials are set to begin in Multiple Myeloma in 2018. The recent JCAR017 data positions in ahead of peers and makes it a likely takeover target, possibly for Celgene (CELG) who already owns a stake in the company. JUNO's CAR-T franchise has 5 products targeting solid tumors with data expected in 2018 and a solid cash position to fund its pipeline advancement.

Bluebird Bio (BLUE) is a differentiator in gene therapy, the $7.85B Company with 2 products on the market and 2 more nearing commercialization. BLUE has exposure to CNS disease, Sickle Cell Disease, Oncology and more that has demonstrated strong data to this point. LentiGlobin in Sickle Cell will be a key driver, and BLUE is well funded with enough cash to fund operations through 2020.

Neurocrine Bio (NBIX) is a $6.5B Company coming off an extremely impressive quarter, its first of commercialization of INGREZZA, blowing away consensus estimates. NBIX will be discussing opicapone in January 2018 to determine its path forward and its partnership with AbbVie (ABBV) could lead to a deal down the road. NBIX markets include Tourette Syndrome, Parkinson's, Uterine Fibroids, and others.

For the mega-caps I like **Gilead (GILD)** as a value now that it put its cash to work in the right place with the KITE acquisition, and sets up vs. easier comps in 2018. **Vertex (VRTX)** remains a favorite large cap for its dominant CF franchise and **Biogen (BIIB)** as a tax reform beneficiary with upside optionality from its Alzheimer's program.

For the smaller names, Asset Turnover looks to be a good metric aligning with names I prefer in the group. I'll briefly touch on a few of these names below. Options activity monitoring is extremely helpful in this group to see where the smart money is positioning. Many of these names will be detailed later in the Biotech 2018 catalyst section.

Array Bio (ARRY) is a $2.14B Biotech with a cancer focus and has a PDUFA scheduled for June 30th, 2018. It will also present phase 3 IMblaze370 data in Q1 and has seen bullish options positioning as well as smart institutional funds investing. 2018 will be the year ARRY transitions into a commercial biotech and expect it to perform well.

GW Pharma (GWPH) is a $3B cannabinoid medical Company, a potential major growth opportunity and the best positioned for this theme. GWPH is expecting regulatory updates from the FDA by year-end for Epidiolex as it gears up for commercialization. GWPH also will have Phase 3 data for tuberous sclerosis complex and a second Dravet trial in 2H18. It will also be initiating trials in autism spectrum disorders and Rett syndrome in 2018. GWPH could also see significant upside for Epidiolex's opportunity to treat orphan pediatric epileptic conditions.

Corcept Therapeutics (CORT) is a $1.86B Biotech trading 19.2X Earnings with 86% sales growth in 2017 and another 40% expected in 2018, focusing on development of drugs to treat rare metabolic diseases and cancer. The company's treatment for Cushing's Syndrome, Korlym, was approved in 2012 and has multiple Phase 2 trials ongoing in triple-negative breast cancer and castration-resistance prostate cancer. CORT has a key Phase 2 update for their follow-on replacement for Korlym, CORT125134, due in early 2018.

Sarepta Therapeutics (SRPT) is a $3.4B Biotech focused on treatment of rare neuromuscular diseases, forecasting 100% revenue growth in 2018. SRPT has been posting great results in 2017 with the US launch still underway and should learn of potential approval in Europe in 1H18 to add to growth. SRPT is also starting a gene therapy study and will meet with the FDA in Q1 2018 to discuss golodirsen data. SRPT is in the middle of a strong commercial launch with potential further upside in its clinical pipeline, a best of both Worlds play.

Global Blood (GBT) is a $2B Biotech trading strong to close 2017 and has seen sizable bullish options positioning for 2018 with Novo Nordisk (NVO) reportedly eyeing the company in a deal earlier in 2017. GBT is expecting 500% sales growth next year and top line data for its Sickle Cell Disease product is expected in 1H19, seen as a potential blockbuster with compelling data to this point. GBT's 440 HOPE program should show results early in 2018 as well. GBT should be able to continue to ride this wave of momentum with more data coming in 2018/2019, while also a highly likely takeover target.

Puma Bio (PBYI) is a $3.65B Biotech that is entering commercialization for its breast cancer drug Nerlynx which is seeing encouraging early signs of uptake from prescription readings. PBYI's initial launch exceeded high expectations, a good start for the drug that could see upside across multiple indications. PBYI could reach $2.2B peak sales for this drug making its $3.65B market cap very attractive as an emerging leader in breast cancer.

Blueprint Medicines (BPMC) is a $2.8B Biotech targeting rare diseases and cancers that sees less recognition than many of its peers but shares have gained 155% YTD. BPMC is a promising name in the RET inhibitor class, and BLU-667 data expected in 1H18 will be an important driver. BLU-285 is the key value driver with promising early data in GIST and systemic mastocytosis. BLU-554 targets an underappreciated opportunity in HCC. Overall, BPMC has a unique and expansive drug discovery platform.

AnaptysBio (ANAB) is a $1.94B Biotech targeting allergies with a Phase 2 readout for sever peanut allergies in adults set for Q1 2018, included in the group with AIMT and DBVT. ANAB shares could make a 40-50% move on strong data, its NB020 a potential blockbuster in a number of allergic conditions that has already shown compelling proof of concept results. ANAB will initiate two Phase 2 studies of ANB019 in GPP and PPP in 2018.

Revance Therapeutics (RVNC) is a $1B Biotech closing the year on a high note after positive results from its Sakura Phase 3 trials for glabellar lines. RT002 now sets up for approval and could be a major threat to Allergan (AGN) Botox over the longer term, and RT002 the potential to be the first new neuromuscular product in over 20 years addressing a $3B market.

Pharma, Drugs, and Generic:

Components:*ABBV,AKRX,AZN,BMY,DPLO,EGRX,ENDP,GSK,HZNP,IRWD,JNJ,LCI,LLY,MDCO,MNK,MRK,MYL,NVO,NVS,PCRX, PFE,PRGO,SHPG,SNY,TARO,TEVA,VRX*

The Pharma group had a fairly solid year with Novo Nordisk (NVO), AbbVie (ABBV) and J&J (JNJ) standouts, while Generics like Endo (ENDP), Mallinckrodt (MNK) and Teva Pharma (TEVA) continued to come under pressure. The underperformance versus the S&P for the majority of the group remained due to pricing concerns, a pause in M&A as tax reform was uncertain, and disappointing clinical catalysts. Shorter product lifecycles due to the emerging threat of Biosimilars is another headwind. Oncology is the major driver of revenue growth again in 2018-2019 with a 3.6% CAGR seen through 2022.

Starting with the $40B+ market cap names **AbbVie (ABBV)** a top performer in 2017 still looks most attractive trading 14.6X Earnings with a 13% ROIC and some of the best growth in the entire space. ABBV will be filings regulatory applications for its Psoriasis drug in 1H18, and has multiple readouts coming in late 2017. ABBV has one of the best outlooks in the industry and the recent Humira patent exclusivity through 2022 decision removes a major overhang for shares as it transitions into new areas. My other two preferred names in this group are **Johnson & Johnson (JNJ)**, though not a pure-play Pharma, and **Bristol Myers (BMY)**. Both screen fairly cheap to peers with 11%+ ROIC and have the best revenue growth outlooks.

Looking at the sub $25B names **Horizon Pharma (HZNP)** with a $2.44B market cap is clearing a long downtrend and has seen some bullish options positioning, also carrying a best-in-class 16.8% ROIC while trading just 11.4X Earnings with 7-8% revenue growth. HZNP's teprotumumab program is showing better than expected sales. HZNP has been shunned because of its specialty portfolio but looks to be under accumulation at these levels. Horizon has a diverse portfolio if high-growth rare disease medicines with KRYSTEXXA a key driver in Gout which has seen a sharp increase in hospitalizations.

Pacira (PCRX) is another interesting small cap with a $1.8B market cap for the potential of its EXPAREL as an opioid alternative, a need in the US with the current crisis. PCRX will have an FDA Panel with further safety data in February that is a potential risk to shares, but could also remove an overhang. EXPAREL is not expected to be a rapid growth product but can take market share and have a long product cycle. I think its position amidst this opioid crisis makes it an interesting takeout target as well.

I will continue to avoid the major generic names MYL, MNK, TEVA, VRX, and PRGO due to continuing headwinds.

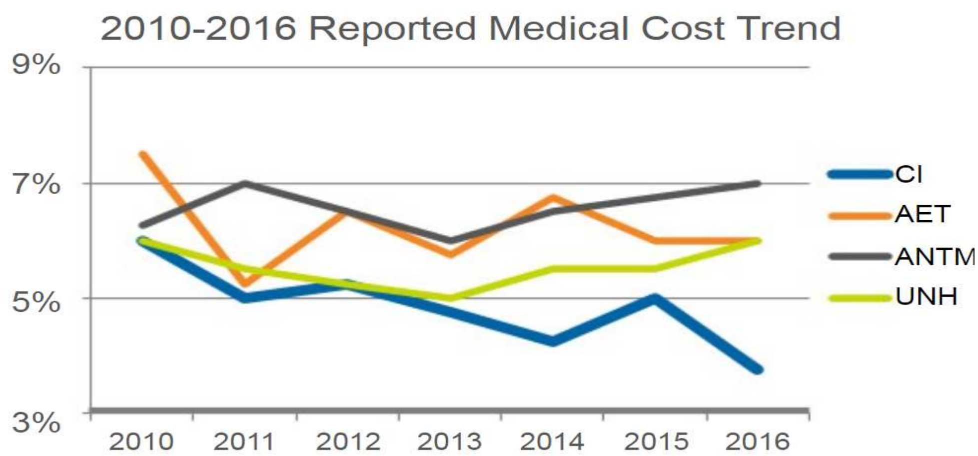
Managed Care, Hospitals, Distributors and Labs/Testing:

Components:*A,ABC,ABAX,ACHC,AET,AMNL,ANTM,BIO,BRKR,CAH,CHE,CI,CNC,CRL,CVS,DGX,DVA,ESRX,EXAS,EVHC,FMI,H CA,HSIC,HUM,IDXX,INCR,ILMN,LH,LPNT,MCK,MD,MGLN,MOH,MYGN,NEOG,PAHC,PKI,PMC,PRAH,PRXL,PTHN,IQV,QDEL,Q GEN,SCAI,THC,UHS,UNH,VWR,WBA,WCG,WOOF, TECH, ZTS, TMO*

In terms of 2017 performance the smaller to mid-cap names really excelled with EXAS, FMI, MYGN, QDEL, BRKR and PRAH leaders while large cap top performers where mainly managed care names CNC, ANTM, QCG and CI while ILMN was also a top performer in the genetic testing space.

The first group to look at is the Managed Care and Pharma Distribution companies. The Managed Care industry is seeing a lot of consolidation including the recent CVS Health (CVS) proposal to acquire Aetna (AET). The group is seen to benefit from both rising rates and tax reform.

CIGNA (CI) is the most attractive fundamental name, the $52B Co. trading 18.4X Earnings with industry-leading margins, a 13.5% ROIC, and lowest Debt/EBITDA. CI could look to a merger in 2018 to keep up with peers, Humana (HUM) a possible partner. CI is the cost leader in the industry as well and sees $16/share in earnings by 2021. CI's addressable market is growing into 2018 as a number of other providers are exiting the exchanges. CI is also a capital deployment play with upwards of $15B ready for deployment.



Centene (CNC) is the other favorite as a growth play, the $17.5B Co. trading 18.3X Earnings with an 18.4% ROIC. CNC is set to grow revenues 17.5% this year and another 15.7% next year with double digit EPS growth seen through 2020. CNC is another name making money on the exchanges while competitors exit as it targets the low-income population. CNC could grow enrollment more than 40% in 2018 and continues to expand its geographic reach. CNC has been growing rapidly and also still integrating its Health Net acquisition.

Similar to last year I would continue to avoid the large drug distributors though **AmerisourceBergen (ABC)** is the preferred name if the group sees some positive catalysts.

The next group to look at is the Hospitals, Home Health, and Wholesale Equipment stocks. The stocks in this group do not look overly compelling at current levels, a real lack of growth and unimpressive margins/ROIC. A repeal/overhaul of Obamacare is likely to be negative for hospitals and companies with exposure to hospital spending. **Chemed (CHE)** was the only pick in this group last year and shares are +48.5% YTD, and it remains the only attractive name though now pricier at 27X Earnings.

The final group includes Labs, Research, and Diagnostics that has 25 components. There were a number of strong performers in this group as it remains a focal point for Healthcare spending.

For the larger cap names DGX and LH trade at the cheapest valuations but also have weaker growth profiles, though prefer LH to DGX among those two diagnostic leaders. **Illumina (ILMN)** remains a favorite long for its exposure to the hot genetic space and undergoing a major product replacement cycle. **Zoetis (ZTS)** also remains attractive as a leader in the stable and growing animal health space, trading 26X Earnings with a 15.7% ROIC. ZTS is improving operational efficiencies and divesting facilities, and has nice margin expansion opportunities as well as a strong R&D pipeline. ZTS could also use its building cash pile for bolt on M&A deals in 2018.

Looking at the smaller players the average multiple is 26.6X Earnings. There are some names projecting major revenue growth next year like QDEL, FMI, and EXAS.

Quidel (QDEL) is a $1.36B maker of diagnostic tests trading 27.8X Earnings growing revenues 45% this year and expecting 76% revenue growth next year as well as 630% EPS growth. QDEL has been receiving FDA clearances for a number of new products fueling its growth. QDEL would also make a very attractive M&A target.

PRA Health Sciences (PRAH) has a $5.2B market cap trading 20.7X Earnings targeting 20.7% revenue growth and EPS growth in 2018. PRAH is in a hot industry and seeing market share gains while also realizing accretion from its Symphony deal. PRAH has maintained a strong Book to Bill ratio above 1.25 and been winning new business with strong bookings momentum. PRAH is set to grow EBITDA 15%+ in 2018 and 2019.

Bio-Techne (TECH) is the final Company I want to highlight, trading 29X Earnings with strong margins and FCF. TECH has a $5-$10B addressable market split between Pharma/Biotech, Academia, OEM, and Distributors. TECH is seeing greater than 40% growth from its newer products. Its Advanced Cell Diagnostics business is delivering above-industry average growth and margins.

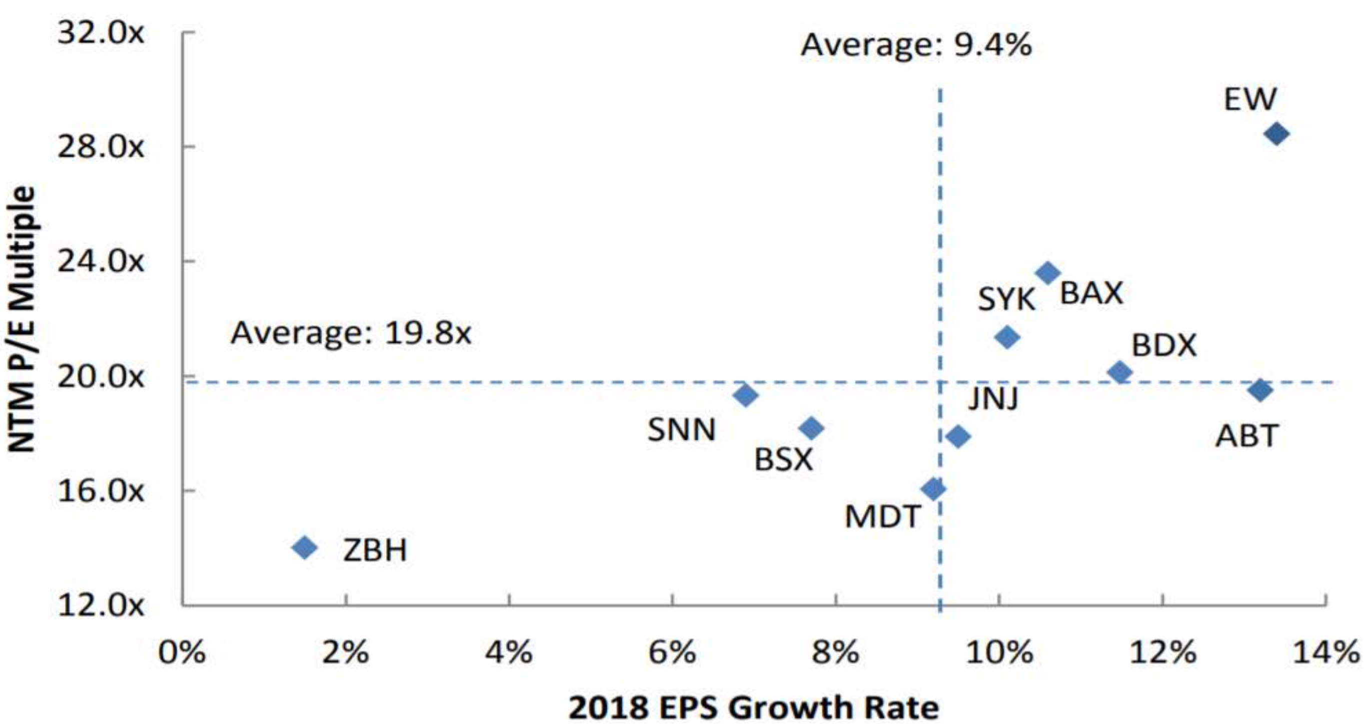
Medical Devices, Equipment, and Supplies:

Components:*ABMD,ABT,ALGN,ALOG,BABY,BAX,BCR,BDX,BSX,CMN,CNMD,COO,DXCM,EW,GMED,HAE,HOLX,HRC,IART,ICUI,ISRG,INGN,MASI,MDT,MSA,MTD,NUVA,NVRO,NXTM,NVCR,PDCO,PEN,PODD,RMD,SNN,STE,STJ,SYK,TFX,VAR,WAT,WMGI,WST,XRAY,ZBH, VREX, CNMD, AXGN, LNTH, MMSI, MZOR, IRTC, STAA, LMAT*

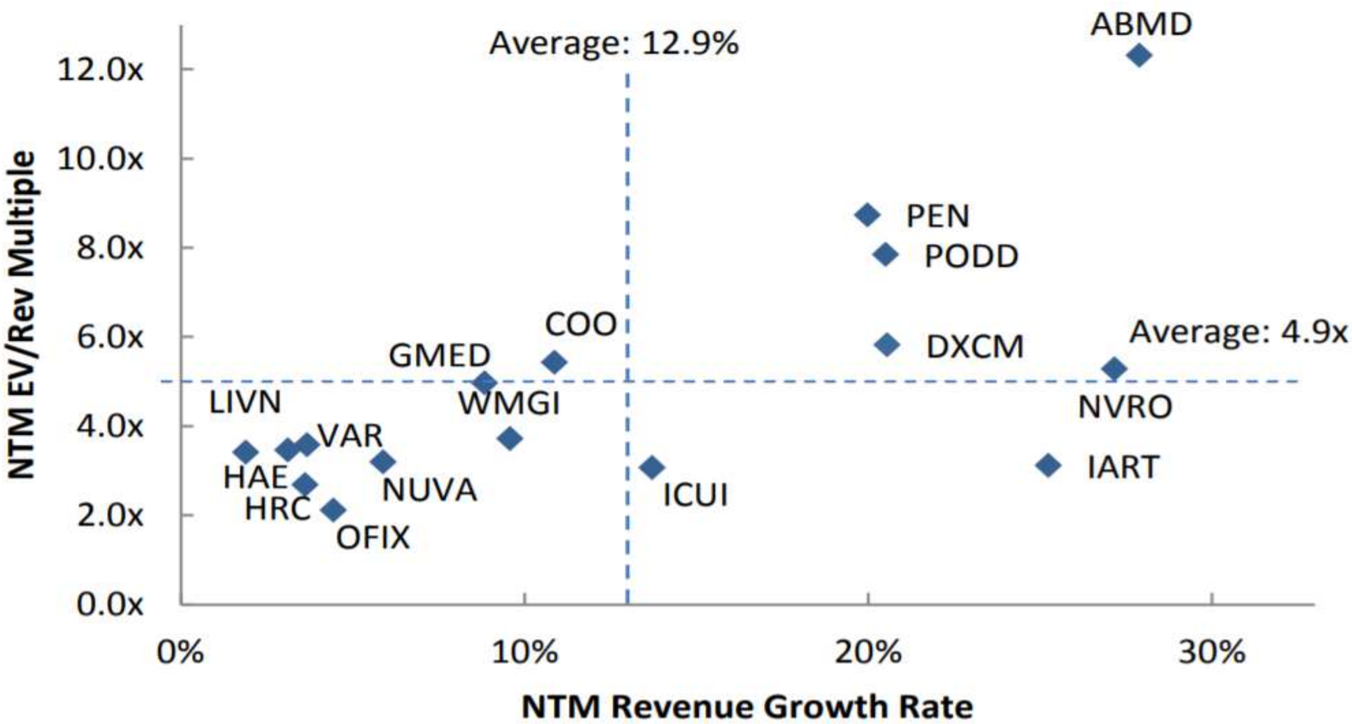
The medical device/technology group contains more than 50 stocks and is always one of the more exciting areas for investing, especially in smaller cap names with great products. The big three important factors for these names are product pipeline, operating leverage, and execution. Med-Tech fundamental shave been improving the last few years with higher operating margins and access to cash, and cash repatriation could drive further consolidation in the space. Revenue growth is generally driven by product introductions and hospital patient enrollments.

To attack such a large group I will first look at the $10B+ names which trade at an average P/E of 24,5, 16.6X EBITDA, 30% EBITDA margins, 20% ROE, 15% ROIC, 18% Levered FCF Margin, and Net Debt / EBITDA of 1.5X. The mean return of the 20 names in this group is +41% with ALGN leading the way at +140%, an impressive group in 2017 that continues to be well positioned for the theme on increased Healthcare spending. ZBH and MDT are the value names in the group but also low growth profiles, although I continue to like **Medtronic (MDT)** as a cash flow machine and coming out of a transition year with potential to do a large M&A deal such as Smith & Nephew (SNN).

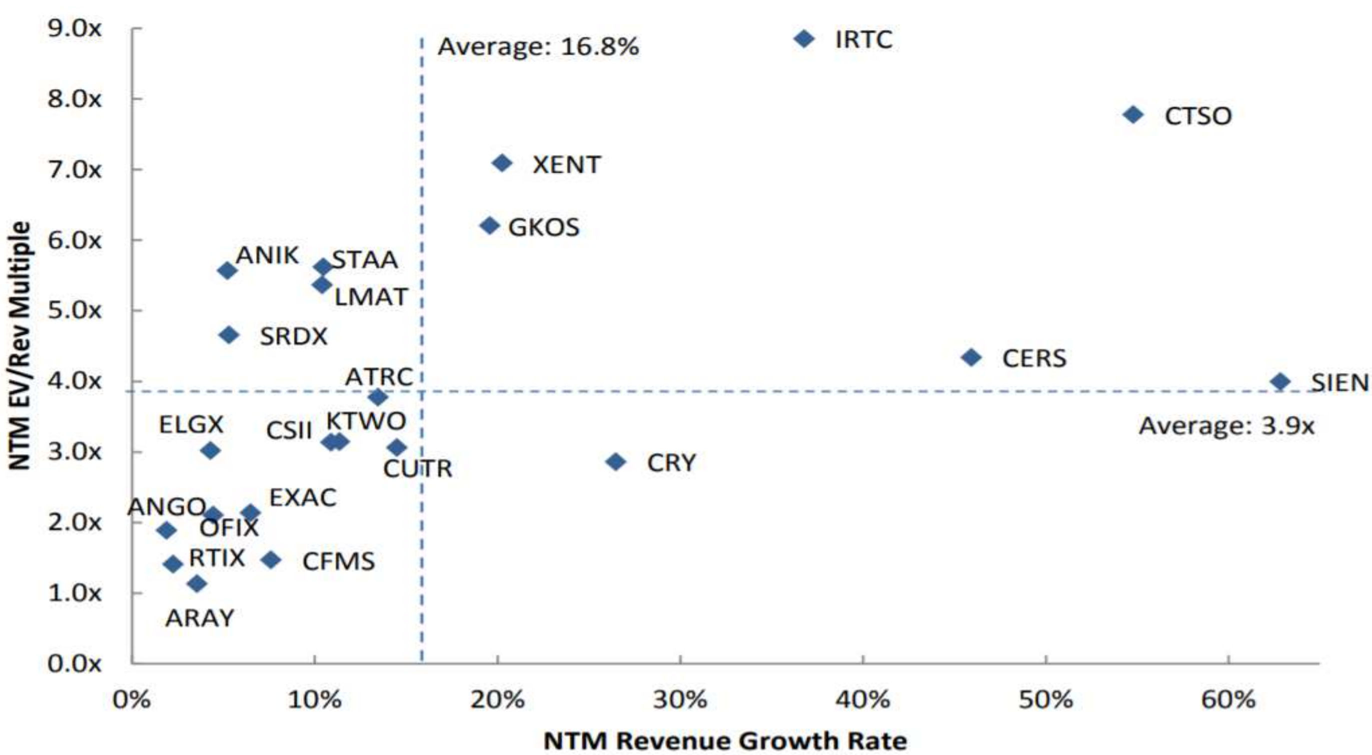
Intuitive Surgical (ISRG) and Align Tech (ALGN) continue to set themselves apart as the growth leaders that are in significant product cycles for a long runway of growth in large addressable markets. I had to remove them from the PE vs. EPS Growth chart below for scaling purposes. **Abbott (ABT)** continues to look attractive on relative valuation though much of its growth being generated via acquisitions after the St. Jude and Alere deals. **Edward's Lifesciences (EW)** also remains a solid growth name at 28X Earnings with a 25% ROIC and strong margins to peers. EW is expecting 2018 to be a heavy investment year and is likely to be a second half story that can see EW surpass its revenue and EPS growth guidance.



In the $3B to $8B group, the top three performers in 2017 were PODD, ABMD and GMED. After screening these names through a variety of metrics and looking across the businesses, the three best looking names are **Abiomed (ABMD), West Pharma (WST) and ICU Medical (ICUI).**



Lastly, the remaining 17 names are sub $3B market caps, and a number of enticing growth names that could be nice M&A fits for larger players. I have a number of favorite growth names in this group including **Inogen (INGN), Lemaitre Vascular (LMAT), Merit Medical (MMSI), Novocure (NVCR), Axogen (AXGN), iRhythm (IRTC), and Tactile Medical (TCMD).**

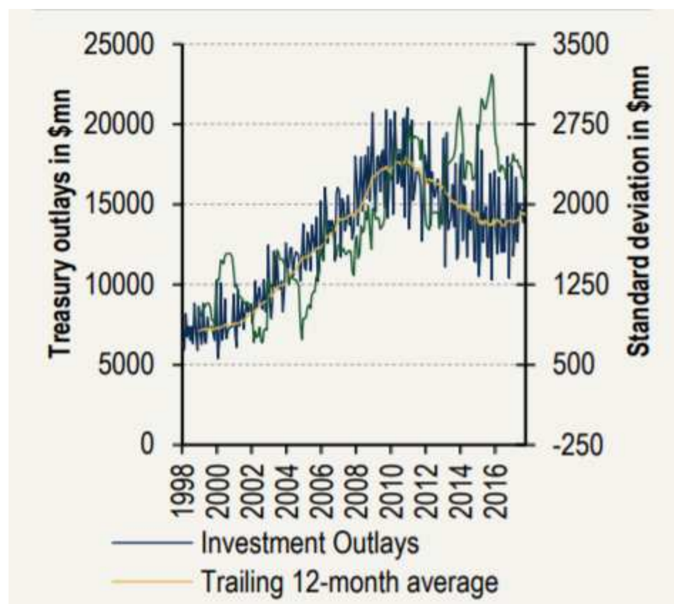


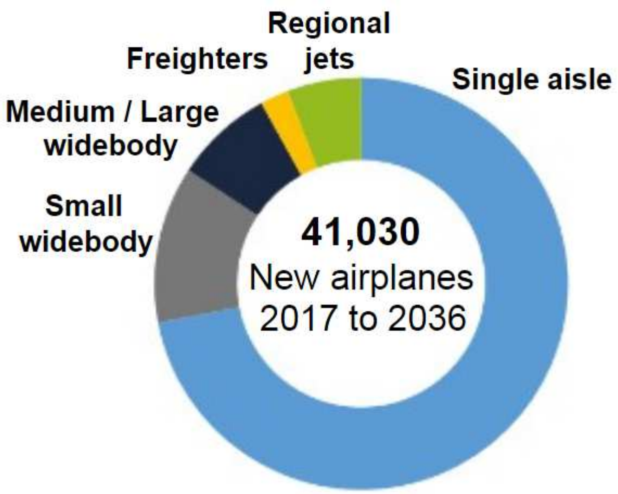
Industrials: *The Industrial group has been steadily strong throughout 2017 with the XLI up 20% YTD and hitting new highs into year-end. The Energy exposed names have recovered as Oil found its footing and drilling activity appeared to bottom, while Housing markets have been very strong. The potential for a major infrastructure package in the US can still provide upside, while the overall health in global manufacturing has supported strong earnings across the group. Automation and Robotics is a strong theme in the Industrial group leading to lower costs and better efficiency. Oher mega-trends include population growth requiring more electricity, energy efficiency, intelligent products and connectivity, and environmental concerns. Transports (IYT) are up 15% YTD and a lot of recent strength after tax reform, while Truckers have benefitted from stronger pricing following the Hurricanes. There are so many diverse markets within the Industrial group that it makes it the most interesting to do deep dives into earnings reports and discover read-throughs for other companies operating in those markets. Some of those markets include Electrical, Hydraulics, Aerospace, Defense, Oil & Gas, Power Systems, Vehicle, Pumps and Flow, Artificial Lift, HVAC, Food Equipment, Automation and Controls, Residential Equipment, Connectivity, Water Systems, Welding, and Tools. This group is more sensitive to the USD and interest rates while capital intensity brings higher credit risk.*

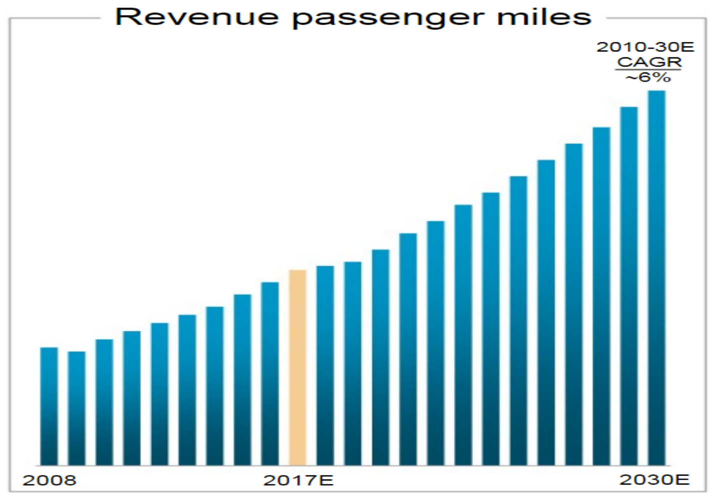
<u>Aerospace/Defense:</u>

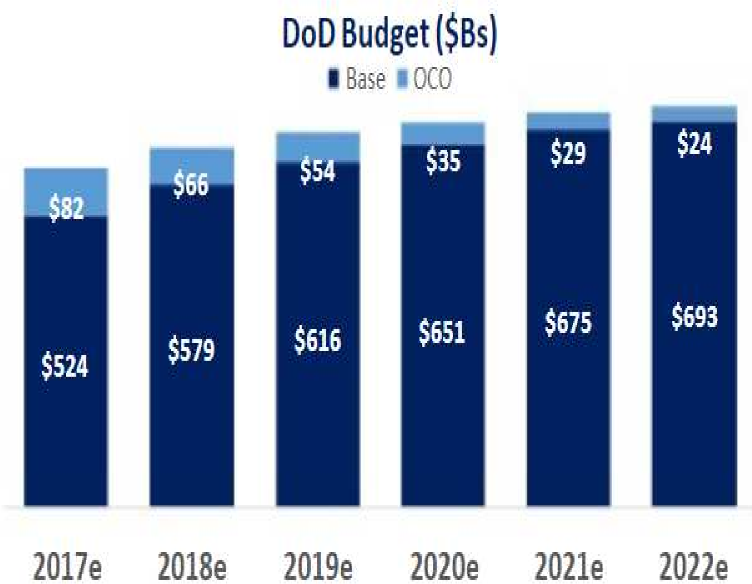
Components: *AER,AJRD,ATRO, AVAV,BA,BWXT,CUB,CW,ERJ,ESL,FLIR,GD,HEI,HII,HRS,HXL,KLXI,LLL,LMT,MANT,MOG-A,MRCY,NOC,OA,RTN,SPR,TDG,TDY,TGI,TXT,UTX,WWD, CAE, KAMN, AIR, LDOS*

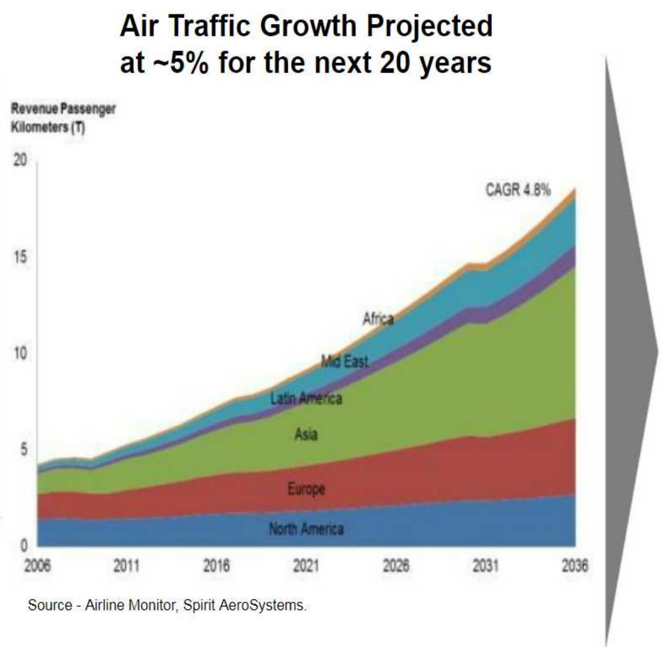
The Aerospace & Defense group performed fairly well in 2017 with AVAV, BA, MRCY, AJRD, BWXT, OA, TDY, HEI, SPR, HRS, KLXI, RTN, NOC, and MOG.A each up 30% or more. Boeing was a remarkable story with the large cap climbing more than 80%. United Technologies (UTX) did a $30B deal in Aerospace for Rockwell Collins (COL) in 2017 and in Defense Northrop Grumman (NOC) bought Orbital ATK (OA) for $9.2B. Late 2017 news was made with **Boeing (BA)** in talks to buy **Embraer (ERJ)**. The Defense industry is benefitting from the new Administration with a focus on increased spending. An exciting new frontier is Space Age 2.0 with the US space market expected to grow to $2.7 Trillion in 2045 from $339B in 2016. A few names with exposure to Space include BA, NOC, LMT, RTN, VSAT, MOG.A, GD, LLL, UTX, HEI and HXL. The IATA forecasts passenger demand to double over the next twenty years, so Aerospace names remain positioned for steady growth. Global passenger demand hit a 12-year high in 1H17, up 7.9% Y/Y. The US Treasury reports quarterly total Investment Outlays that is correlated with organic growth/spending in the Defense sector, and as of September the 12-month average was 20.3% below December 2010 peak levels, but showing improvement this year. Rising global tensions including North Korea and Iran remain tailwinds for the Defense group. Rising commodity prices in 2018 is one headwind to watch in Aerospace.





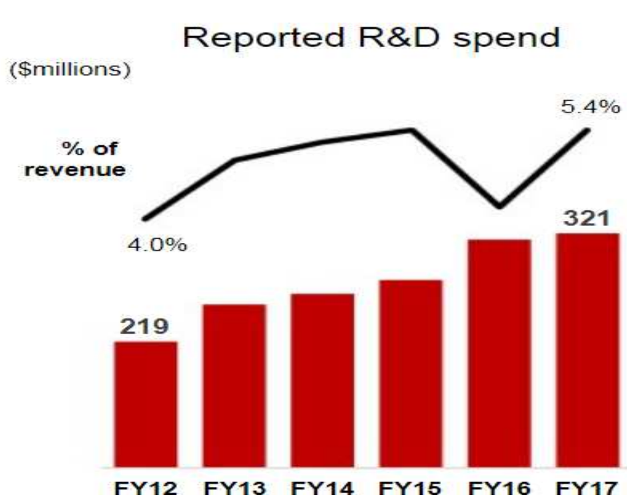


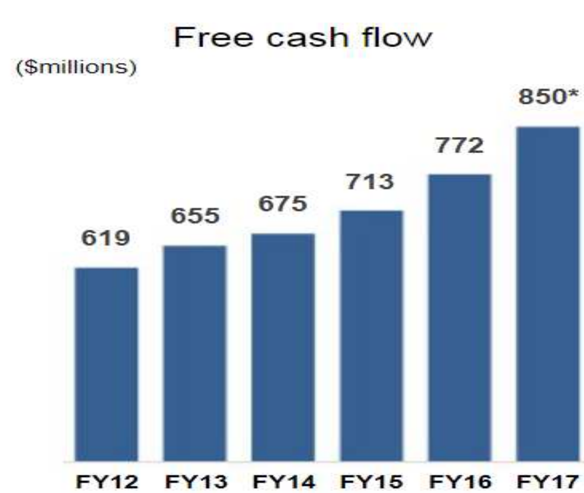




Starting with the $9B+ market caps:

Harris Corp (HRS) is a $17B provider of electronics and communications systems trading 20.7X Earnings, 14.3X EBITDA and 2.88X Sales. HRS is expecting accelerating revenue growth the next few years and sees EPS at $7.75/share in 2010, up from $5.53/share in 2017. HRS is showing robust bookings and has a major opportunity for International growth, while the strengthening balance sheet leaves room for capital deployment. HRS has business broken into Communication Systems, Electronic Systems, and Space & Intelligence Systems with a fairly even split. HRS is seeing solid FCF growth, climbing 37% over the past 5 years and increasing R&D spend. HRS is a beneficiary of the rising DoD budget and plans for Army modernization.



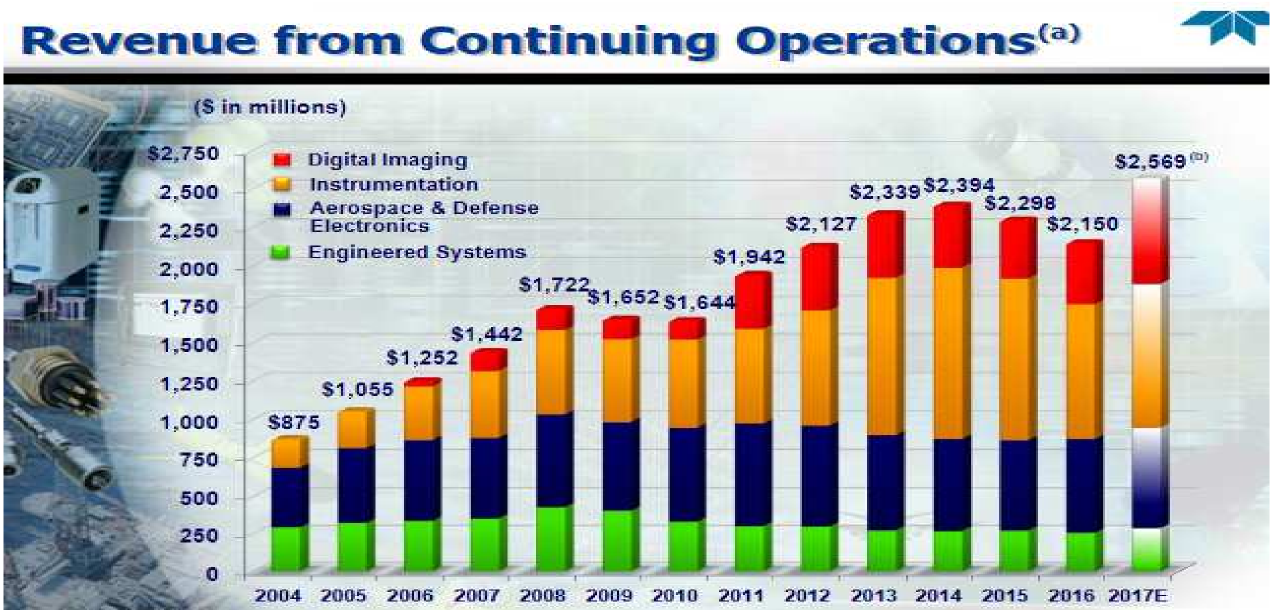


General Dynamics (GD) is a $59.6B Aerospace & Defense Co. trading 19X Earnings, 1.93X Sales and 46.6X FCF with a 1.68% dividend yield. GD has an impressive 19.8% ROIC and after a flat 2017 expecting accelerating growth in 2018. GD is reporting a Book/Bill > 1 across each of its segments and its Marine Services division is set to benefit from Navy modernization plans. GD is exposed to the business jet market with Gulfstream which has been an area that has lagged, but the EIS remains on schedule for Q1 2018 and the G500 for 1H18. GD trades at a discount to peers but trends are strong and it should be able to close that gap.

Boeing (BA) remains the optimal way to position for commercial Aerospace growth, shares up more than 80% in 2017 and trading 25.5X Earnings and 20.85X FCF. BA has an impressive 45% ROIC and strong FCF. In December the company announced a 20% dividend increase and an $18B buyback. BA is really focusing on its services segment, which got off to a weak start for growth numbers, but management sees sales rising to $50B from $14B in 5-10 years. This emerging new leg of growth can drive margin upside and keep its multiple elevated. BA order trends remain strong, it has a massive backlog, and robust free cash flow.

Onto the $3B to $8B market cap stocks:

Teledyne (TDY) has a $6.3B market cap trading 25X Earnings, 2.55X Sales and 27X FCF with 17.2% EBITDA margins. TDY has long been a favorite of mine and shares up another solid 44% this year. TDY only has 10% exposure to commercial Aerospace and an additional 24% to the US Government, while the 25% exposure to Commercial Imaging and Machine Vision is the most compelling part of this story. TDY has been seeing strong EBITDA margin gains since 2011 and International sales nearing 50% now.



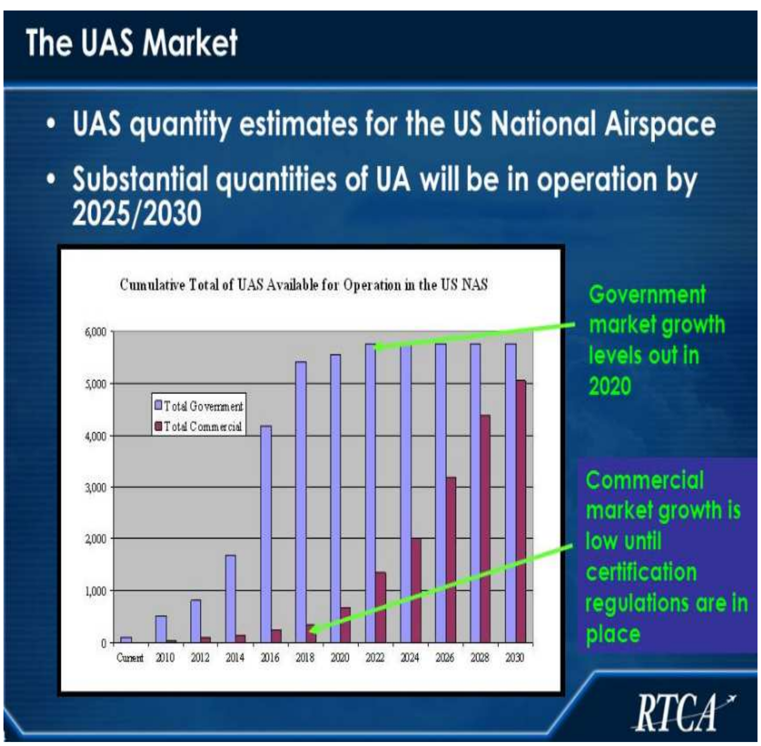
Hexcel (HXL) is a $5.3B supplier to the commercial aerospace market trading 20X Earnings, 2.73X Sales, and 50.3X FCF. HXL has 23.5% EBITDA margins and forecasting 10% revenue and EPS growth next year. HXL has 72% exposure to commercial Aerospace, 11% to Industrial such as wind energy, and 17% to Miliary Aircraft and Satellites. Airbus and Boeing have a 9 year backlog with strong order growth, current value to HXL in sales in approximately $10B. HXL is past its capex spend phase and entering a period of cash generation. HXL holds appeal as a potential buyout target to a higher-tier supplier, and recent severance agreements and a pause in share repurchases could be signaling a deal coming, an estimated takeout value of $75/share according to CSFB. Composites are well positioned to secure additional content in future aircraft design, so HXL is positioned to benefit longer term.

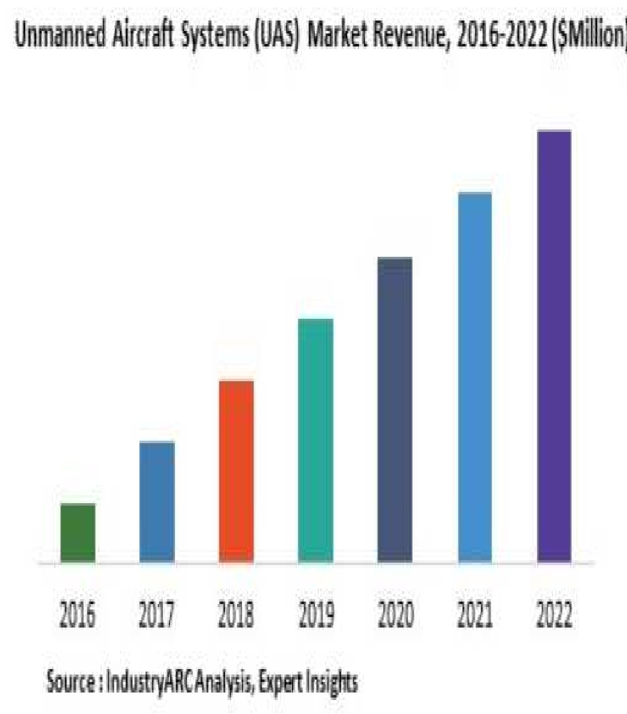
Heico (HEI) is a $6.83B Company trading 38.2X Earnings and 31.75X FCF, premium valuation at 22X EBITDA but the margin leader with 24.3% EBITDA margins. HEI utilizes a M&A strategy and has a robust pipeline, and focuses on high-margin aftermarket while generating strong free cash flows. HEI is a beneficary of strong air traffic demand and deserves to trade at a premium valuation, while further acquisitions could increase its attractiveness as it has successfully utilized this strategy in a fragmented industry. HEI management is typically conservative and think there is definitely upside potential to growth estimates in 2018.

Lastly, for the sub $3B companies:

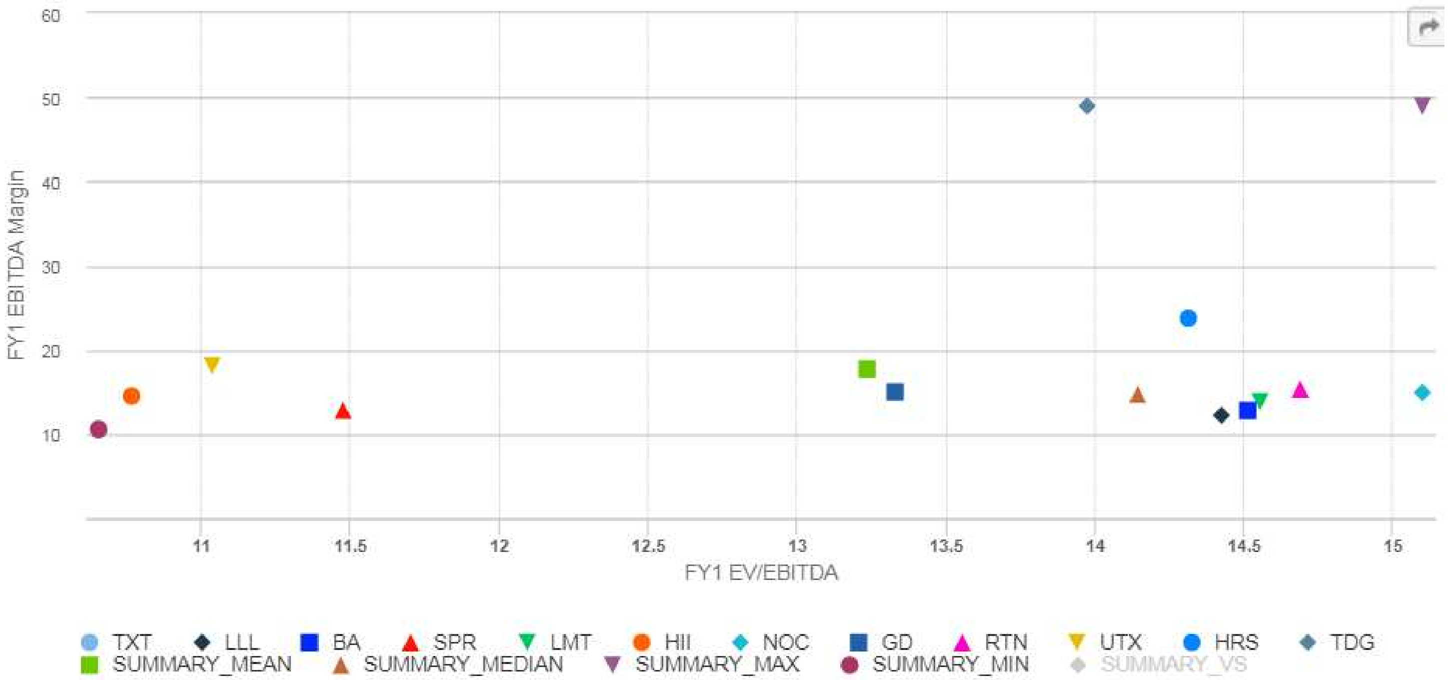
Mercury Computer Systems (MRCY) carries a $2.38B market cap and was a top pick last year for small caps, up 62% YTD, and the provider of solutions to defense & intelligence industries trades 32.7X Earnings, 5.6X Sales and 90X FCF with 23% EBITDA margins. MRCY's secured sensor and safety-critical processing subsystems have been gaining market share for large competitors and it continues to increase its addressable market while expanding through acquisitions and R&D spend. MRCY is posting fantastic Y/Y growth numbers like 39% in Bookings, 43% in Revenues and 58% in EBITDA.

Aerovironment (AVAV) shares have gained 100% in 2017 coming off a big earnings move late in the year, the $1.26B maker of unmanned aircraft systems trades 4.25X Sales and expecting 12.5% revenue growth in 2018 and 2019 with 20%+ EPS growth. AVAV is seeing strong orders and backlog growth with gross margin expansion, and though valuation is rich, it is one of the few pure play ways to have exposure to the growing share of drones.





EV/EBITDA vs. EBITDA Margin



Industrial Machinery and Equipment:

Components:*AGCO,AME,AOS,AZZ,B,BDC,CAT,CFX,CNHI,CR,CW,DCI,DE,DHR,DOV,EMR,ENS,ETN,FELE,FLS,FTV,GE,GGG,GNRC,HEES,IEX,IR,ITT,ITW,JBT,LII,MFS,MIDD,MMM,MTW,NDSN,NPO,OSIS,PH,PNR,ROK,ROP,RXN,ST,TEX,URI,WTS,XYL,ZBRA,WBT,HI,MCRN,BGG,SPXC,ALG,ASTE,LNN,CMCO,AIMC,ATKR,SNHY,SXI,CCF,NOVT*

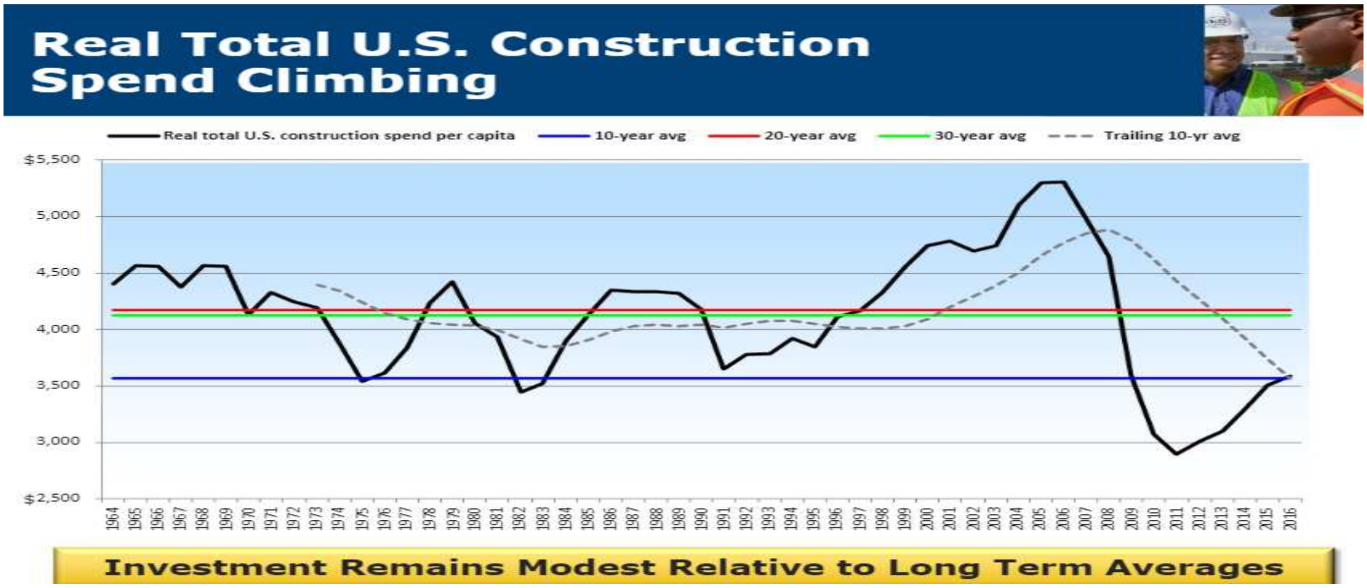
Breakout by End Market

End Market	3M	ALLE	AME	CFX	DOV	ETN	EMR	FLOW	FLS	FTV	GE	HDS	HON	IR	ITT	JBT	MCRN	MG	PH	PNR	ROK	RXN
Industrial	19%		21%	28%	11%	17%	20%	15%	9%	19%			17%	18%	21%		14%	16%	33%	21%	4%	21%
Metals & Mining			10%	4%		2%		2%	2%		0%								3%		14%	4%
Agriculture						2%			2%										5%			2%
Construction	1%			3%		2%													12%		4%	3%
Healthcare	17%		13%		3%		2%		5%	9%	14%						6%		2%			
Residential	8%	29%				6%	6%				1%	49%	4%				9%			25%	4%	5%
Consumer	11%		5%		35%		2%	36%	2%	34%				5%		69%	44%		1%	13%	25%	12%
Electronics & Tech / Data Centers	9%		20%							5%							7%		3%		7%	
Infrastructure & Government	1%	34%			6%	6%		1%										4%		6%		11%
Auto	11%			4%	7%	8%				14%			6%		27%		20%		5%		9%	
Truck & Transportation	3%		2%	4%		8%		3%	2%	5%	3%				18%				10%		2%	2%
Buildings & Non-res Construction		37%		11%		14%	4%					51%	23%							21%		12%
Aerospace & Defense			16%			9%				5%	20%		27%		15%	31%		12%	16%			9%
Utilities / Power Gen	4%		7%	25%		9%	7%	8%	14%	5%	30%							8%		10%		6%
Data Centers						9%																
HVAC & Refrigeration					14%		20%							77%					4%			
Oil & Gas			6%	19%	22%	5%	23%	21%	44%		24%		14%		15%			56%	5%		8%	
Telecom	1%																		2%			
Chemicals				2%	2%		11%	11%	18%				2%		4%			4%			5%	
Security & Protection	12%																					
Finance											7%											
Water								1%	4%											6%	5%	13%
Software / SASS	3%					2%	4%			5%	2%		8%								12%	
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

It was a solid year for Industrials with 39 of these 63 components gaining 20% or more on the year, and Industrials (XLI) making new highs into year-end after tax reform and now on hopes of an Infrastructure package. We are also closing the year with strong global PMI momentum which is closely correlated with the Industrial sector performance. More stable Oil prices above $50 is helping the energy exposed names that suffered sharp losses during the downturn. Most of the top performers in the group once again were smaller caps, though Caterpillar and Deere each had outstanding years. Many of these names are in the early stages of a strong earnings upcycle. Understanding the end-markets of each of these companies is vital for investing/trading. General Electric (GE) was a notable laggard in 2017 with shares down 40% YTD. A robust US housing market is boosting many names in this group, and the HVAC names continue to perform well.

Automation is a major theme in Industrials as seen with Emerson's (EMR) recent failed attempt to acquire Rockwell Automation (ROK).

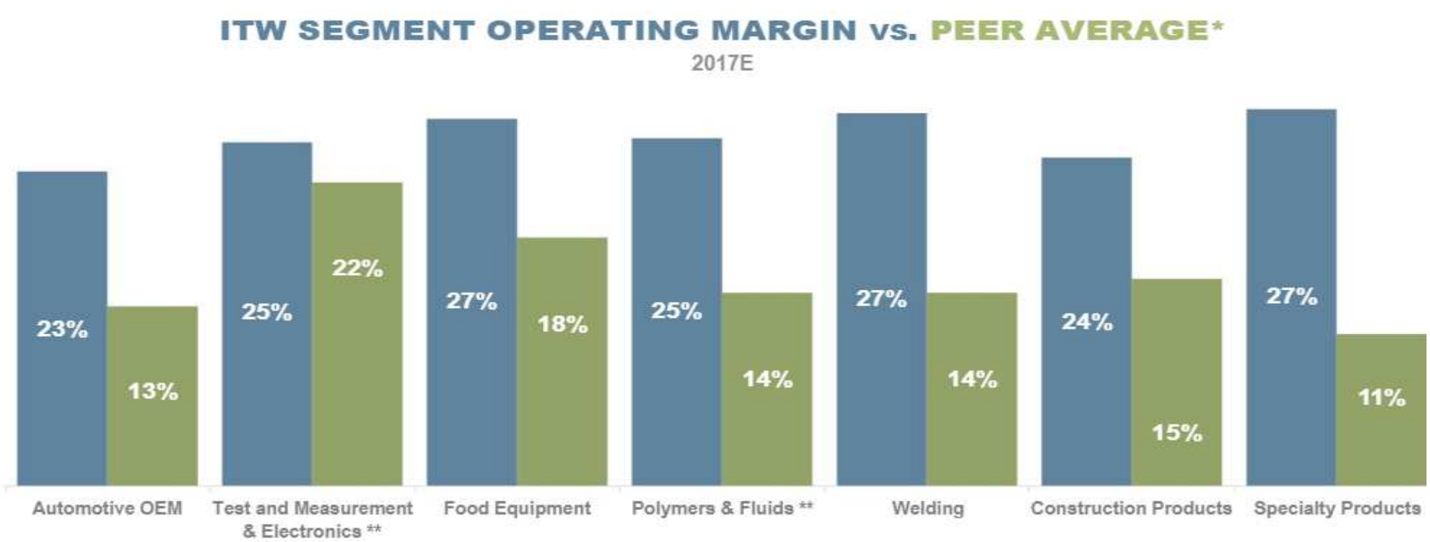
The biggest beneficiaries from a lowered corporate tax rates are ITT, FTV, EMR, ROK, HON, DOV, MMM, and AME. The names with the most significant international cash positions that can benefit from repatriation are DCI, HON, FLS, PH, CFX, ROK, ITT, DOV, and EMR.



To first look at the 21 names with $10B+ market caps, the average P/E is 21X, 15.2X EBITDA, 22% EBITDA margins, 7.8% ROIC and 2.6X Debt/EBITDA.

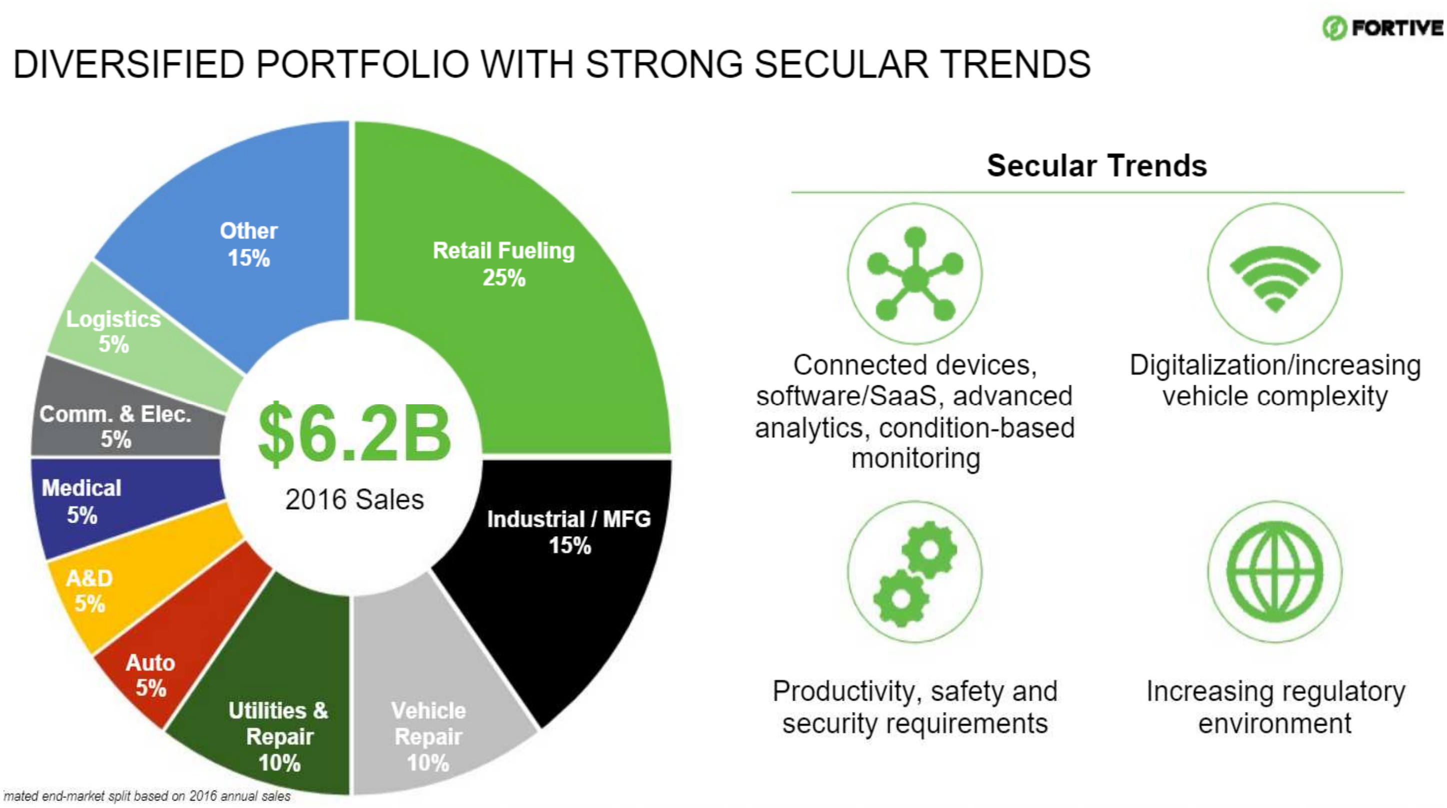
Parker Hannifin (PH) is a $25.5B Industrial trading 18.1X Earnings, 2X Sales and 31X FCF with 16% revenue and 18% EPS growth seen in 2018. PH has 17.4% EBITDA margins and an 8.8% ROIC. PH is considered the top player in Motion & Control and is forecasting 5.5% organic growth in 2018 and will also be integrating the CLARCOR acquisition. It sees a future 17% ROIC an 20%+ market share with operating margins targeting a move up to 20% by 2020. PH is a high quality industrial with strong order trends and overall positive operational trends. PH is early into an operational transformation and has strong end-markets as well as exposure to China growth.

Illinois Tool Works (ITW) is a $56B diversified Industrial trading 22.7X Earnings, 4X Sales, and 47.6X FCF with a 1.9% dividend yield. ITW has impressive 27.7% EBITDA margins and an 11.9% ROIC. ITW is shifting its focus back to organic growth after a string of acquisitions. ITW has a number of end-markets such as Automotive OEM, Food Equipment, Test & Measurement, Welding, Construction and Specialty. ITW is growing much faster than the industry average in its segments and with better margins. ITW is the leading industrial in terms of consistent performance and ROIC seen reaching 31.1% by 2020 which can command a higher multiple while FCF conversion is near 100%.

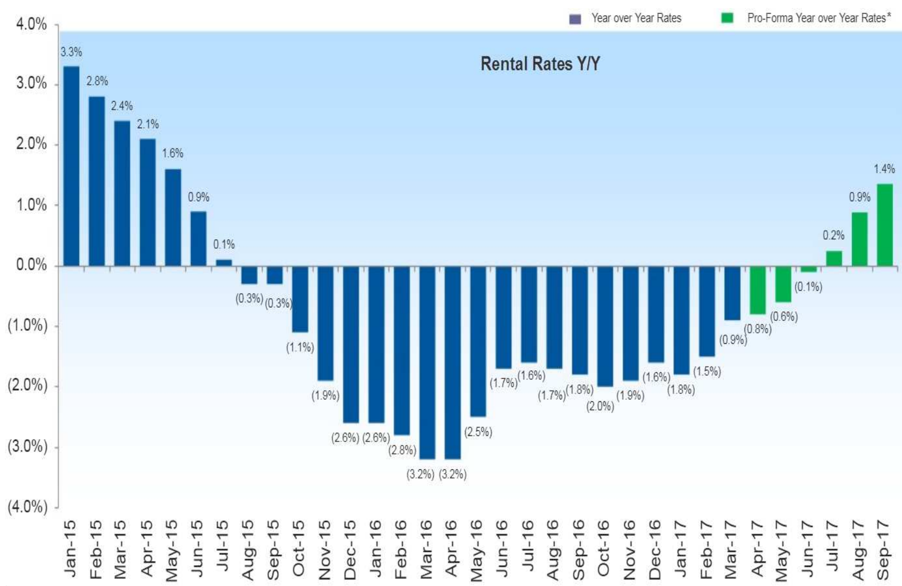


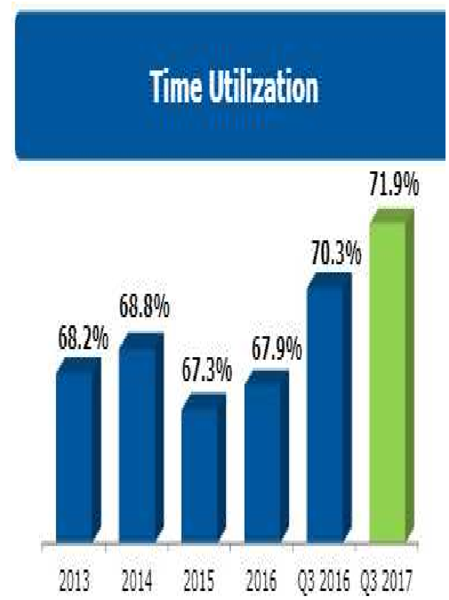
Rockwell Automation (ROK) is a $24.4B Industrial leader in automation trading 23.1X Earnings, 3.87X Sales and 48.7X FCF with a 1.75% dividend yield, recently rejecting an acquisition offer from Emerson (EMR). ROK has 22.3% EBITDA margins and an industry-leading 20% ROIC.

Fortive (FTV) is a $25B maker of test and measurement equipment trading 22.6X Earnings, 3.88X Sales and 28.55X FCF with a 0.38% dividend yield. FTV has 23.3% EBITDA margins and a 15.7% ROIC. FTV sees secular trends such as Connected Devices, Increased Vehicle Complexity, Productivity/Safety/Security, and Regulatory Environment as positive for its business. FTV has already deployed $1.8B in capital for M&A since its spin-off. FTV is expecting strong growth in China markets for 2018, and its Tektronix unit acquired for $2.8B in 2007 is a strong contributor. FTV offers premium growth with an improving margin outlook and robust M&A pipeline (Sees $5B to $7B through 2021), a healthy investment even at a modest premium valuation. Some future growth drivers include electrical grid infrastructure buildout, expansion of gas station coverage, and robotics investments in Asia.



United Rentals (URI) is a $13.85B equipment rental Company trading 13.4X Earnings, 2.2X Sales and 7X FCF. URI has 47% EBITDA margins and a 7.8% ROIC, expecting 13.6% revenue and 17.3% EPS growth in 2018. URI announced an acquisition of Neff earlier this year and posted record time utilization in Q3. Pricing has been the concern keeping its multiple low but showing signs of improvement in 2H17 and US construction spend showing signs of turning higher yet still well below long term averages.



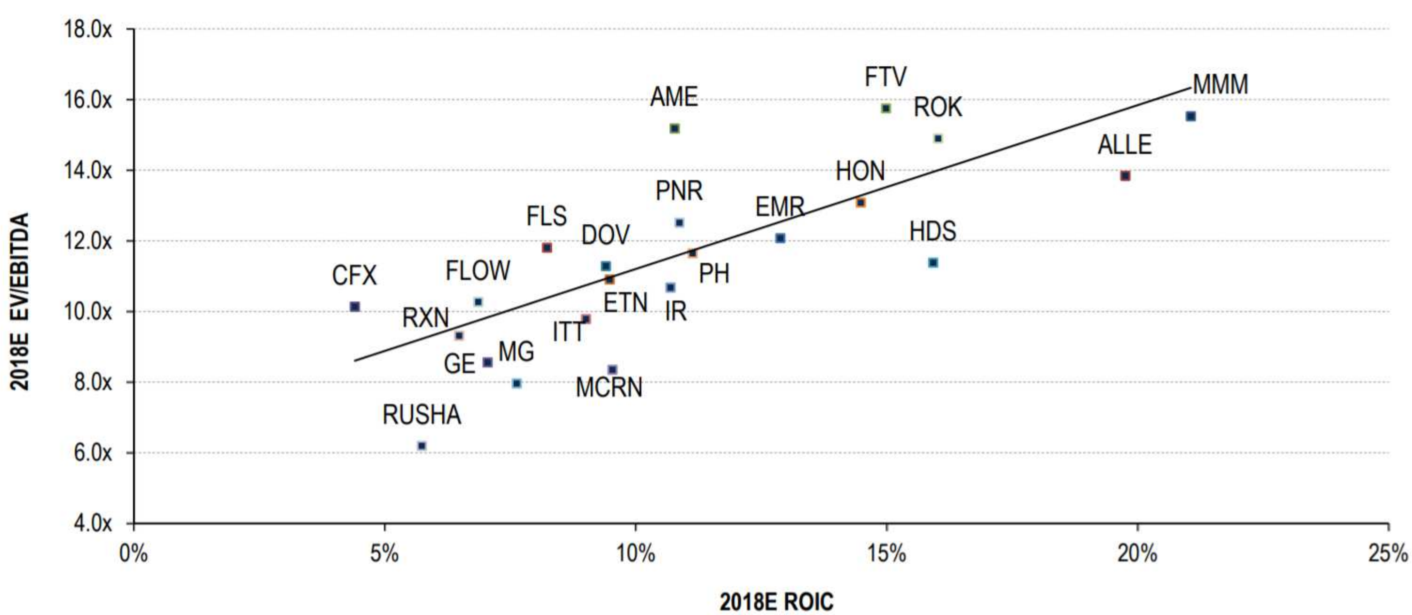


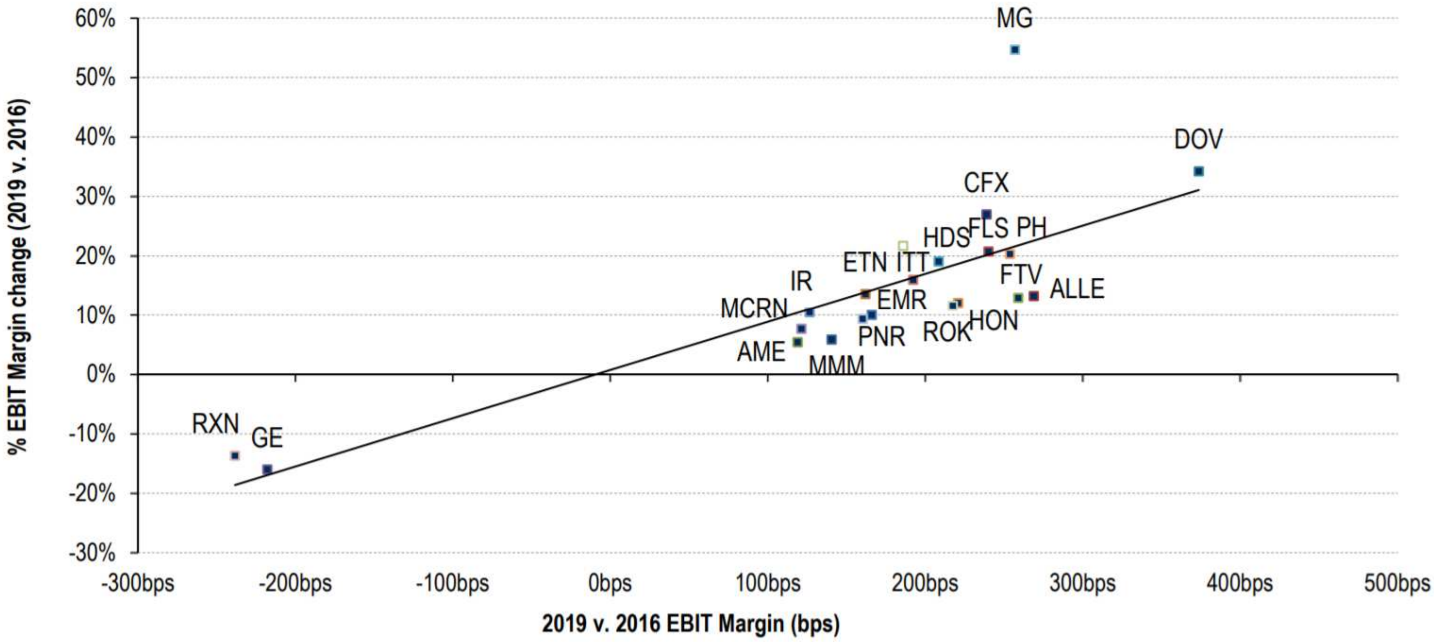
*Pro forma results reflect the combination of United Rentals and NES Rentals for the relevant periods presented. The NES acquisition closed in April 2017.

Ametek (AME) is a $16.6B Industrial trading 25X Earnings, 4X Sales and 24.5X FCF with a 0.5% yield. AME has 25.7% EBITDA margins and a 9.2% ROIC, targeting another year of double digit EPS growth in 2018. AME has a niche focus allowing it to have strong pricing power and expand market share. AME is the worldwide leader in design of advanced monitoring, testing and calibrating instruments, and is a play on the automation theme. AME participates in M&A often doing 23 deals since 2012. AME is another industrial with solid organic growth as well as a great capital deployment strategy.

Xylem (XYL) is a $12B Industrial focused on water and wastewater applications, a top pick from 2017 that has performed well up 36% this year. XYL shares trade 24.2X Earnings, 2.67X Sales and 37.2X FCF with a 1.07% yield, forecasting 16% EPS growth next year. XYL has also been active with deals including Sensus and Visenti, both interesting acquisitions in the Analytics space. Public Utility now accounts for 47% of XYL sales, and the Company recently boosted its 2020 outlook to 4-6% organics growth, $5B in capital deployment, and sees margins rising modestly. XYL screens well across all metrics and I remain confident in its ability to exceed the consensus estimates.

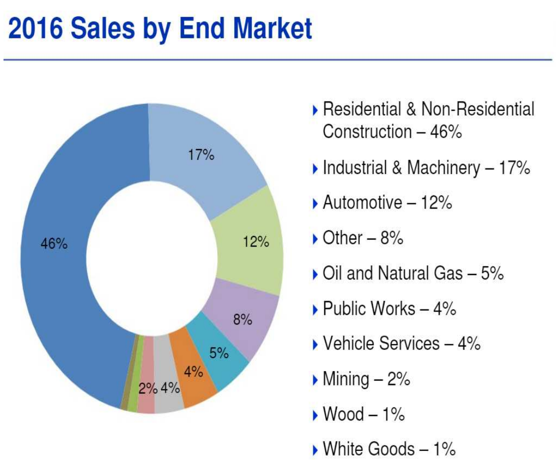
EV/EBITDA vs. ROIC





In the $3B to $9B market cap range we start to see industrial names with more specialized/focused businesses, a total of 19 components with 8 higher by at least 25% YTD led by Graco (GGG) at +57.5%. There are a lot of good looking names in this group expecting to see accelerating growth, and therefore expanding multiples. On average the names trade 20.3X Earnings, 13.8X EBITDA, 17.9% EBITDA margins and 11.1% ROIC with Debt/EBITDA at 2X.

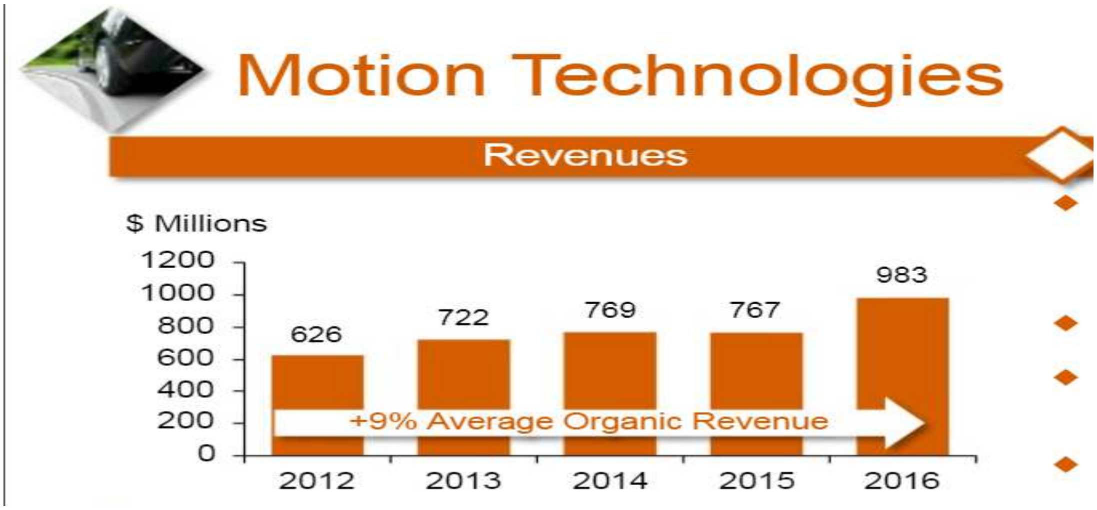
Graco (GGG) is a $7.25B Industrial trading 27X Earnings, 5X Sales and 37.7X FCF with a 1.11% dividend yield. GGG trades at a premium valuation but 28.7% EBITDA margins and a 13.5% ROIC put it in a class by itself. GGG's strategy with new products in new markets and expanding geographically while making strategic acquisitions has seen shares rise 55% in 2017. GGG makes premium equipment to pump, move, meter, mix and dispense a variety of fluids and coatings, strong exposure to Construction as 46% of revenues. Its industrial equipment segment is seeing growth from factory upgrades and the need for control systems and reduced energy consumption. GGG is well above peers with its R&D spend as a % of revenues.



	Americas	EMEA	Asia Pacific	Worldwide
Current Environment	Sales Growth Q3 2017 11% YTD 2017 11%	Sales Growth Q3 2017 14% YTD 2017 12%	Sales Growth Q3 2017 28% YTD 2017 20%	Sales Growth Q3 2017 15% YTD 2017 13%
Industrial Segment	Environment Unchanged Sales Growth Q3 2017 11% YTD 2017 9%	Environment Unchanged Sales Growth Q3 2017 13% YTD 2017 10%	Environment Unchanged Sales Growth Q3 2017 30% YTD 2017 22%	Sales Growth Q3 2017 17% YTD 2017 12%
Contractor Segment	Environment Unchanged Sales Growth Q3 2017 12% YTD 2017 12%	Environment Unchanged Sales Growth Q3 2017 29% YTD 2017 20%	Environment Unchanged Sales Growth Q3 2017 30% YTD 2017 13%	Sales Growth Q3 2017 16% YTD 2017 13%
Process Segment	Environment Unchanged Sales Growth Q3 2017 11% YTD 2017 12%	Environment Unchanged Sales Growth Q3 2017 (3%) YTD 2017 7%	Environment Unchanged Sales Growth Q3 2017 17% YTD 2017 17%	Sales Growth Q3 2017 9% YTD 2017 12%
Full Year 2017 Outlook	Outlook Raised High Single-digit	Outlook Raised High Single-digit	Outlook Raised Low Double-digit	Outlook Raised High Single-digit to Low Double-digit

Donaldson (DCI) is a $6.37B filtration systems Industrial trading 21.9X Earnings, 2.6X Sales and 42X FCF with a 1.48% dividend yield. DCI has a 12.5% ROIC and double digit EPS growth with a healthy balance sheet. DCI fits the Auto group with 65% of sales from the Engine segment and 35% from Industrial, the former focused mostly on aftermarket. DCI raised its guidance in late November, and after Parker Hannifin (PH) bought CLARCOR, a filtration play, DCI could be the next to be acquired.

ITT Inc. (ITT) is a $4.6B specialty components Industrial trading 17.65X Earnings, 1.85X Sales and 41.65X FCF with a 0.97% yield. ITT has 24.8% EBITDA margins and an impressive 16% ROIC. Motion Technologies contributes 45% of revenues and strength in auto and rail was seen in Q3 results while Oil & Gas has dragged. Its Industrial Process division has been a laggard but looks to have bottomed in 2016 and has room for margin expansion. ITT also has exposure to Aerospace/Defense with its Connect & Control Tech division. ITT sets up as a beat and raise story in 2018.



Middleby (MIDD) is a $7.17B Industrial with a focus on foodservice equipment, trading 20.5X Earnings, 3.1X Sales and 26X FCF. MIDD had a weak year in 2016 after multiple years of strong growth and sees itself back on track in 2018. One potential driver for upward revisions is tax reform to its restaurant customers that can drive increased spending on equipment. MIDD has been seeing 20% average growth in International markets the last 5 years. MIDD has also reduced its leverage over the last few years and owns a lot of industry leading brands. MIDD is a great niche name well positioned for a potential upgrade cycle.

For the sub-$3 names, the group has an average P/E of 18.6X, 11.1X EBITDA, 15.3% EBITDA margins and a 7% ROIC. The names that screen positively include:

Novanta (NOVT) is a $1.65B maker of precision photonic and motion control components trading 27.5X Earnings, 3.5X Sales and 32.4X FCF. NOVT is set to grow revenues 35% this year and another 14% next year while EPS growth of 44.5% this year. NOVT sees itself doubling revenues by 2020 with 50% contribution from Medical. It is positioned in fast growing markets and has steadily been increasing its ROIC each year to 40% while spending 9% of revenues on R&D. NOVT can also increase margins and cash flows, overall one of the better looking small caps in the market trading at a very reasonable valuation.

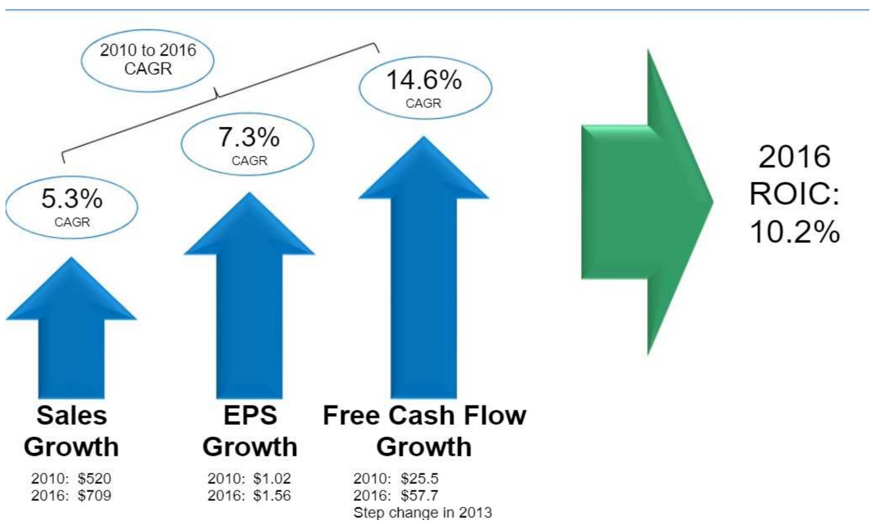
Sun Hydraulics (SNHY) is a $1.53B maker of hydraulic and electronic components trading 29X Earnings, 4.95X Sales and 51X FCF with a 0.64% yield. SNHY has 26.4% EBITDA margins and a 5.7% ROIC, forecasting 17.5% EPS growth in 2018. It posted big numbers in 2017 due to its Enovation Controls acquisition. SNHY has ambitious views seeing $1B in revenues by 2025. SNHY is expanding margins and sets up nicely into 2018 with the outlook for its end-markets.

Franklin Electric (FELE) is a $2.1B maker of water and pumping systems trading 21.1X Earnings, 1.94X Sales and 62.2X FCF with a 0.96% yield. FELE has low EBITDA margins at 13.2% with a 15% ROIC. Its largest addressable market is Residential, Ag, and Commercial water systems at $6B where it is a leader, while Fueling Systems is a $1.2B market. FELE is a nice play in the water infrastructure segment I like.

Standex (SXI) is a $1.3B diversified Industrial with exposure to foodservice equipment, engraving, and other. SXI is trading 17.4X Earnings, 1.65X Sales and 64.2X FCF with a 0.71% yield. The company is aiming for 12% revenue and 14% EPS growth in 2018, its best year in over 10 years. I think SXI would be well-served to exit its largest Foodservice Equipment segment which carries the lowest EBITDA margins and shares would be revalued higher. SXI is active with acquisitions and has 100% FCF conversion.

TTM Q1 FY 18	Food Service Equipment*	Engraving*	Engineering Technologies	Electronics*	Hydraulics	Corporate* & Non-Operating	TTM Q1 FY 18
Sales	$391,383	$112,042	$92,052	$152,854	$41,706		$790,037
Adj EBIT	$35,458	$25,811	$9,333	$33,424	$6,434	($24,018)	$86,442
EBIT %	9.1%	23.0%	10.1%	21.9%	15.4%		10.9%
Adj EBITDA	$40,857	$29,386	$15,324	$40,178	$7,162	($23,653)	$109,254
EBITDA %	10.4%	26.2%	16.6%	26.3%	17.2%		13.8%

Altra Industrial (AIMC) is a $1.37B maker of power transmission components trading 20.1X Earnings, 1.65X Sales and 46.5X FCF with a 1.45% yield. AIMC is posting 22% revenue growth and 31% EPS growth this year, expected to cool in 2018. Altra is focused on the $37B PTMC market for gearing, couplings, belted drives and clutches & brakes. AIMC is seeing an upturn in previously challenged end-markets and has ample room for margin expansion.

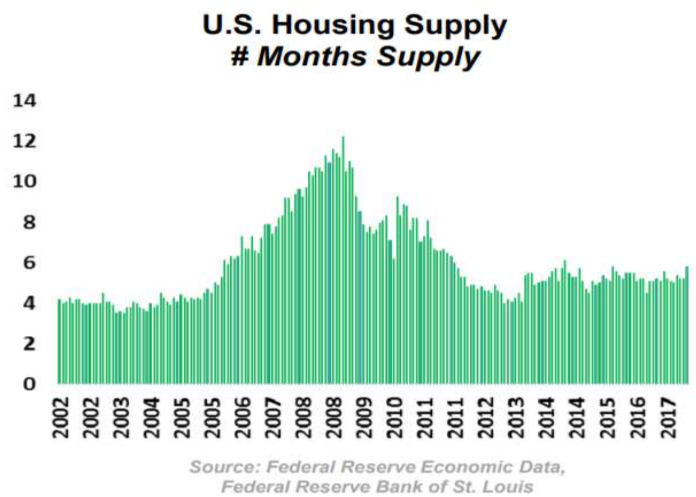


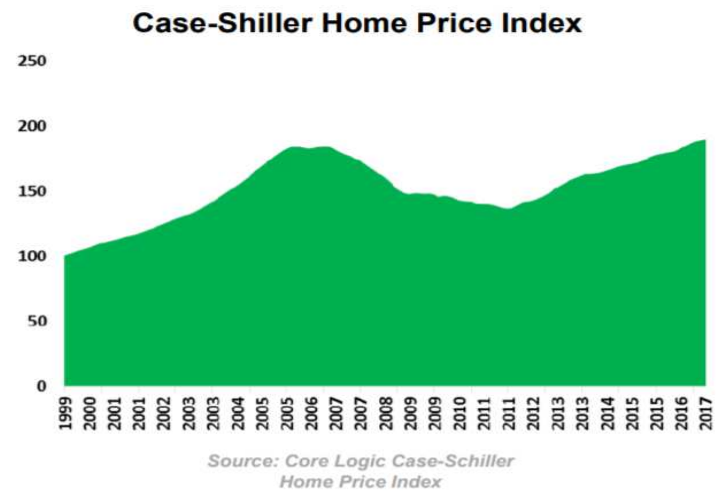
Watts Water Tech (WTS) is a $2.49B maker of flow control products trading 22.6X Earnings, 1.74X Sales and 27.85X FCF with a 1.03% yield. WTS is achieving record operating margins and will face easier comps in 2018. WTS is seeing accelerating trends into 2H17 and China becoming a major growth driver. WTS underwent a major restructuring and is in the early stages of improving growth and profitability.

Building Materials and Tools:

Components:*AAON,ACM,ALLE,AMWD,APOG,AWI,AXE,AYI,BECN,BLD,BLDR,CBI,CRH,CSL,CSTE,DOOR,DY,EME,FAST,FIX,FLR,GVA,GWW,HDS,HW,IBP,JCI,JEC,KMT,LECO,LPX,MAS,MHK,MLM,MSM,MTZ,OC,PRIM,PWR,ROCK,ROLL,RYN,SNA,SSD,SUM,SWK,TKR,TREX,TTC,USG,VMC,WCC,WY,WIRE,JELD,GMS,NCS,PGEM,USCR,PGTI,GFF,CBPX,NX,TPC,WMS,PATK*

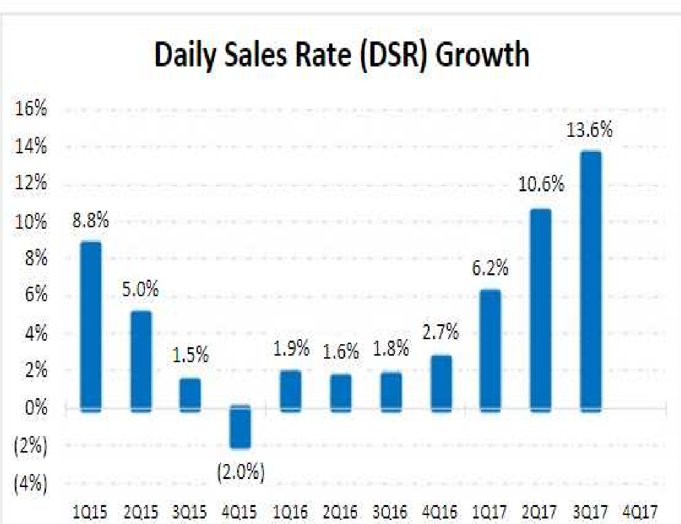
This group includes building materials, HVAC suppliers, contractors and heavy construction, industrial equipment distributors, and tools. With the infrastructure plans North American construction should be a strong area in 2017. The AIA forecasts 3.6% growth in nonresidential construction for 2018. Housing starts and new home sales remain around 30% below historical trends with tight inventory, so pent-up demand can continue to drive strong homebuilding in 2018. One theme in the building materials industry is that it is massive yet very fragmented and many of these smaller roll-up type names performing well with BLDR, BLD, and IBP each up 75% on average in 2017. We will have to drill down further for this group of 64 stocks to provide a better view of potential winners in 2018.

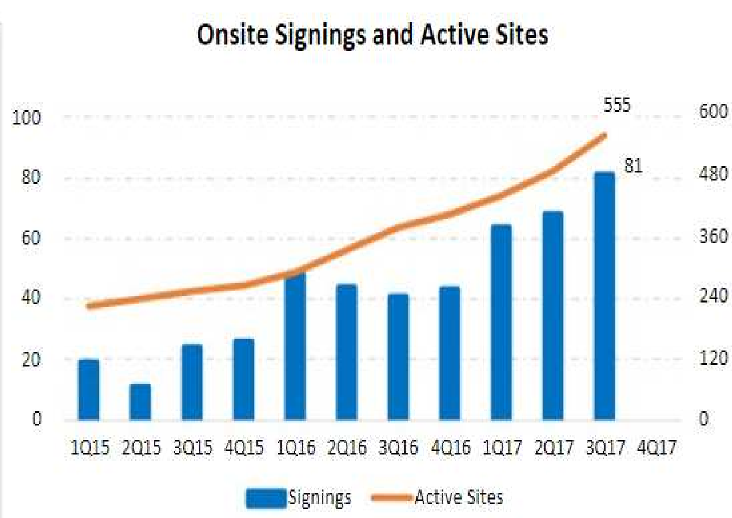




First, looking at the wholesale distributors (GWW, FAST, HDS, MSM, WSO, WCC) we have a group trading at average 13.1X EBITDA with 13.7% EBITDA margins and 7.9% ROIC. The group was under pressure in the first half of the years with fears of Amazon competitive threats but has rallied sharply since tax reform, though only FAST and WSO are positive YTD.

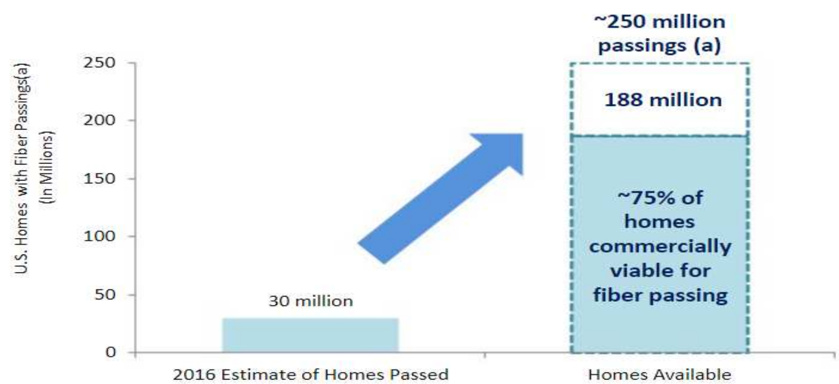
Fastenal (FAST) was the pick last year and remains the best of breed, trading 24.8X Earnings, 15.7X EBITDA with 23% EBITDA margins which is way above peers and 0.3X Debt/EBITDA compares to a peer average of 1.5X. The last three months of average daily sales has come in at +15.3%, +13.8%, and +15.4% Y/Y. It is seeing record signings for Onsite and record cash flows. FAST is highly correlated with the strong Industrial Production and PMI reports and heavy machinery, general industrial and transportation are driving growth. Construction has lagged but a brighter outlook for 2018 can really jumpstart the FAST story. FAST is generating impressive numbers in 2H17 and appears insulated against e-commerce threats with its high-touch service model.





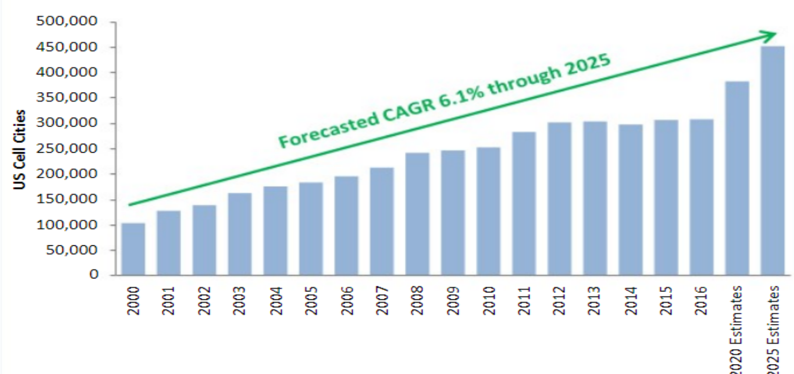
The next group to break down are the Contractors and Engineering & Construction firms. It is important to look at where the companies have exposure, whether it be Telecom, Utility, Oil & Gas and/or other areas. This group includes FLR, JEC, ACM, PWR, EME, CBI, MTZ, KBR, DY, TTEK, PRIM, TPC and GVA. The group trades at an average of 10.1X EBITDA with 7.5% EBITDA margins and 5.6% ROIC, so a low multiple industry due to its low margins and return on capital. CBI was the main laggard in the group down 40% YTD but is selling a $2B+ unit into year end and strengthening its balance sheet, a possible turnaround story in 2018. DY, PRIM, MTZ and JEC led performance in 2017. A number of these names would benefit if an Infrastructure package is passed and outside of the two mentioned below **JEC, PRIM, PWR,** and **GVA** all have some appeal. **Dycom (DY)** is the best positioned in Telecom which is the part of this group with the most potential for the 5G/Fiber buildout, while Utility, Oil & Gas, and Civil offer steady business for the other names.

Massive investment cycle in early stages - total U.S. homes passed with fiber below 20%



- Eventual fiber passings estimated to be approximately 188 million
- 30 million fiber passings completed through 2016 - over a decade in process

Growth in Number of Cell Sites¹

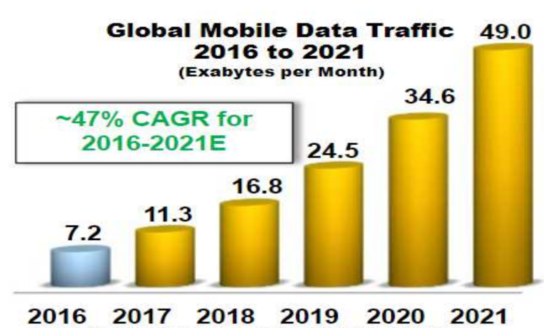


** Compound Annual Growth Rate (CAGR)*

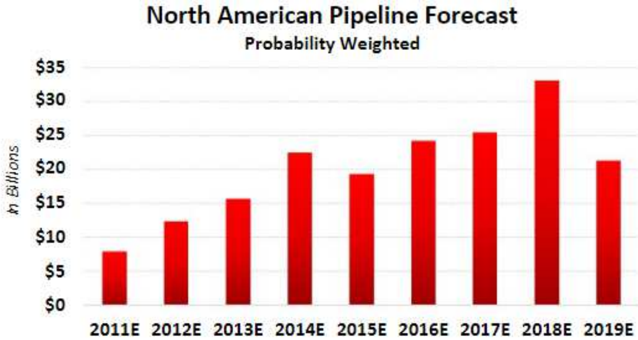
- Wireless carriers are increasing 4G capacity and augmenting 4G with new 5G technologies creating growth opportunities in the near to intermediate term
- Carriers enhancing coverage and capacity by increasing the number of small cells
- Emerging wireless technologies require incremental wireline deployments
  - A complementary wireline investment cycle is fundamental to applications enabled by fully converged wireless/wireline networks

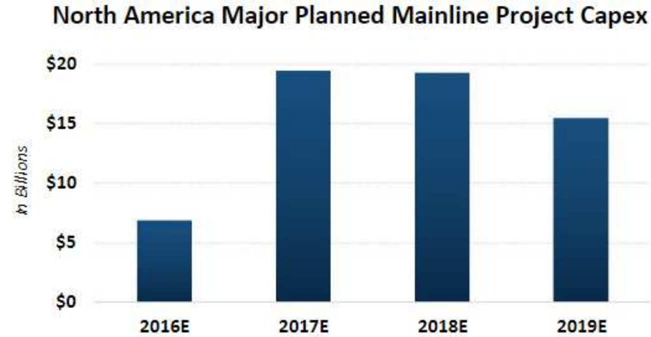
MasTec (MTZ) continues to look cheap to peers at 8.2X EBITDA with 9.9% EBITDA margins and coming off a strong year of growth. MTZ is seeing a strong recovery in Oil & Gas markets while Communications continues to grow at double digits, positioned for the 5G / gigabyte fiber buildout. EBITDA margins have been improving each year with 10% targeted in 2017, up from 7.3% in 2015. Deutsche Bank estimates $60-$250B in 5G CAPEX will last a decade, peaking in the next 3-8 years.

Communications- Wireless CAPEX Spending to Accelerate



Source: Cisco Visual Networking Index: *Global Mobile Data Traffic Forecast Update*, 2015-2020, February 7, 2017

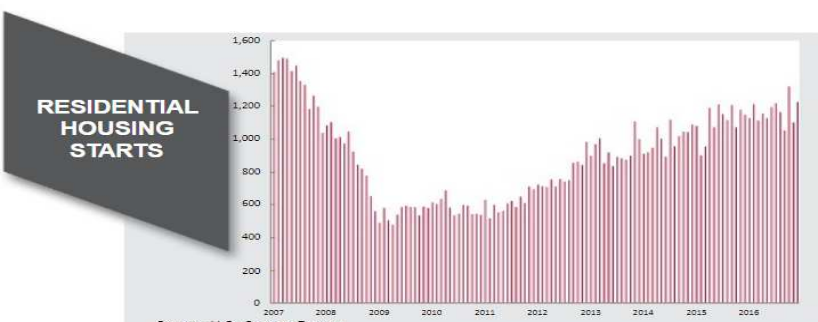


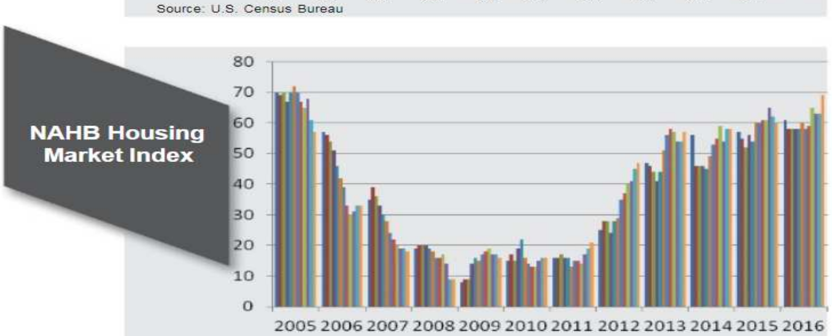


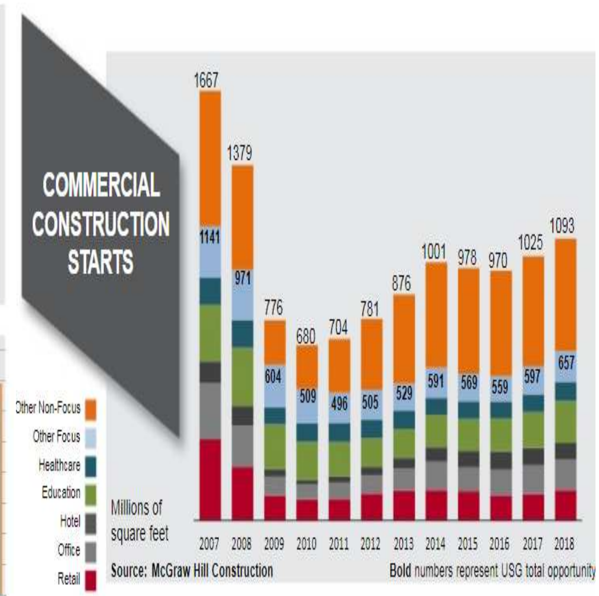
Tetra Tech (TTEK) still has appeal as a small cap trading 11.4X EBITDA with the strong 11.9% EBITDA margins and 9% ROIC. TTEK is a niche play in the water, environment and infrastructure markets. It is also a play on emergency planning & recovery, and after a year of record storm damage is positioned for that trend to continue. It currently has a record backlog, up 8% Y/Y and is the high margin play in the industry.

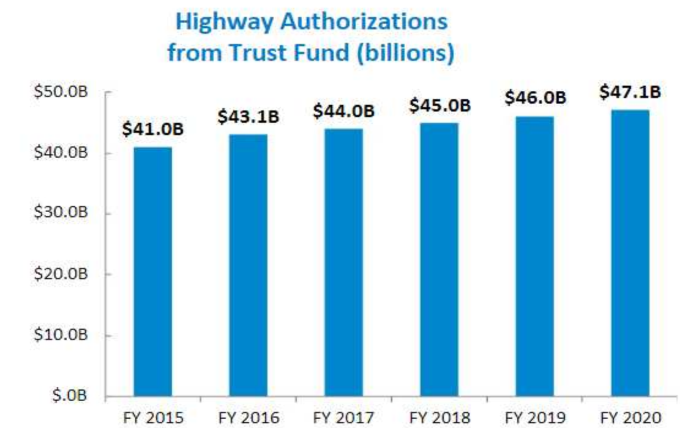
Customer	% of 2017 Net Rev.	FY18 Outlook	Driver
U.S. Federal 	30%	+5% to +10%	• U.S. Department of Defense
U.S. State & Local 	13%	+10% to +15%	• Municipal water infrastructure
U.S. Commercial (Excl.: O&G) 	23%	+5% to +10%	• Environmental services
International (Excl.: O&G) 	26%	+2% to +5%	• Priority infrastructure programs
Oil & Gas 	8%	-40% to -50%	• Reduced Canadian activity

The actual building materials group includes AXE, ROCK, CSL, WY, OC, MLM, MAS, JELD, CSTE, DOOR, APOG, VMC, BECN, BLD, BLDR, SUM, USG, WIRE, WMS, CBPX, GFF, GMS, NCS, NX, PGEM, PGTI, USCR and CRH. The end-markets in focus here are Infrastructure, Non-Residential, and Residential. Each of these areas have positive tailwinds into 2018 and an Infrastructure package would boost the group greatly. US cement demand is on pace to outpace supply by 2019.

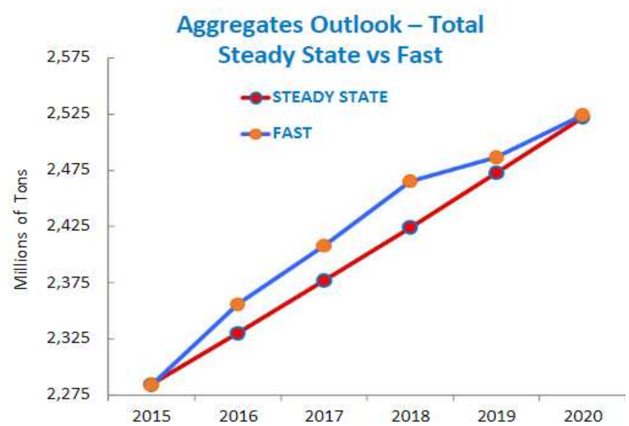








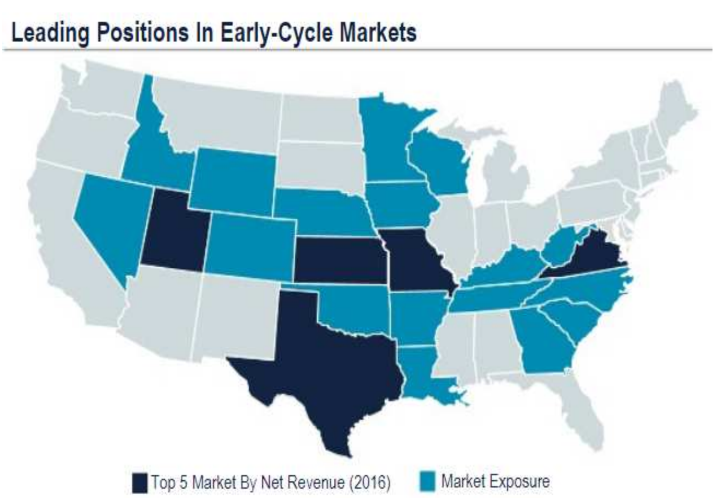
P.L. 114-94 US Department of Transportation Federal Highway Administration

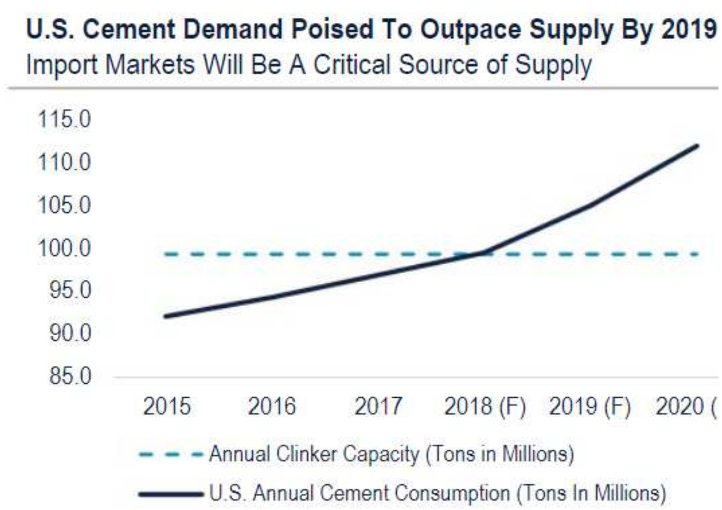


SC Market Analytics analysis, January 2016

Looking at the $3B+ names first, they trade on average 11.4X EBITDA with 18.9% EBITDA margins and an 8.5% ROIC.

Summit Materials (SUM) is my favorite of the aggregates plays, the $4.95B Co. trading 15X EBITDA with strong 24% EBITDA margins versus peers MLM/VMC and the best outlook for growth. SUM has favorable markets looking forward with cement demand set to outpace supply by 2019, and the FAST Act is a positive while it is also positioned in key markets expected to spend more. SUM has all the makings of a top name for exposure to trends in construction and infrastructure.





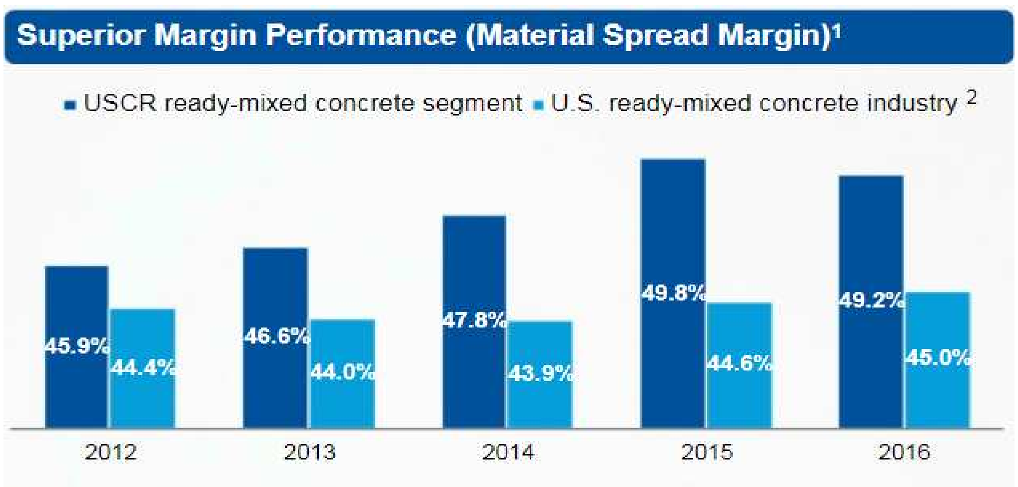
Carlisle (CSL) is a name I continue to like, though not a pure play with exposure to Aerospace, Medical, Transports, and Foodservice as well as Building. At 11.4X EBITDA with 16.9% EBITDA margins and low leverage of 0.9X Debt/EBITDA, it continues to look attractive. It has managed raw material headwinds and starting to see margin pressure alleviate, and has some nice opportunities for growth in 2018. The construction management business that has been a drag should see better times ahead, and its $670M acquisition of Accella positions it in a $15B global construction related polyurethane market.

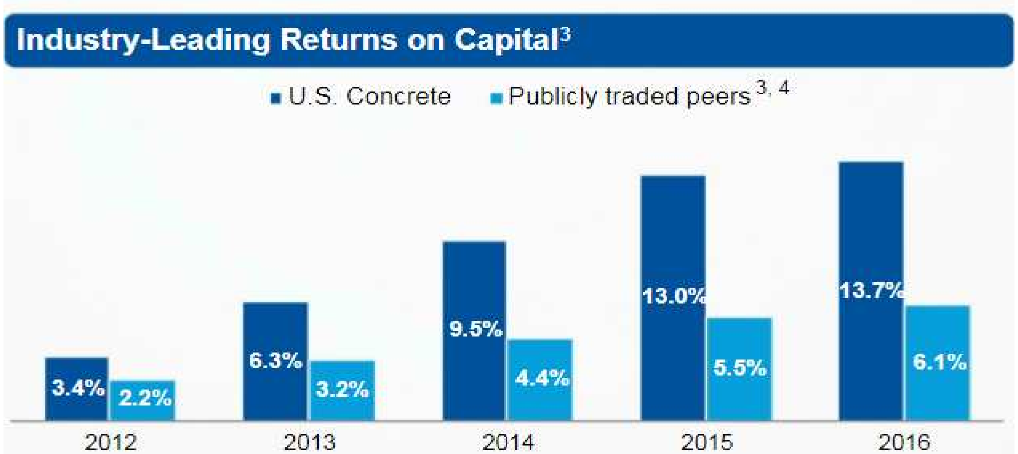
I like Masco (MAS), but have to continue to prefer **Owens Corning (OC)** trading 10X EBITDA with 19% EBITDA margins and a solid growth outlook. Repair/Remodeling accounts for the majority of its revenues as a Roofing/Insulation play. OC has steadily raised its ROIC to 12.1% in 2017 and FCF growing rapidly since 2014. It has 3 strong business positioned in Remodeling, New Construction and Storm/Weather Events. It also has a Glass Fiber unit where demand is running 1.6X the pace of industrial production.

JELD-WEN (JELD) is the final pick in this group, a global leader in windows and doors in the early stages of a multi-year turnaround, targeting 15-20% EBITDA margins that currently are 11.6%. JELD trades 11.4X EBITDA with a 44% ROIC. The Onex Partners sale of 14.2M shares of stock removes an overhang into 2018 and I expect this name to capture more attention from Investors as a play on strong housing markets. JELD is a margin expansion story with strong operating leverage and above-average growth. Market share gains, strong pricing, and acquisition contributions are all contributing to its growth.

For the sub $3B names, the average valuation is 9.6X EBITDA with 11.4% EBITDA margins and an 8.7% ROIC. There are a number of attractive niche growth plays.

US Concrete (USCR) is a $1.35B play on the construction industry trading 16.4X Earnings, 1X Sales and 20.9X FCF with 15% EBITDA margins and a 9.7% ROIC. With improving fundamentals in construction and favorable supply/demand dynamics in concrete it is positioned for another strong year. Northern California and Northern Texas are large segments as well as New York, New Jersey, and DC with 79% of EBITDA coming from Ready-mixed concrete. USCR has a number of large commercial projects in progress, and further infrastructure spend should enhance its growth. USCR stands out versus industry peers with strong ASPs and has been a great performer even in tougher environments.

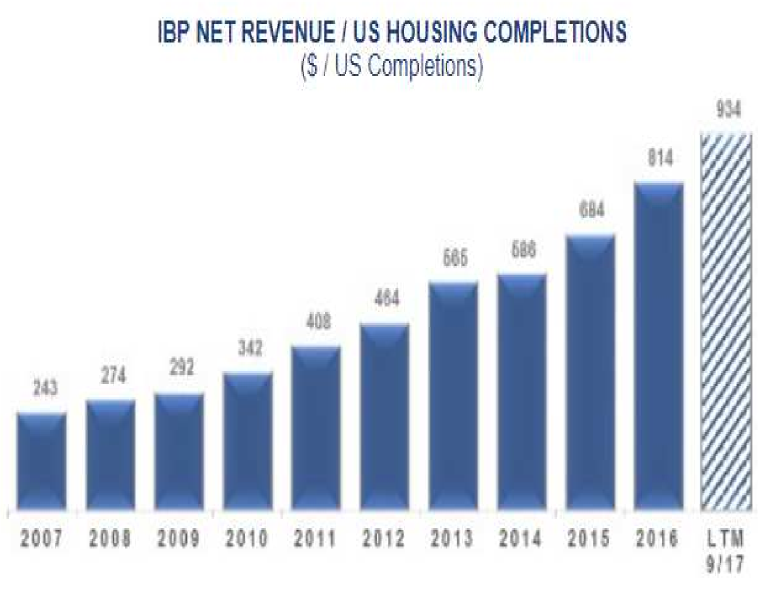


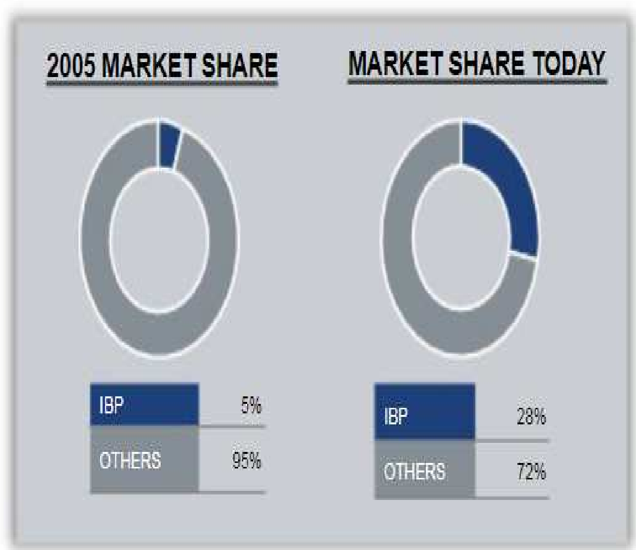


Apogee (APOG) is a $1.39B maker of Architectural Glass Products trading cheap at 12.4X Earnings, 1.15X Sales and 31X FCF with a 1.16% dividend yield. APOG has 14.3% EBITDA margins and a 16% ROIC with 24.6% revenue growth forecasted for 2018. The majority of its revenues come from non-residential construction markets. Its acquisition of EFCO in framing systems adds $250M in annual revenues and it is eyeing margin expansion through 2020. Increased penetration, new geographies, new products and retrofitting are growth drivers.

Top Build (BLD) is a $2.34B insulation and building products Company trading 18.55X Earnings, 1.27X Sales and 27.2X FCF with 10% EBITDA margins and a 7.4% ROIC. BLD is targeting 9% revenue and 28% EPS growth in 2018. BLD grows via acquisitions in a fragmented industry to expand market share and capabilities. BLD sees EBITDA nearly doubling by 2021 and EBITDA margins climbing to 13.5% from 10%. BLD has strong leverage to housing starts and is seeing solid pricing momentum.

Installed Building Products (IBP) is a $2.24B multi-product building materials Company trading 25.9X Earnings, 2.1X Sales and 54.5X FCF with 13% EBITDA margins and a 17.4% ROIC. IBP is targeting 13.5% revenue and 25% EPS growth in 2018. IBP is one of the leading installers for the new residential insulation market and has 67% revenue exposure to new single-family. IBP is also a serial-acquirer doing 120 deals to this point, and has been gaining market share, up to 28% from just 5% in 2005. Insulation is 66% of its revenues followed by Other, Doors/Mirrors, Waterproofing, Garage Doors, and Gutters.

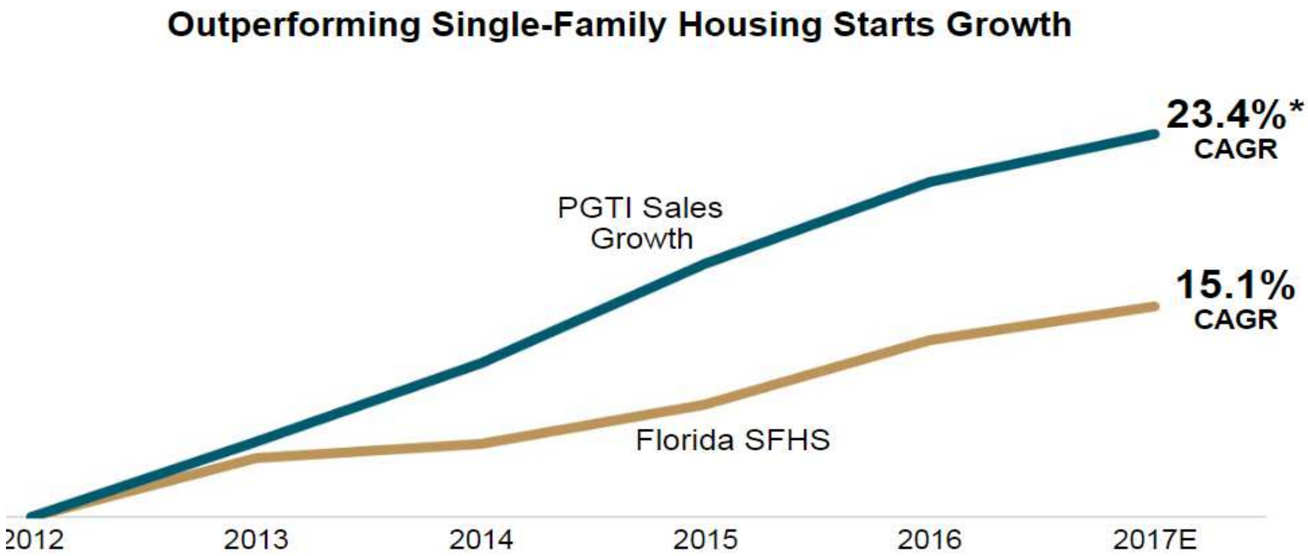




Source: Management, Completions from US Census Bureau

Note: Market share of new residential construction based on internal estimates

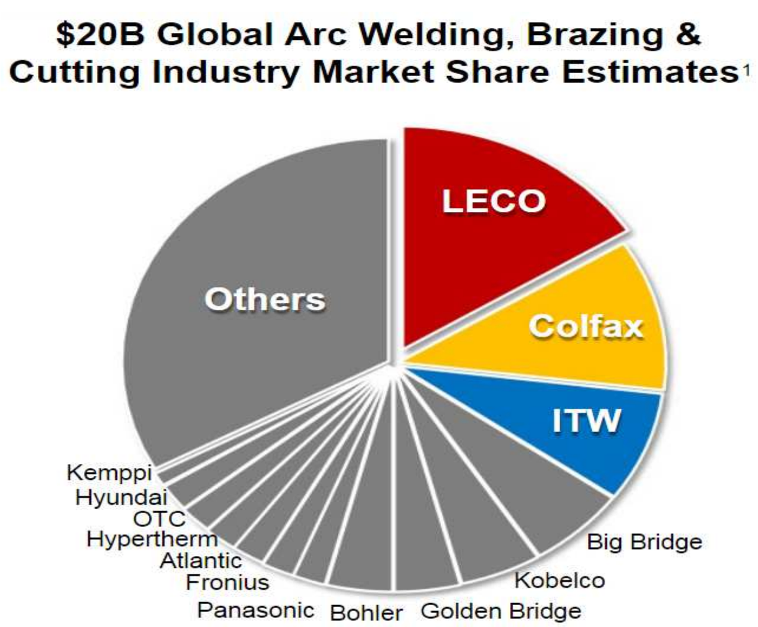
PGT Innovations (PGTI) is a $780M maker of residential impact-resistance windows in the Southeastern US, often a play on Hurricane impacts. Shares trade 22.65X Earnings, 1.6X Sales and 23.35X FCF with 16.4% EBITDA margins and a 9% ROIC. PGTI gets 90% of revenues from Florida and has a new Miami facility coming online in Q1 2018 as it looks to market expansion. PGTI is growing at 1.5X the rate of Florida housing starts and 61% of sales come from repair & remodeling. PGTI has a long runway for growth with Florida housing starts still well below the 20 year average, and has a goal to add 150bps to its already industry-leading EBITDA margins over the next three years.

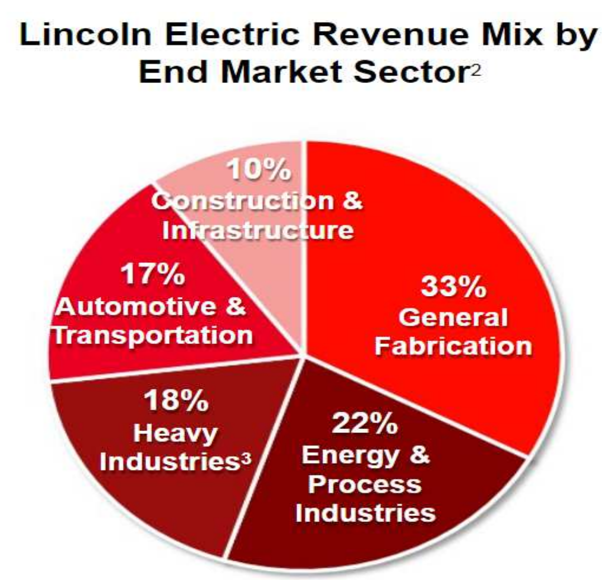


The last group are providers of tools and remodel supplies, and includes AAON, SNA, SSD, TTC, LECO, ALLE, KMT, SWK, TKR, ROLL, AMWD, MHK, AWI, and TREX. The six largest names trade on average 14.4X EBITDA with 17% EBITDA margins and a 12.7% ROIC.

Stanley Black and Decker (SWK) shares performed well in 2017 gaining 45% and trades at a major premium of 26X EBITDA but I continue to favor it as a double digit EPS growth name with world-class brands and been adding highly accretive deals to its Tools portfolio. SWK is set to improve margins and increases FCF. SWK has a long history of outperformance, strong capital deployment, room for margin expansion, and leading market positions.

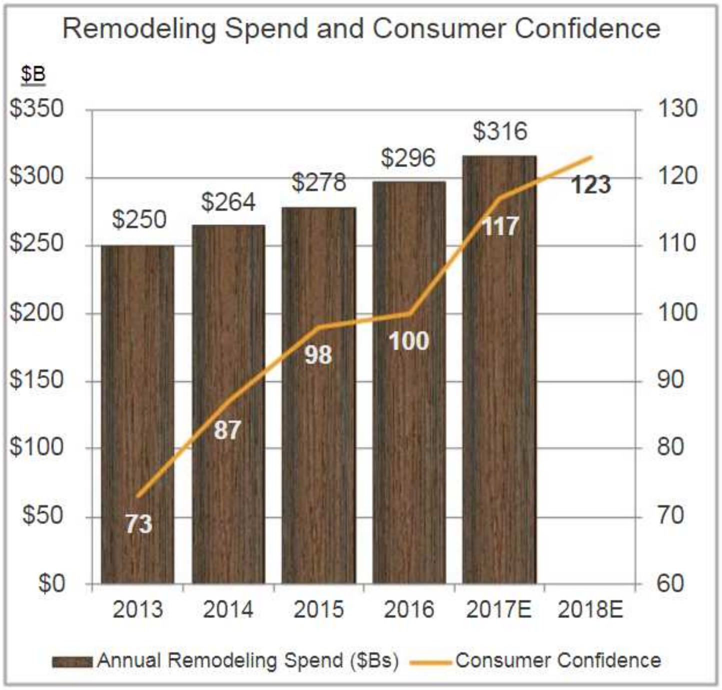
Lincoln Electric (LECO) is a $6B welding Company trading 21.3X Earnings, 2.45X Sales, and 35.5X FCF with a 1.7% dividend yield. LECO has 17% EBITDA margins and a 12.7% ROIC. LECO is the leader in welding and demand for rising complexities with production is causing the need for better solutions. LECO is seeing new products drive sales and R&D spend as a percentage of sales at 2%, rising from 1.2% in 2011. LECO is a niche market leader trading at reasonable valuation with strong fundamentals and a long history of outperformance. Worldwide steel demand has tended to be a reasonable indicator of welding demand, and that rose more than 5% in 2017.

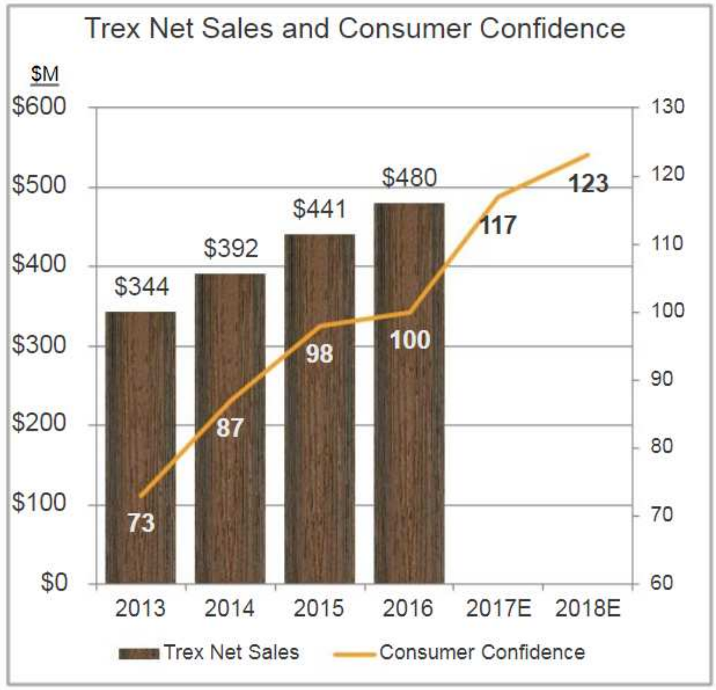




Allegion (ALLE) is a $7.85B maker of security products trading 19.7X Earnings, 3.33X Sales and 29.95X FCF with a 0.77% dividend yield. ALLE has 23.7% EBITDA margins and a 20.8% ROIC. ALLE serves both residential and non-residential markets with strong brands having leading market positions, leading to industry-best organic growth and margins.

Trex (TREX) is a $3.2B maker of decking products trading 30.7X Earnings, 5.95X Sales and 41.25X FCF with 28.3% EBITDA margins and impressive growth numbers. TREX is the World's best known brands for outdoor living and it continues to take market share while also expanding margins. There is a substantial growth opportunity with Wood still taking up 84% of the decking market. TREX offers a low maintenance product that will appeal to the millennial generation entering prime spending and home buying timeframes. TREX has a cost advantage with 95% of its material made from recycled content.





RBC Bearings (ROLL) is a $2.98B maker of precision bearings and components trading 29.4X Earnings, 4.7X Sales and 29X FCF with 25% EBITDA margins and an 8.3% ROIC. ROLL gets over 2/3 of its sales from products it has a top 2 market position and has made 24 acquisitions since 1990. Aerospace accounts for 63% of its sales and 37% from Industrial. It has a predictable recurring revenue stream with 65% of revenues under long term contracts and continues to expand its backlog. ROLL recently saw strong growth from Industrial with Mining, Oil & Gas and Construction improving while Semiconductor remains very strong.

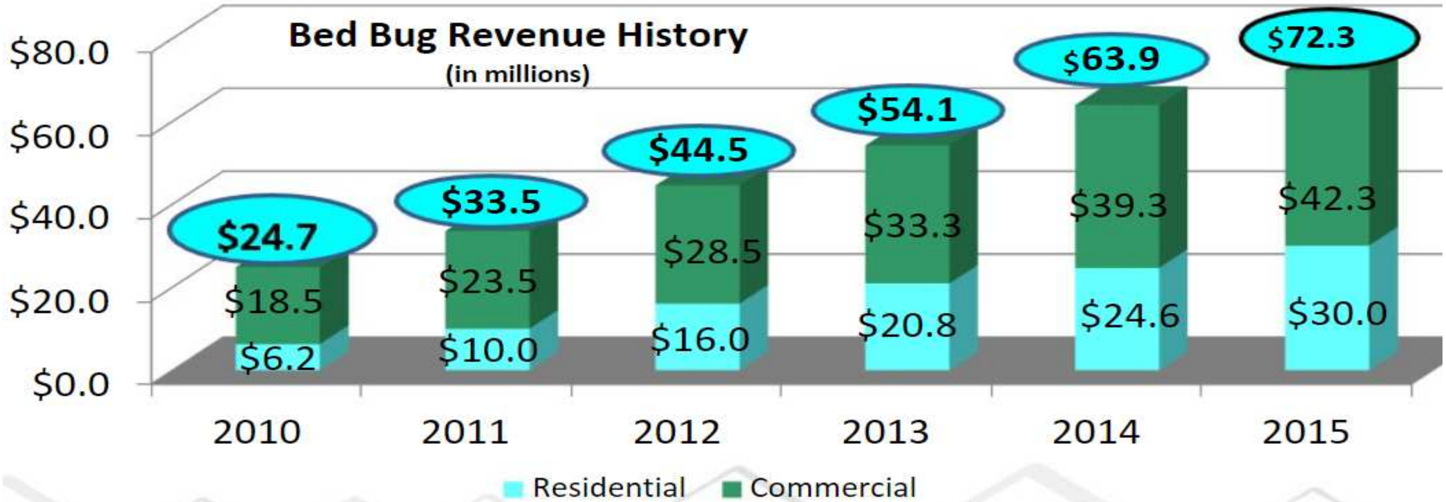
<u>Homebuilders, Waste Mgmt., and Other Home Services:</u>

Components:*ADSW,CAA,CLH,CVA,CVCO,DHI,ECOL,KBH,LEN,MDC,MTH,NVR,PHM,ROL,RSG,SERV,SRCL,TMHC,TOL,TPH,WCN,WLH,WM, SITE, FSV,MHO*

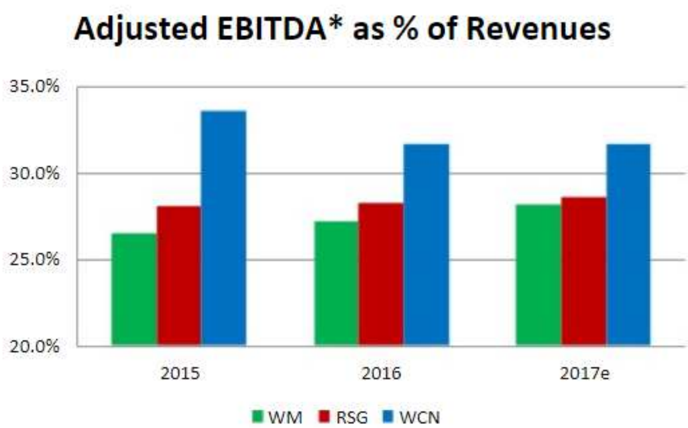
Housing stocks were extremely strong in 2017 as housing starts look to normalize to historical averages and consumer confidence continues to rise while mortgage rates remain relatively low. Millennials coming into peak buying power years is a potential tailwind that could boost home sales.

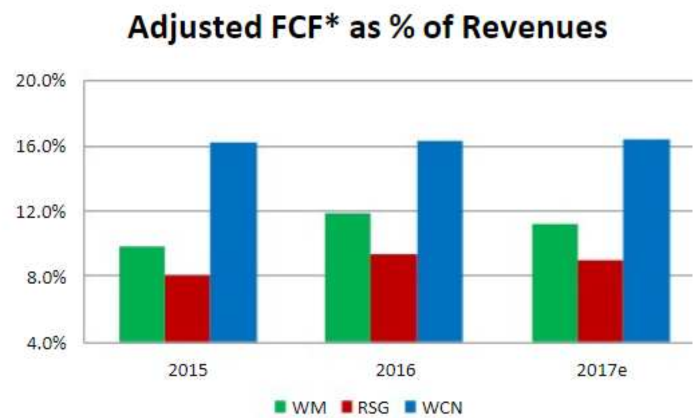
In the waste management and home services group we have a small selection of names, but some strong performers in 2017 once again as they correlate tightly to the housing market. The ability to raise prices while seeing stable volume growth has boosted results. This group is trading on average 11.5X EBITDA with 24.2% EBITDA margins and an 8% ROIC. Positives for the waste management industry include CPI data rising, infrastructure stimulus and tax reform, and recyclable commodity prices. With this there would be an expected rise in volumes for construction & demolition as well as landfill, to go along with the strong pricing environment.

Rollins (ROL) is a $9.92B provider of pest and termite control services trading 47.5X Earnings and 6X Sales. ROL has 80% of its revenues recurring and the $12.3B pest industry is highly fragmented, ROL with 41% residential and 39% commercial exposure and very high retention rates. Its Wildlife unit is also adding growth with Critter Control. ROL has been a steady grower and has consistent numbers making it a steady investment.

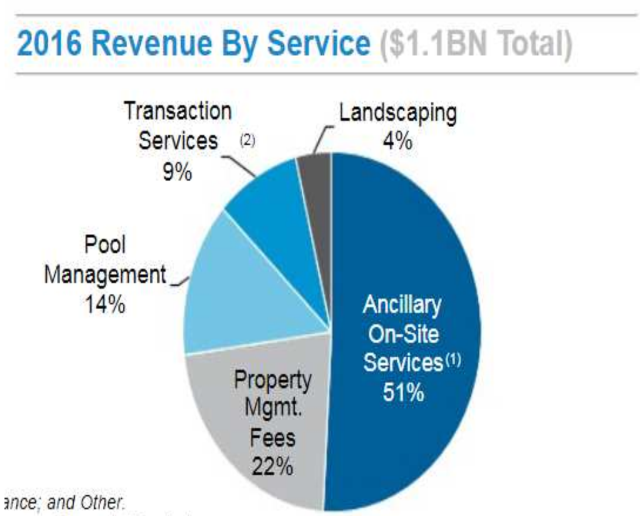


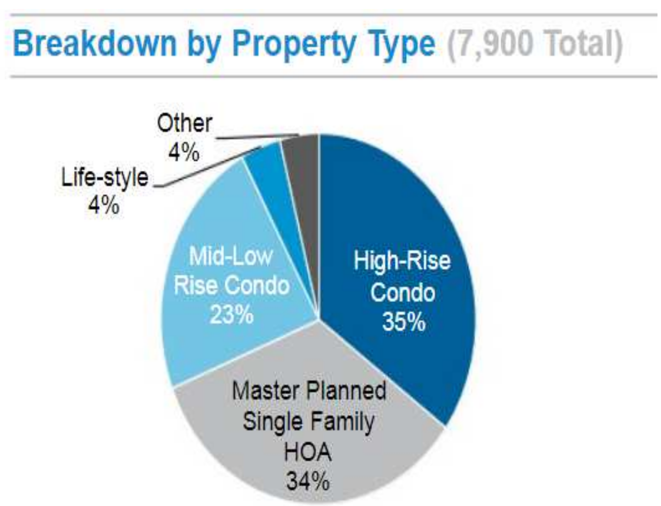
Waste Connections (WCN) is an $18.45B Company in the waste management business trading 30X Earnings, 4.1X Sales and 28.8X FCF with a 0.8% yield. Although trading at a premium to peers at near 15X EBITDA, WCN has industry-best margins, ROIC, and FCF margin. WCN is posting very strong trends in volume and pricing. WCN is also noting the M&A environment and could look to deals in 2018. WCN is a steady grower in an industry with positive trends and a best in class operator.



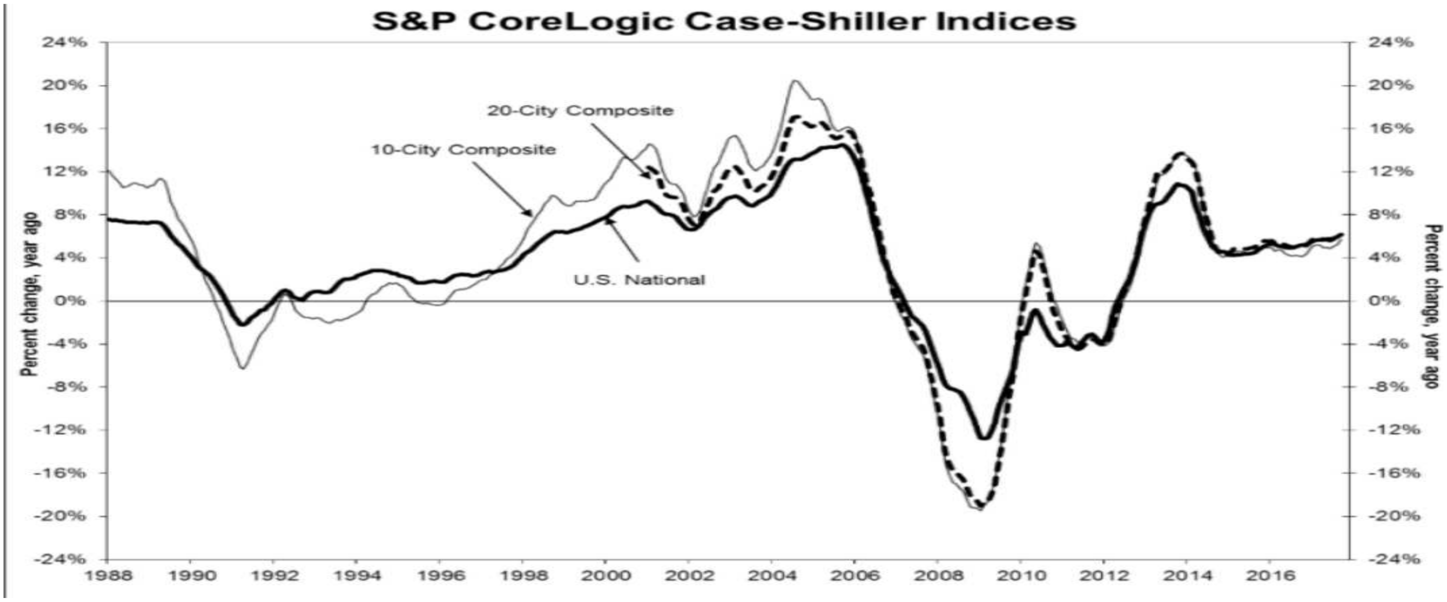


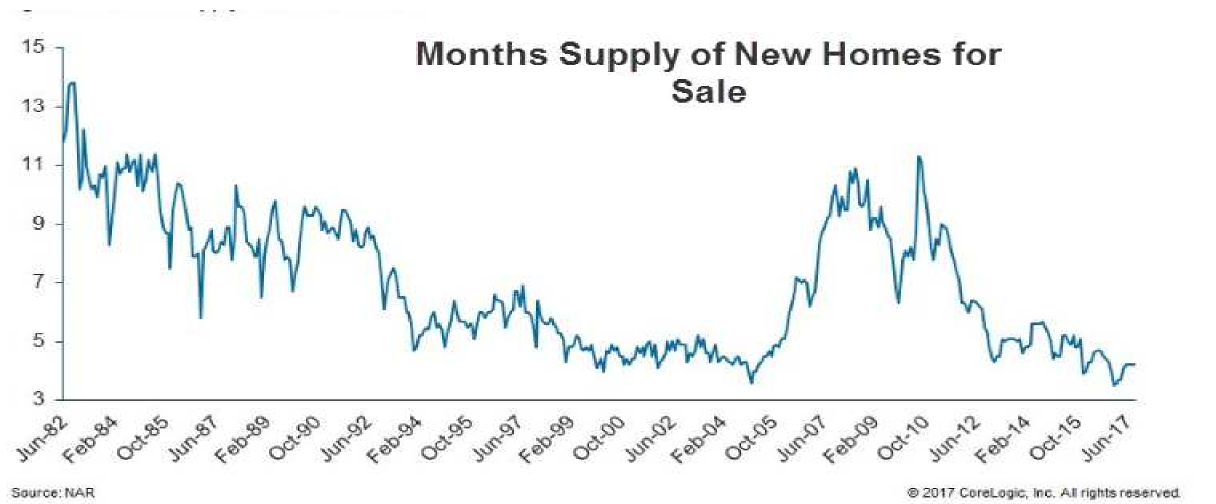
First Service (FSV) is a small cap name providing residential services trading 17X EBITDA and generating double digit revenue growth and strong EPS growth. FSV has a long history of growth serving a large market with a small market share, many of its markets fragmented. FSV has contracts with Condominiums, Homeowners Associate and other properties to offer a broad range of services and its retention rate is near 95%. It has franchised brands like Paul Davis, Certa-Pro Painters, Floor Coverings, California Closets and College Pro as well as company-owned brands like Century Fire Protection and Service America. FSV is a unique company and offers a lot of upside longer term.

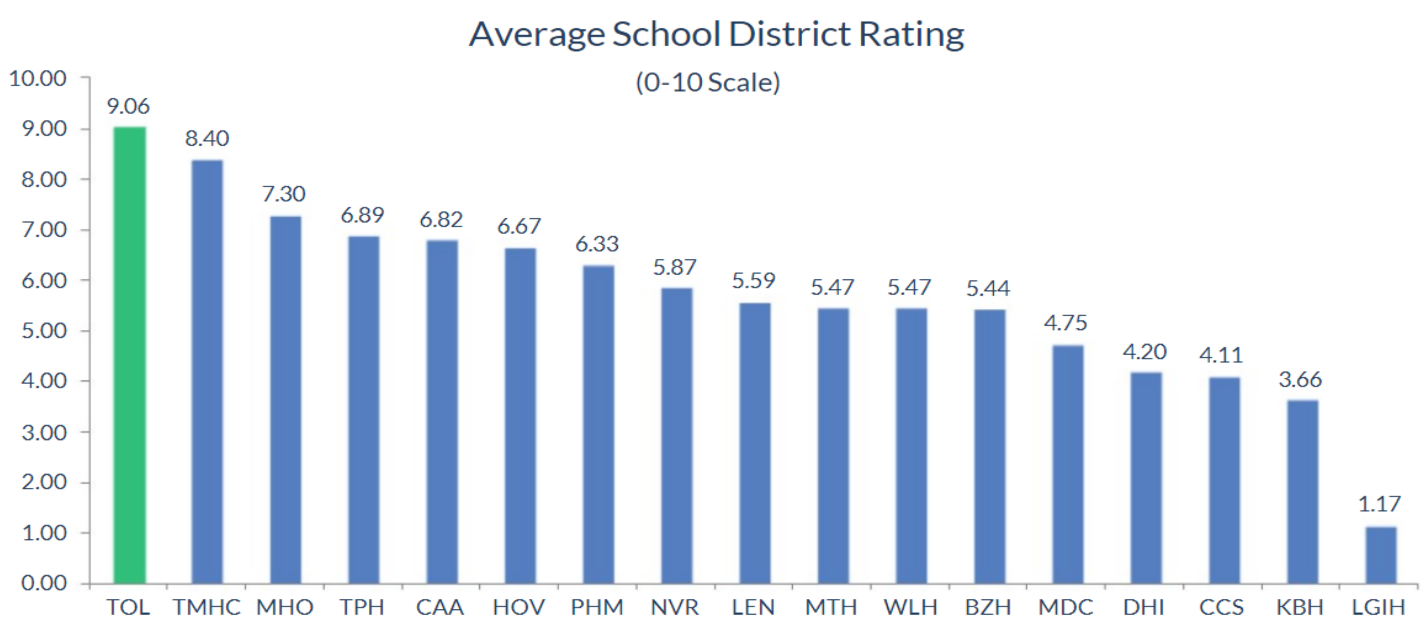




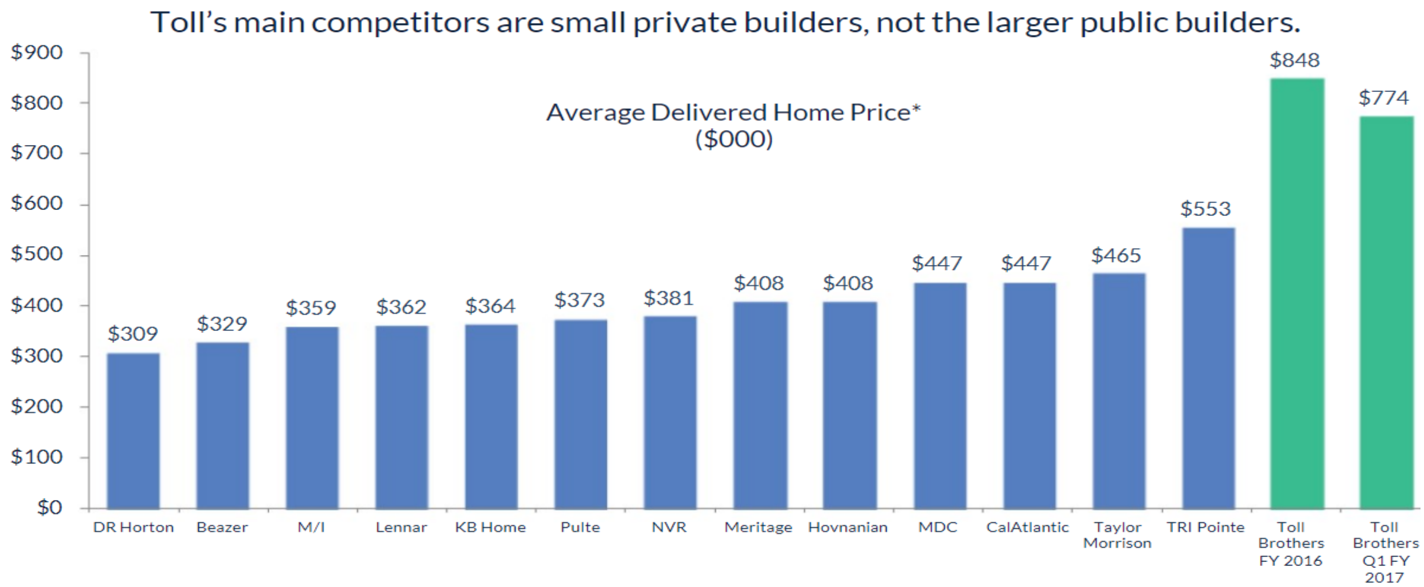
Moving on to residential construction, the group saw 13 names gain 40% or more in 2017. With rising costs a concern, one measure to look at is SGA as a % of revenues, and NVR, PHM, and TOL have the lowest numbers. Housing data is showing strong positive momentum into year-end. The group is trading on average at 13.8X Earnings, 12X EBITDA with 8% EBITDA margins. Geographical exposure is always important when looking at the homebuilders.





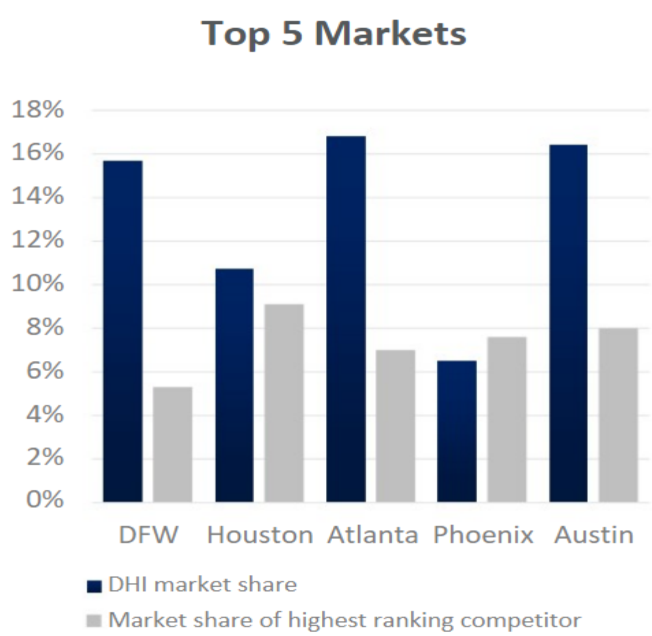


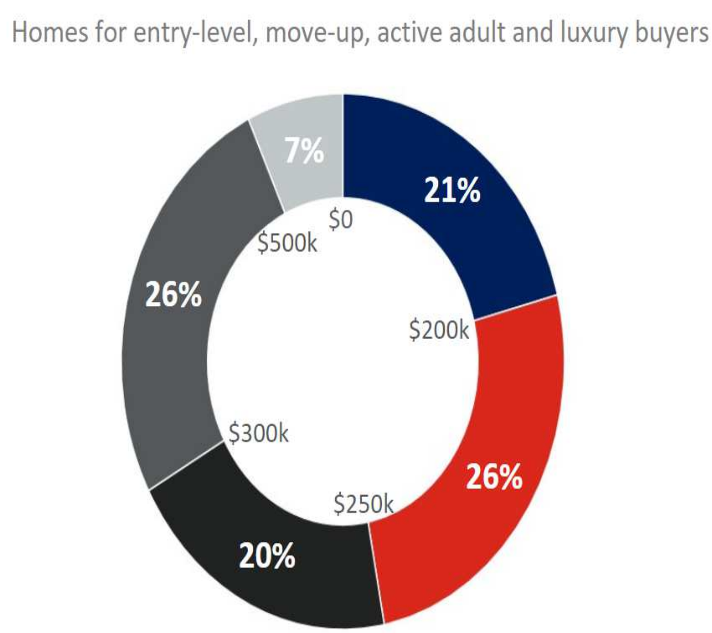
Toll Brothers (TOL) is a $7.4B homebuilder trading 11.9X Earnings, 1.27X Sales and 8.6X FCF with a 0.68% yield. TOL stands out with its 15.6% EBITDA margins. TOL has become more geographically diverse over the last few years but continues to see strong order trends in California and the West. TOL could make a move to pursue an asset-light strategy via an off balance sheet land developer similar to DHI and NVR to drive upside in 2018. New home sales continue to increase while being below long-term averages and rising home values are strengthening consumer's ability to upgrade. California is the most important market to TOL though it also has solid exposure in the North, South, and Mid-Atlantic. TOL is more luxury focused with average home prices well above its peers. Toll Brothers is positioned well to continue to capitalize on housing market trends into 2018.



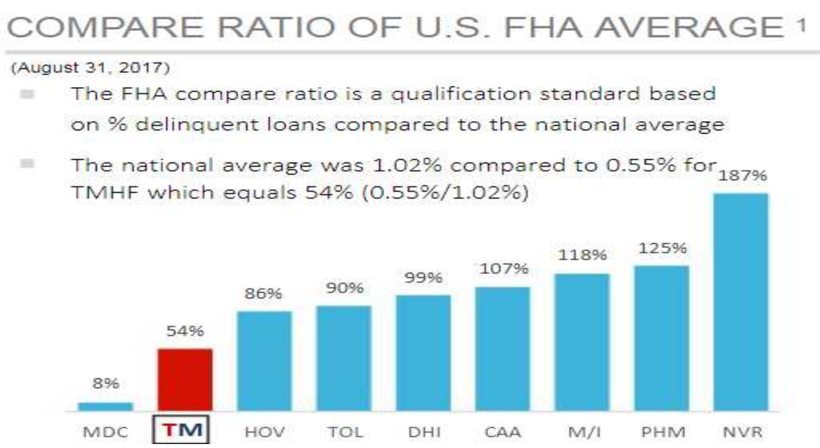
NVR Inc. (NVR) is a $12.55B homebuilder trading 19.95X Earnings, 2X Sales and 20.85X FCF, often overlooked in this group due to its high price per share. NVR also has strong margins at 14.2% and has consistently posted some of the best quarters for the industry. It operates a superior land option model that many in the industry are now looking to follow. It is a top operator that deserves more recognition.

DR Horton (DHI) is the other favorite in the group as an $18.5B builder trading 13.6X Earnings, 1.3X Sales and yielding a 1% dividend. DHI screens cheap to peers at 9.9X EBITDA and has a strong 10% ROIC. DHI is a leader in entry-level and move-up homes with lower average home prices than many of its peers, the Southeast, South-Central and West being key markets. In June, DHI announced a deal for Forestar (FOR) which gives it competitive advantages to move to a more asset-light strategy. It is coming off a great Q3 where unit orders were way above expectations and it continues to focus on cost controls allowing it to steadily improve its ROI each year since 2014.





Taylor Morrison Homes (TMHC) is the small cap pick in this group, the $2.7B Co. trading 10.45X Earnings, 0.72X Sales and 9.75X FCF. TMHC operates in 20 markets in 8 states with 26% of sales entry-level, 41% move-up, and 15% active lifestyle. It has been posting solid numbers and operates a conservative balance sheet.



Transports (Airlines, Rail, Trucking, & Shipping):

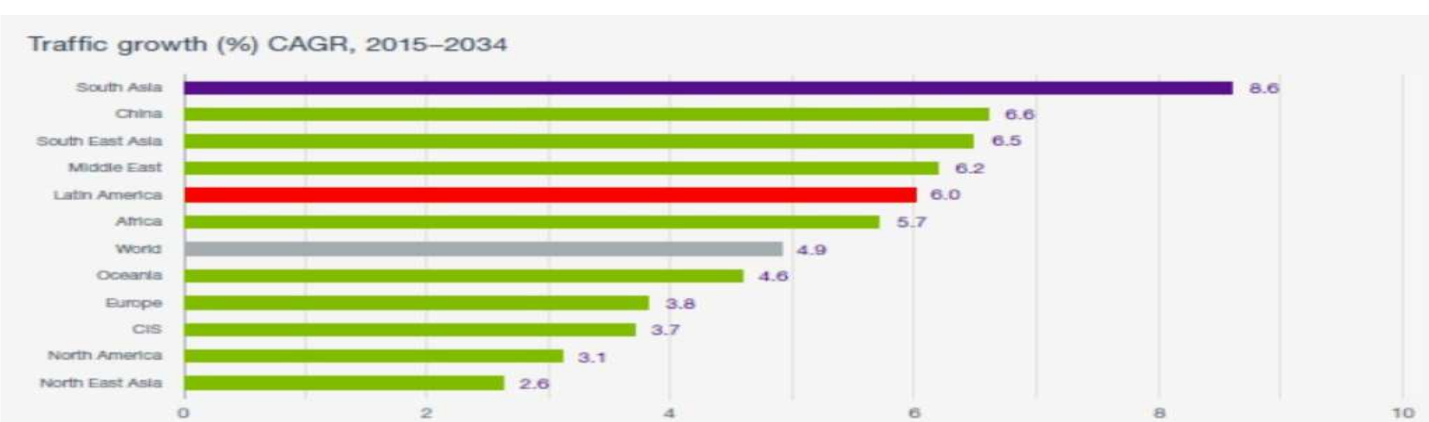
Components:*AAL,ALGT,ALK,CHRW,CNI,CP,CPA,CSX,DAL,EXPD,FDX,FWRD,GWR,HA,HTLD,HUBG,JBHT,JBLU,KEX,KNX,KSU,LSTR,LUV,MATX,NSC,ODFL,R,RYAAY,SAIA,SAVE,SKYW,SWFT,TRN,UAL,UNP,UPS,WAB,WERN,XPO,ATSG,GBX,SNDR,MRTN,ARCB,YRCW,AAWW*

This group is fairly straightforward in breaking down into groups, Airlines, Rails, and Freight/Shipping/Trucking. Clearly the Transports are closely tied to the economy, and one group that has really outperformed since the Election on hopes of stronger US GDP growth moving forward.

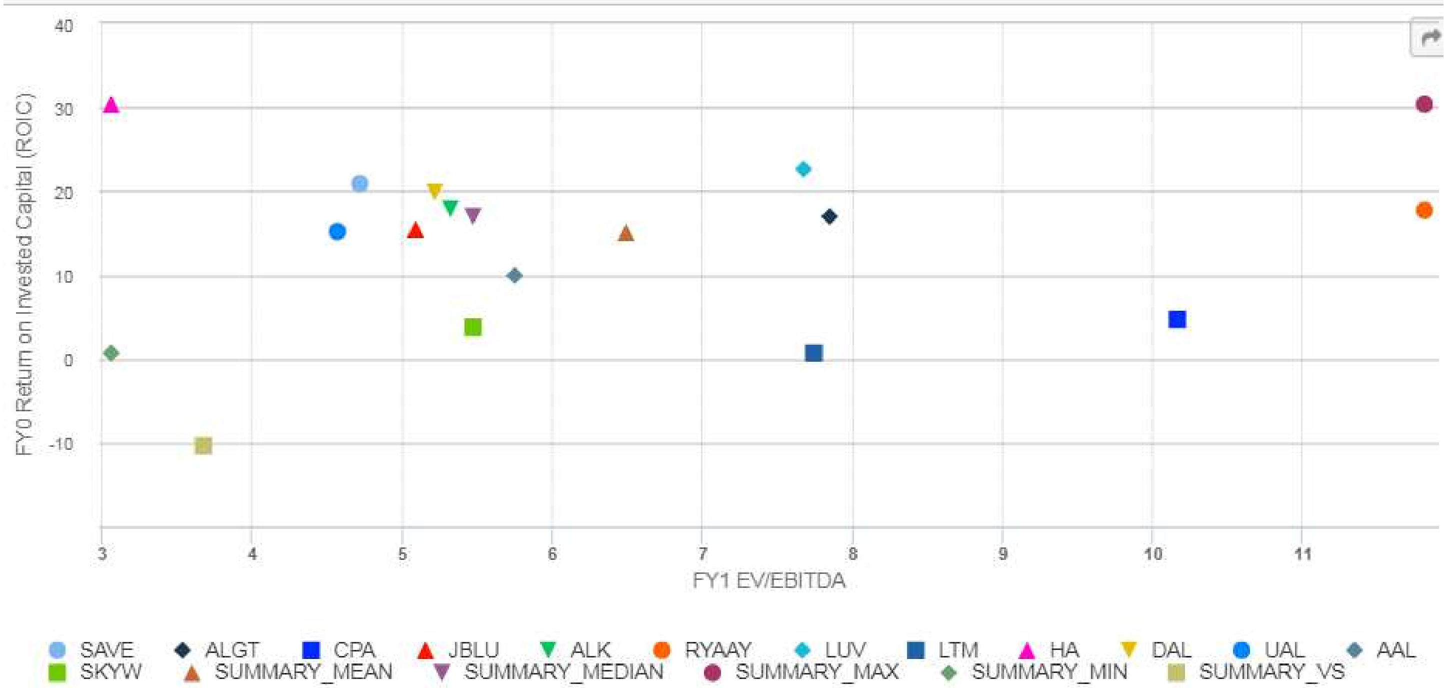
The airline group has many of its own metrics that it reports monthly such as Passenger Revenue per Available Seat Mile (PRASM), Revenue Passenger Miles (RPM), Average Seat Mile (ASM), Cost per Available Seat Mile (CASM), and Load Factor. The group has often traded at a steep discount to other Industrials despite much stronger ROE, ROIC, Margins, and FCF/Share while having a strong economic moat protecting it from much new competition. Margins have recovered since the early 2000's as the group as consolidated and added on ancillary fees when traveling, yet sentiment across the group from investors remains fairly negative. Profitability has also been boosted by lower fuel prices. Recent commentary on the outlook for air travel remains favorable for growth moving forward.

The airlines group trades on average 6.5X EBITDA, 12.8X Earnings and 24.2% EBITDA margins with a 15% ROIC. Looking at performance in 2017 it looks closely tied to EPS growth and it was an overall weak year for this group but last year's top pick LUV put in a solid +28% year. **Southwest Air (LUV)** remains the best in class airliner among the big names in the US. **RYAAY** was the top performer again in 2017 and operates with the best growth and margin profile.

Copa (CPA) is another name worth a look, trading a bit rich to peers at 10.2X EBITDA but set to generate 13% revenue and 77% EPS growth this year and eyeing 9.9%/16.9% in 2018. CPA reported November traffic +10.6% Y/Y and is benefitting from strengthening Latin American economies. CPA has a strong demand outlook while management continues to target operating cost savings and margin expansion. CPA expects ADM growth of 9% in 2018 and is the best way to have exposure to the airline industry growth in Latin America.

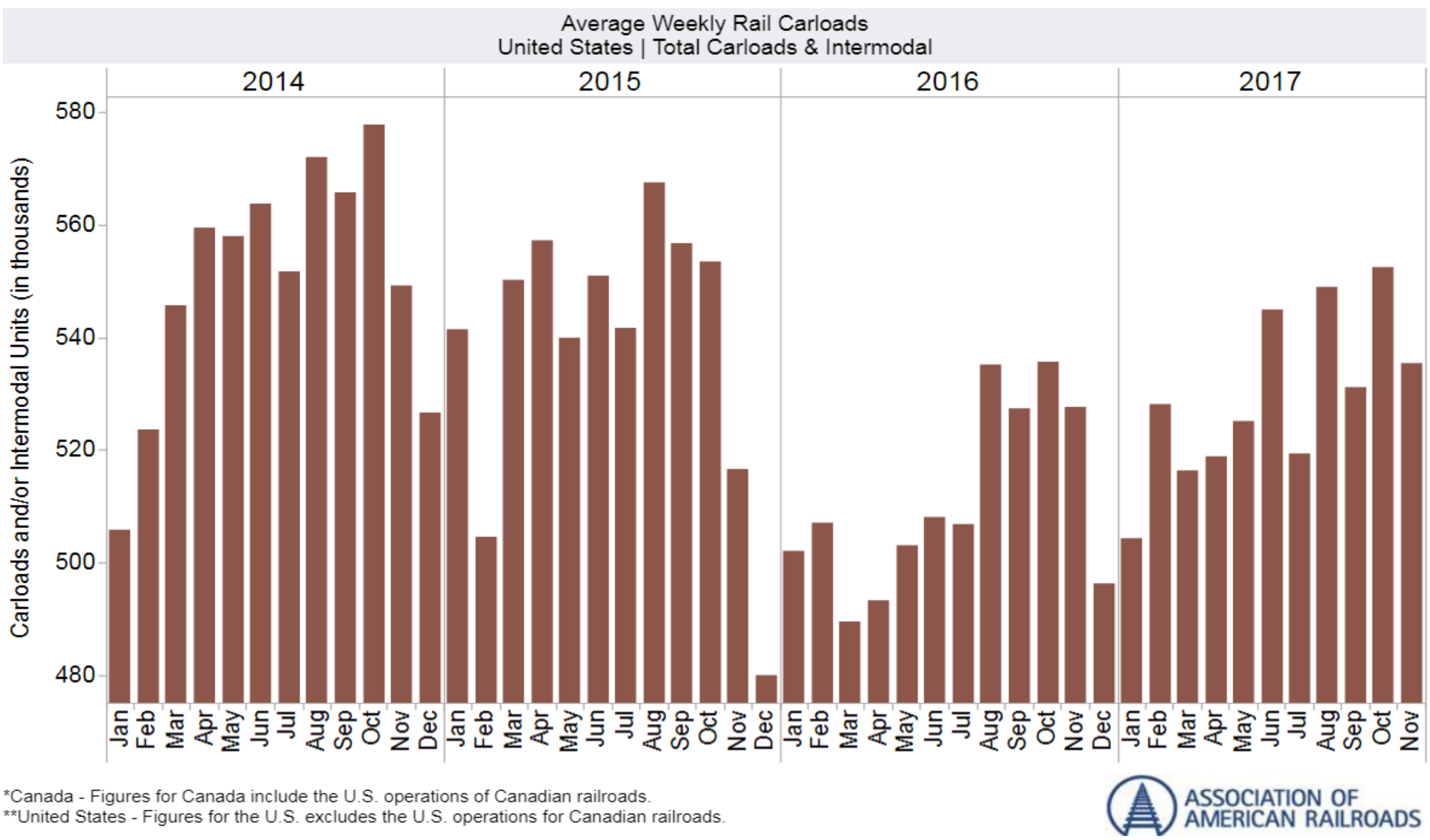


EV/EBITDA vs. ROIC



The railroad industry had a solid year in 2017 with most names gaining 25% or more and recently boosted by the prospects of tax reform. The group is primarily dependent on Intermodal, Industrial Products, Automotive, Chemicals, Agricultural Products, and Coal. Many of the commodity-based areas have been under pressure for quite some time, but seeing a bottom of the cycle which bodes well for shipping volumes going forward. The industrial products group is tied to housing and construction, so a group that could really benefit from US infrastructure spending. The rail industry has plenty of metrics of note that analyze network efficiency, the main ratio looked at is Operating Ratio (operating expenses as % of revenue), while pricing/volume trends tend to be what investors care the most about.

The group trades on average 20.4X Earnings, 11.4X EBITDA with 36.9% EBITDA margins and a 6.9% ROIC.

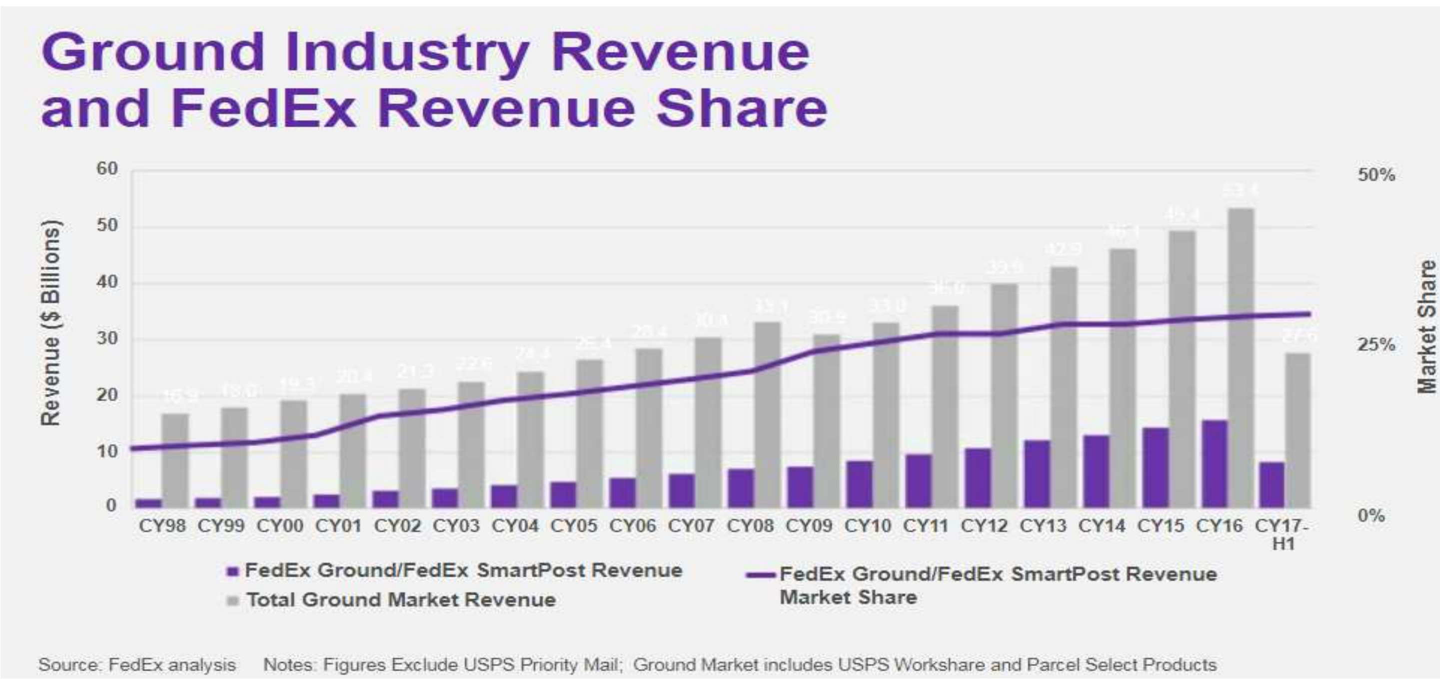


Canadian National (CNI) continues to screen as my favorite rail though trading at a modest premium to peers at 13X EBITDA and 18.7X Earnings. CNI has industry-leading 53.3% EBITDA margins and a 9.5% ROIC but lagged performance in 2017 with the NAFTA overhang. CNI is generating the strongest volume growth, but increased capital spending and high staffing needs is causing margin concerns into 2018. It will also face difficult comps so there are likely better opportunities in 2018 for Rails that are seeing better growth and have more room for margin expansion to revalue shares higher.

Norfolk Southern (NSC) trades 11.2X EBITDA and its 42.4% EBITDA margins and 4.4% ROIC are the worst among its peers, but it has seen enormous bullish positioning in the options market. NSC sets up as a volume growth story in 2018 and also has room for pricing strength across its markets. NSC is targeting $650M in cost efficiency gains by 2020 and is the best play in 2018 for a company on the upswing that can be revalued at a higher multiple. Rising industrial production, tightening truck capacity, and increased construction activity all bode well for it.

Lastly, looking at the Truckers and Logistics companies, the top performer by far was XPO at +76%, and a name looking to do a transformation M&A deal soon. Truckers have all responded strong since the Hurricanes seeing a big rise in pricing, and overall the indicators from the ATA and Cass are showing a lot of strength in freight markets for both volumes and pricing. One key concern is the need to pay drivers more going forward. Navistar (NAV) recently reported strong numbers and saw the most favorable environment for trucks in a decade for 2018.

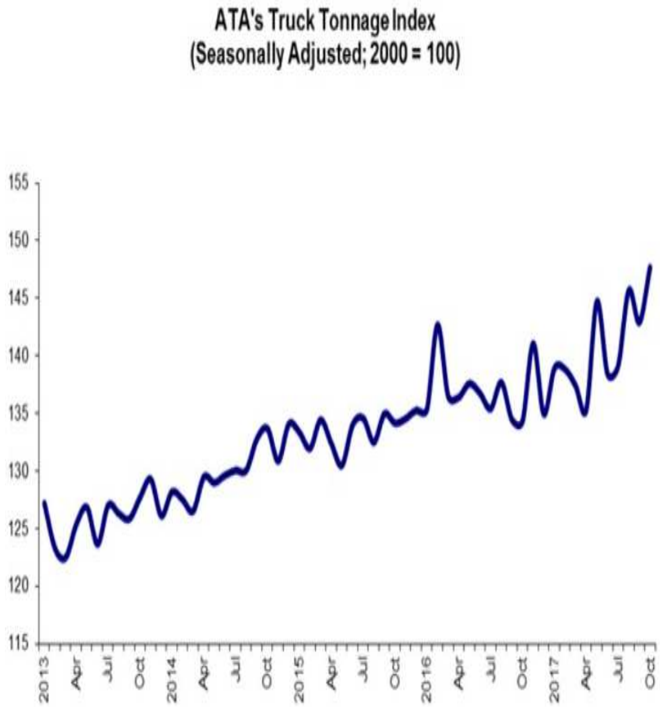
Fed-Ex (FDX) with a $63B market cap remains a very attractive name trading 15.75X Earnings, 1X Sales and yielding a 0.84% dividend. FDX is targeting around 5% revenue growth the next two years. FDX should benefit from a lower tax rate and is positioned well for the accelerating global industrial production as well as rebounding Ground margins. FDX long term goals include 10-15% EPS growth, 10%+ operating margins and increasing its ROIC. E-Commerce remains a major drier for its Express unit and it continues to integrate TNT, expected by the end of May 2020. FDX is a great combination of a cheap value, margin expansion, and taking part of a major secular trend.

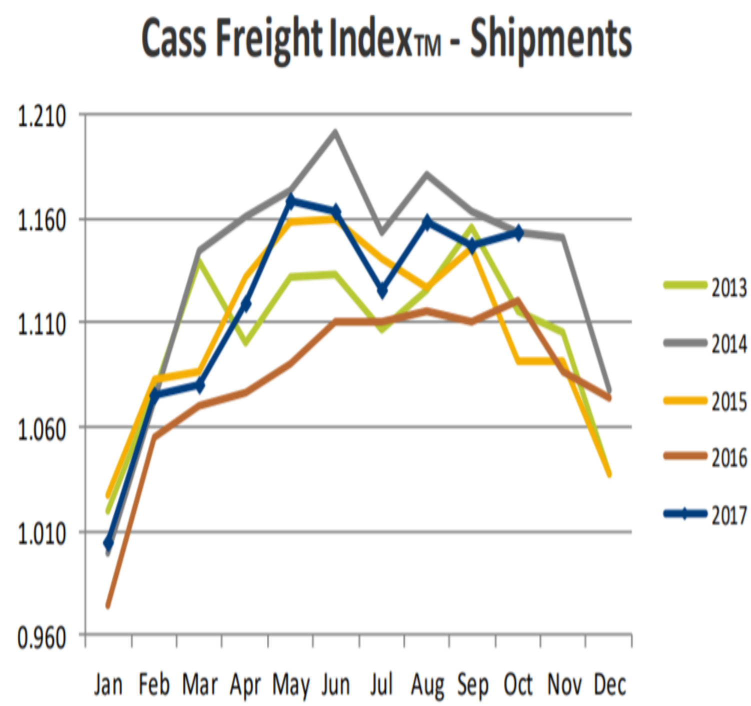


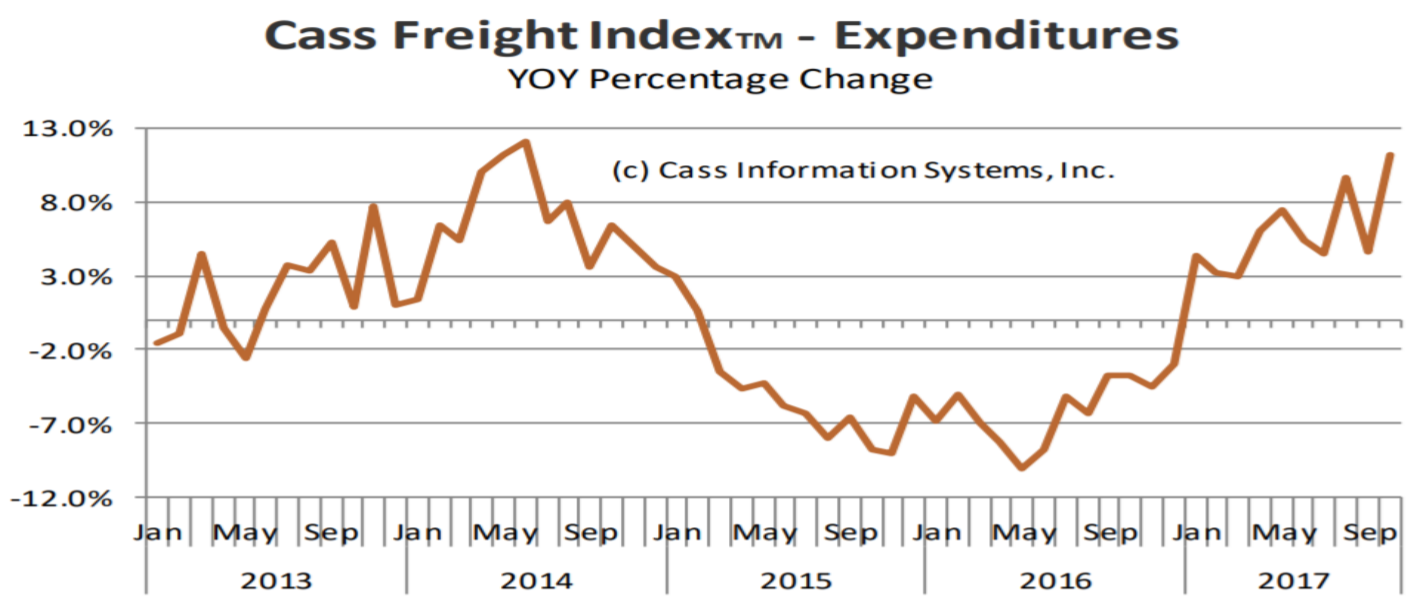
JB Hunt (JBHT) is a $12B leader in Intermodal trading 25.15X Earnings, 1.75X Sales and 52.5X FCF with a 0.83% dividend yield. JBHT is a prime beneficiary of a tight trucking market and has strong tailwinds in 2018 including stronger pricing, increased freight demand, and a shift back to intermodal from over-the-road. JBHT has a bunch of key initiatives involving pricing, contracts, operational improvements and customer interfacing technology that are also supportive into 2018. JBHT is a leading name and the trucking market has strong prospects into 2018.

Old Dominion (ODFL) is a $10.5B trucker trading 25.6X Earnings, 3.25X Sales and 64.2X FCF with strong 23.5% EBITDA margins and a 15.6% ROIC. ODFL has been posting strong numbers throughout the year and set to benefit from stronger LTL pricing, ample capacity to handle the demand increase, and market share gains. ODFL recently indicated strong tonnage and yields in October and November and could surpass previous upcycle peaks. ODFL is pricier than peers but overall it's a best-in-class operator deserving a premium valuation and likely to continue its winning ways in 2018.

Land Star (LSTR) is a $4.35B transports solutions Co. trading 24.65X Earnings, 1.25X Sales and 35.65X FCF with a 0.39% dividend yield. LSTR has a leading 24.9% ROIC and one of the better growth names in this group.







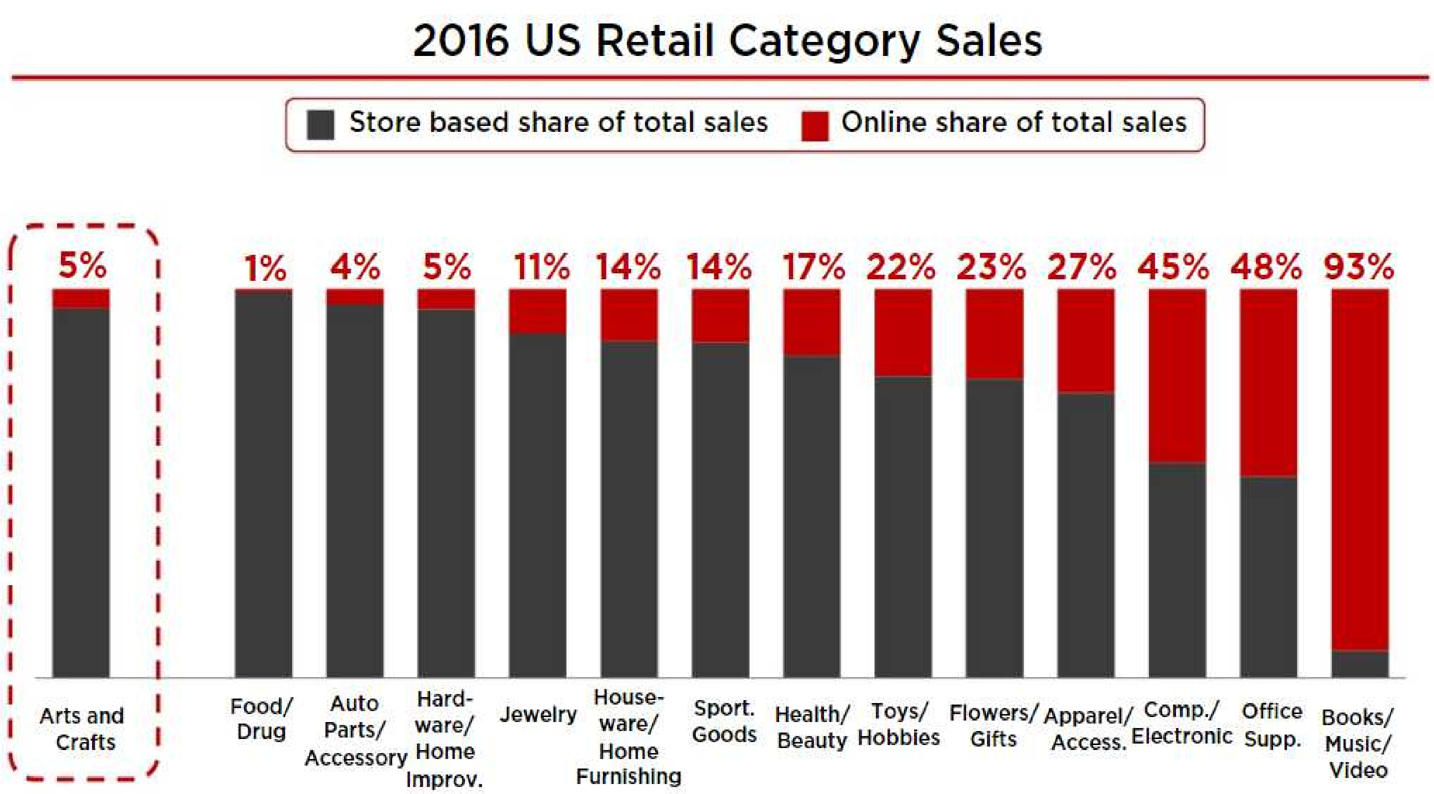
Consumer Discretionary/Services: *In 2017 Consumer Discretionary (XLY) is +20% YTD performing in-line with the market. Traditional brick and mortar retail continues to struggle to compete with ecommerce though has seen a resurgence into year-end with tax reform and strong Holiday spending trends. The media industry is struggling to combat "cord-cutting" and is seen as ripe for consolidation with AT&T hoping to close its deal for Time Warner, and Disney recently announcing a massive deal for 21st Century Fox assets. Restaurants continue to struggle for the most part dealing with rising commodity costs, wages, and changing consumer habits. Travel & Leisure was one of the better performing segments with consumers shifting to spending more on experiences than products, and the gaming industry started to face much easier Y/Y comps in Macau. Heading into 2018 a stronger economy will be important for the group with tax reform and easing credit, and consumer confidence continues to rise. The discretionary sector has underperformed in the last three Fed tightening cycles, one risk, while demographics are favorable with Millennials entering peak-spending years and fueling increased consumption, but also are changing where/how money is spent. Further risks include rising margin pressures and weaker sales growth due to rising oil prices, wage growth, and potential for restrictive trade policies.*

Retail and Apparel Stores:

Components:*AAP,AEO,ANF,ASNA,AZO,BBBY,BBY,BIG,BKE,BURL,CATO,COST,DDS,DG,DKS,DLTR,DSW,EXPR,FIVE,FL,GCO,GES,GME,GPS,HD,JWN,KSS,LB,LOW,M,MIK,OLLI,ORLY,PLCE,PRTY,PSMT,RH,ROST,SBH,SHLD,SIG,SPLS,TGT,TJX,TSCO,ULTA,URBN,WMT,WSM,DLTH,SCVL,TLRD,CHS,FND,LL*

This is a large group that can be broken down into Department/Discount Stores, Apparel, Auto & Home, and Specialty (Electronics, Jewelry, Sporting, and Office). Some industry-specific ratios are often utilized such as same store comparable sales, square footage growth, and looking at revenues/square foot. This was one of the most bifurcated groups in 2017 where stock-selection is crucial, a number of names are down 25% or more like GME, M, FL, AAP, SIG, DKS and SHLD, while stocks up 25% or more include COST, BURL, PLCE, GES, HD, DLTR, ANF, WMT, GPS, BBY, FIVE, OLLI and RH. You can see from the top performer they tend to be specialty focused or at least have a business model that is somewhat "Amazon-Proof." That group of winners trades on average 22X Earnings, 1.3X EV/Sales with 9% revenue growth, 32.3% gross margins, a 17.8% ROIC and 5.5% FCF margins. All indications are 2017 is ending with a very strong Holiday spend season, so these names could get off to solid starts in 2018.

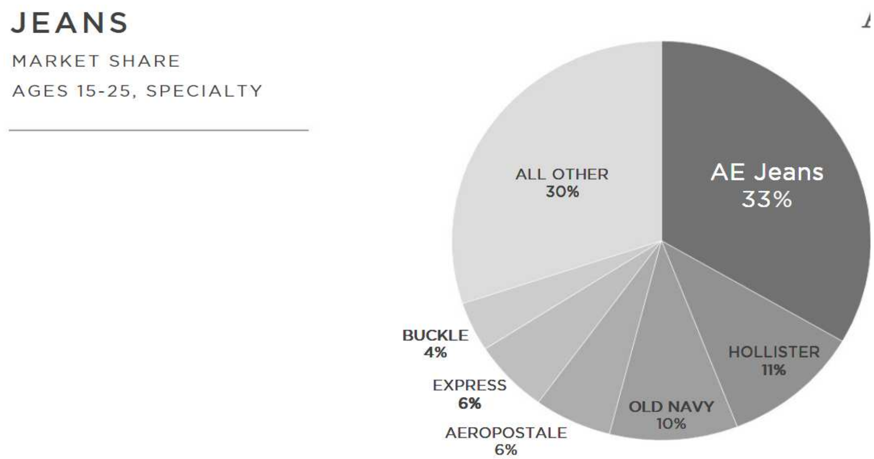
An interesting chart regarding online penetration to retail segments:



Starting with apparel stores, the group trades on average at 20.7X Earnings, and 0.7X EV/Sales with 38.8% gross margins and a ROIC of 11.5%.

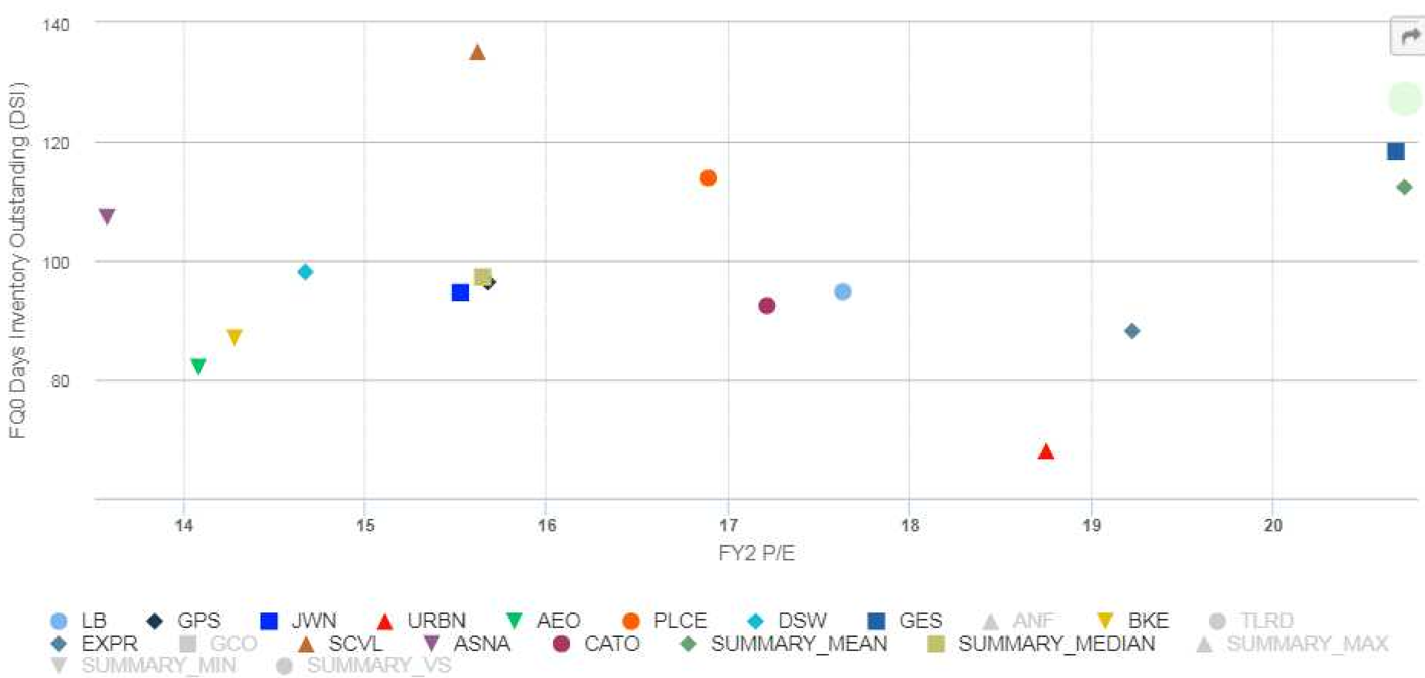
Children's Place (PLCE) is having another great year return 34% YTD and the $2.36B retailer trades 16.75X Earnings, 1.29X Sales, and 17.7X FCF with a 1.18% yield with excellent margins and a stellar ROIC of 55.5%. Children's clothes is one of the few areas people still prefer to shop in person which has helped PLCE fend off e-commerce threats. PLCE has posted 8 consecutive quarters of positive comps and 6 straight quarters of sequential improvement in traffic while also leveraging strong growth of its e-commerce platform which accounted for 20% of total sales in 2016. International is also a growth opportunity and it is a wholesale provider to Amazon. PLCE is one of the thriving stories in Retail.

American Eagle (AEO) was a top pick in this group last year and has outperformed peers at +15% YTD, the $3B Co. trading 14.3X Earnings, 0.83X Sales and 13.4X FCF with a 2.9% dividend yield. AEO screens well across all the retail metrics and has maintained positive revenue growth in a tough industry. AEO had a 35.1% tax rate in 2017 so EPS is set to benefit from tax reform. AEO has been posting solid comps and continues to add new product lines. It sees opportunity to expand margins and digital sales now account for 22% of total. AEO is one of the top omni-channel retailers along with PLCE. AEO is the name I see as a market share taker that will continue to win the teen demographic.



The Gap (GPS) is the final name in the group I like, a $12.95B market cap trading 15.7X Earnings, 0.83X Sales and 23.5X FCF with a 2.74% dividend yield. GPS has a strong 32.8% ROIC and strong FCF. Management sees strength in Denim and Active markets where it aims to take market share. GPS has been growing comps the last 4 quarters and was expanding margins before they flattened last quarter. The Gap also has a strong real estate position that could eventually be a value unlock story. The Gap was a bit late to the e-commerce push but is stepping up its efforts and this can be an additional upside driver to numbers moving forward.

Days Inventory Outstanding vs. P/E (Apparel Stores)



Moving onto the Discount & Department Store stocks the group trades on average 19.8X Earnings, 1.1X EV/Sales with 5.8% FCF margin and 11.8% ROIC. OLLI and FIVE were standout performers in 2017 as small cap specialty discounters while JWN, TGT, DDS and M struggled. There are actually a number of names I like in the group with many showing strong momentum into year-end.

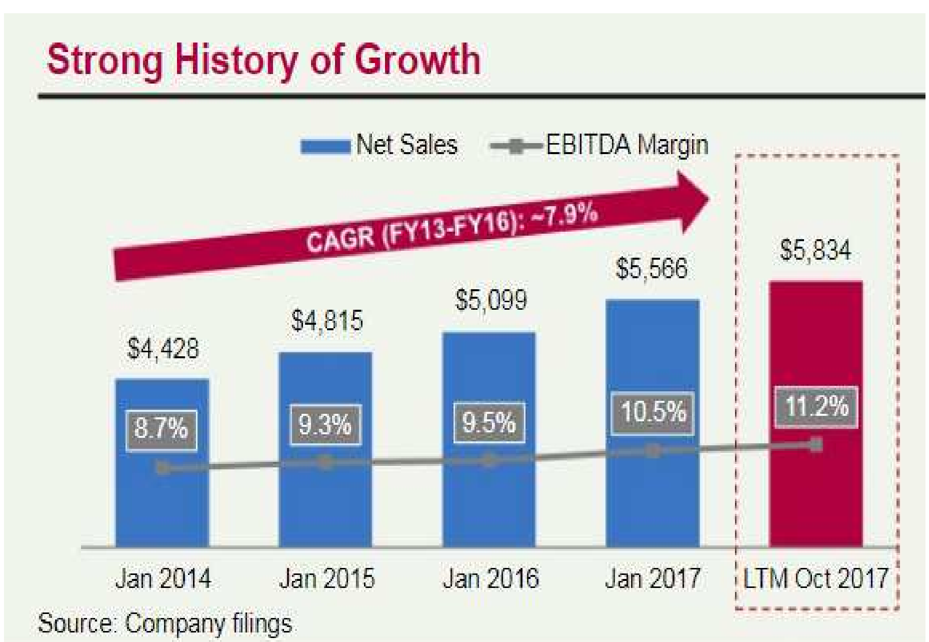
Wal-Mart (WMT) is a $289B discount retailer trading 20.75X Earnings, 0.58X Sales and 23X FCF with a 2.1% dividend yield. It is a low growth name and does not impress much with a 5% ROIC but is an accelerating growth story with its improving comps and investments in e-commerce, sales of the latter grew 50% in the latest quarter. WMT is stepping up its battle against Amazon (AMZN) and making a lot of smart strategic moves. I think its momentum can carry over into 2018. The headline growth numbers will be suppressed during this multi-year investment cycle, but it is taking the Amazon approach to try and snatch market share and 13 consecutive quarters of positive comps with 12 quarters of positive store traffic is impressive.

Dollar Tree (DLTR) is a $24.8B discount variety store trading 20X Earnings, 1.15X Sales, and 12X FCF with an 8.5% ROIC. DLTR remains a synergy story in 2018 as it integrates the Family Dollar acquisition. DLTR should also see a 21% boost to EPS from tax reform. DLTR is renovating stores and seeing a nice improvement in both comps and margins the last few quarters as it turns around Family Dollar stores, and its core customers are one-time low income, so a less threat from e-commerce. DLTR is one of the "Treasure Hunt" theme plays in retail and seeing strong customer traction from better in-store marketing efforts. It is one of the better growth positioned names in Retail.

TJX Co. (TJX) is a $48B home & apparel discount retailer trading 17.65X Earnings, 1.4X Sales and 25.85X FCF with a 1.69% dividend yield. TJX has a leading 39.5% ROIC and 7.8% FCF margin to peers. After posting 7.5% revenue growth this year it expects another year of 5% growth. TJX has disappointed the last few quarters and will be looking to more effectively manage SG&A costs. TJX is positioned well for the December gift-finding shoppers and expect it to post strong numbers next quarter. TJX has a strong supply chain and fairly Amazon-Proof for its "Treasure-Hunt" shopping experience while off-price retail continues to take market share from traditional retail.

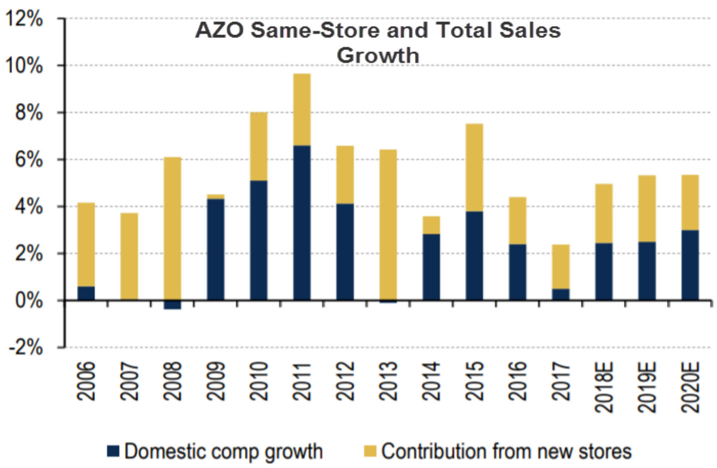
Costco (COST) is an $84.7B leader in bulk discount retail trading 27.25X Earnings, 0.66X Sales and yields a 1% dividend. COST growth numbers are impressive for a company its size as is the 26% ROIC and best-in-class inventory management metrics. COST has 90.3M total cardholders with a 90% renewal rate, also fitting into that "Treasure-Hunt" experience that separates it from Amazon. COST is coming off another fantastic quarter with comps and traffic accelerating, and ecommerce comps rose 43.5% Y/Y. An additional driver in 2018 is the expected entry into China.

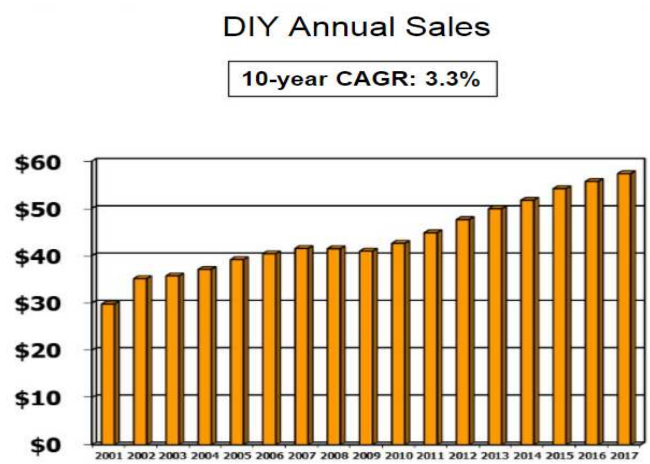
Burlington Stores (BURL) is a $7.55B retailer trading 22.95X Earnings, 1.29X Sales and posting strong growth numbers with 32% EPS growth this year, and 13.7% forecasted for next year. BURL is a strong inventory management story with comparable store inventory turnover rising to 5.87X in 2016 from 2.35X in 2008. BURL looks to expand into underpenetrated home & beauty markets, expand its tore base seeing room for 1,000 new stores, and expanding operating margins. BURL's off-price approach allows for ample room for growth while the margin expansion opportunity is clear.



Five Below (FIVE) is a $3.6B discount retailer trading 32.4X Earnings, 3.1X Sales and 53.1X FCF that has seen shares climb 67% in 2017. FIVE is one of the best growth stories in the industry and has a solid 12.9% ROIC, targeting 18.7% revenue growth next year. FIVE is a unique retail play targeting teen and pre-teen customers with a "Treasure-Hunt" shopping experience and has ample room for store expansion, management sees an opportunity for 2,000 stores in the US. FIVE has been a strong comp store and its digital initiatives driving strong brand awareness and customer loyalty, overall one of the more exciting long term potential stories in Retail.

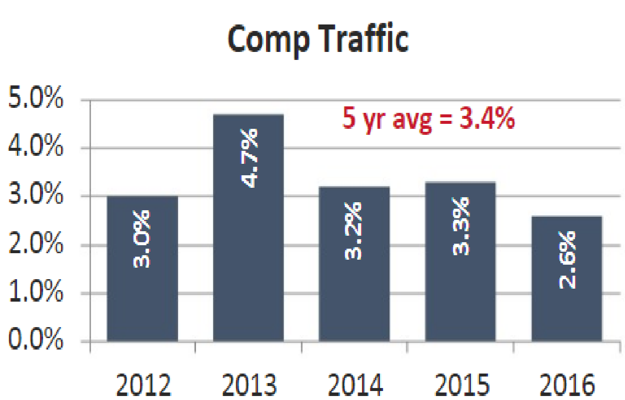
The Auto Parts retailers are all down YTD but have seen strong gains the last few months as the idea of Amazon knocking them out was a bit overplayed. **AutoZone (AZO)** trades cheap at 13.5X Earnings, 9.6X EBITDA and has comparable growth to the premium valued name ORLY as well as comparable margins and an industry-leading 38% ROIC. AZO will enter a period of easier comps on sales and margins, and Weather also a positive. AZO will see near-term impact as Hurricane Irma closed 10% of its stores and has 40 stores in Puerto Rice. AZO is coming off +2.3% compass, strongest in 7 quarters, and will look to continue that momentum into 2018. AZO is a leader in two massive industries, the first being Do-It-Yourself and the 2nd being Do-It-For-Me where AZO is growing in this $74B industry that is highly fragmented. AZO is also aggressive with buying back stock, reducing its share count nearly 25% since 2012. AZO is also highly correlated with the low-income demographic and itself will benefit from tax reform.

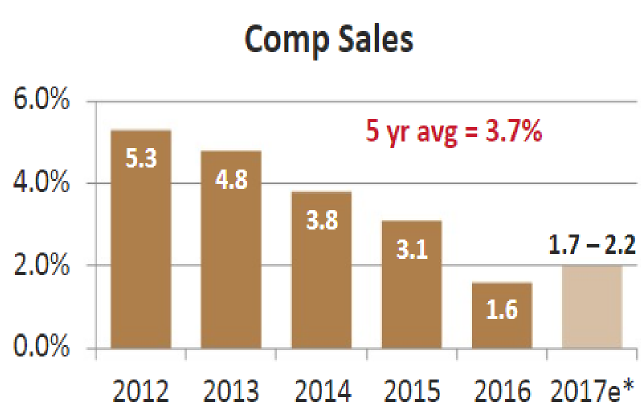




The housing related names had very strong years led by RH with over 220% gains, LL at +87%, and HD +36%. These results are as expected considering the strength and trends in housing, both new home and remodel.

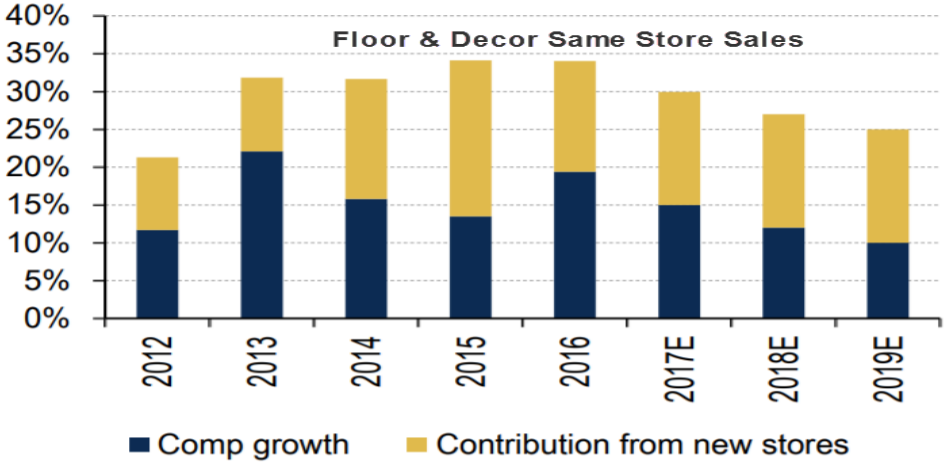
Tractor Supply Co. (TSCO) is a name that is down in 2017 but I see as a turnaround story as its end-markets for its customers improve. The $8.66B retailer trades 19.4X Earnings, 1.2X Sales and 23.8X FCF with a 1.58% yield. TSCO has a 19.8% ROIC and expecting two more years of around 6.5% revenue growth and EPS growth start accelerating next year again after a down year in 2017. Livestock & Pet is its largest segment accounting for 46% of sales followed by Hardware, Tools and Truck at 22%. It has raised store count 8% CAGR over the last five years and Comp Traffic has stayed positive even during the tougher times while Comp Sales looks to be hitting potential inflection in 2017. It sees expansion to 2,500 stores from 1,650 and made an interesting deal in 2016 acquiring Pet-Sense. It is also a margin expansion opportunity. TSCO is coming off a +6.6% comp quarter, best in 4 years, though Amazon's recent push into the pet category is a pending threat though TSCO skews to the older and lower income customers.





Home Depot (HD) with a $213B market cap coming off another strong year trading 21.85X Earnings, 2.15X Sales and 37X FCF with a 1.95% dividend yield remains the best positioned name to capture strength in the remodel market. HD has a 35.7% ROIC and continues to post very strong comps each and every quarter. HD's strategic focus is on integrating the supply chain & enhancing the delivery model, expanding into new categories and enhancing the store experience. HD will also be a big beneficiary of tax reform. HD has tended to exceed its targets and expects annual comp growth of 4.5-6% through 2020. It remains one of the strongest names in Retail and there are no signs of that trend slowing with the Macro and Industry backdrops improving.

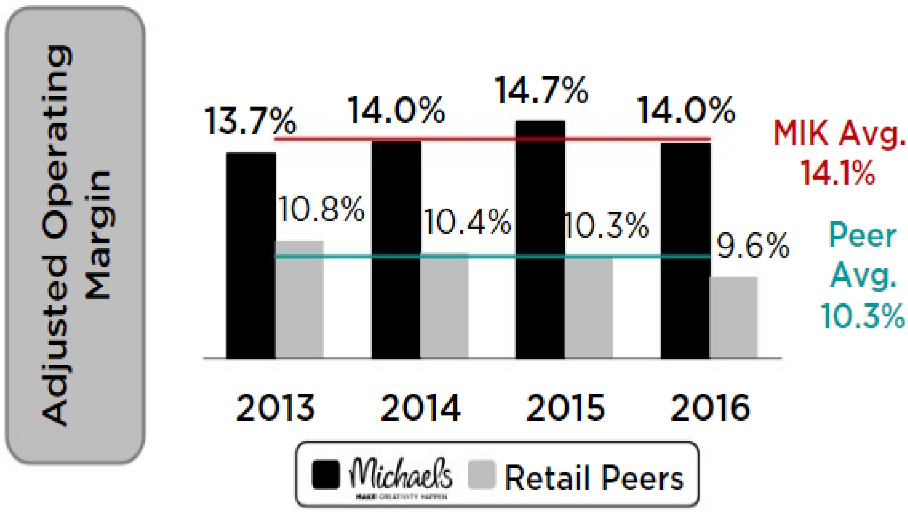
Floor & Décor (FND) narrowly edges out the established name William Sonoma (WSM) which is a value at this level with its 26% ROIC, and RH (RH) which has been a momentum name that could be a takeover target in 2018. FND has a $4B market cap trading 51.5X Earnings and 3.2X Sales with a 11.5% ROIC, the rapid growth name of this group. FND is coming off +16% comps and has executed well since its IPO, a conservative management team for one of the strongest long-term growth stories in retail. FND will also benefit in a 10% reduction in its tax rate and it operates a great business model with best in class assortment, pricing, and has a strong presence with professional customers.



In the specialty group we have seen the majority of the names struggle in 2017 due to online competition, while Best Buy (BBY) was a standout gaining more than 50% YTD. I see little future upside for the names closely correlated with shopping malls, like GameStop (GME), Foot Locker (FL), and Signet (SIG). Party City (PRTY) also feels like a dying business.

Ulta Beauty (ULTA) has struggled in 2017 but remains a top operator with a 26.7% ROIC and double digit growth. Shares seem to be finding support at the 40 month moving average and also seeing sizable insider purchases support the name near the $200 level. ULTA has a $13.4B market cap and valuation now more reasonable at 22.25X Earnings, 2.43X Sales and 63.65X FCF. ULTA operates in the highly fragmented beauty industry that is growing above industry averages. It estimates it only has a 4% share of the $134B beauty market, 6% share of the $81B beauty products market and < 1% share of the $53B services market. It has a strong loyalty program that provides a steady lift to sales and growth rates of active members have accelerated the last two years. ULTA is also seeing rapid growth in e-commerce where it targets 10% penetration by 2019. ULTA shares are being revalued with comp growth decelerating and margins facing some pressures from the promotional environment, but it still has comps well above nearly every other retail peer. ULTA posted a 63% rise in e-commerce sales last quarter.

Michael's (MKS) is the small cap favorite in the group trading 9.45X Earnings, 0.74X Sales and a leading ROIC above 34% and industry-leading operating margins. After recently shopping in a MIK store it truly has that "Treasure-Hunt" experience that can curtail threats from online competition, and the craft revolution appears to be as strong as ever with the prominence of Etsy. MIK is seeing success on the e-commerce side and also with its rewards program launched in 2016. The Arts & Crafts industry is highly fragmented and estimated at around a $35B market and has one of the lowest online penetration rates among the retail categories. Uneven sales trends is one deterrent to MIK as 55% of sales come from one-time customers over the course of the year. MIK has been active enhancing the store experience targeting families as it offers a variety of crafty classes, and likely results in better store traffic and more consistent customer spend patterns. MIK should start off 2018 strong with strength in seasonal products.



Media, Advertising and Entertainment:

Components:*AMC,AMCX,CBS,CCO,CMCSA,CNK,DIS,DISCA,FOXA,HSNI,IMAX,IPG,LBRDK,LGF,LMCK,LYV,MSG,NFLX,NWSA, NXST,OMC,OUT,QVCA,RGC,SBGI,SIX,SNI,TGNA,TV,TWX,VIAB,WWE,FWONA,TRCO,GTN,SSP,MSGN,MCS,FUN,DISH, ROKU, CHTR*

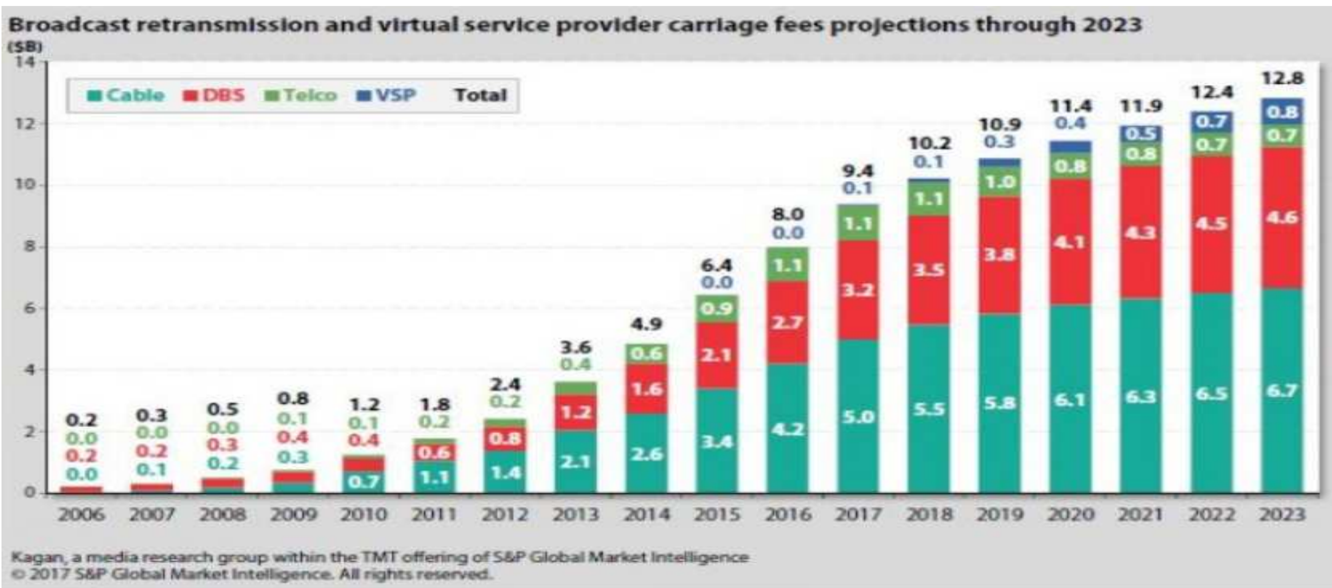
The Media stocks have underperformed the market for the most part in 2016/2017 as pressure continues to come from "cord-cutting". Consolidation is one major theme in the group with AT&T vying to acquire Time Warner, Discovery buying Scripps, and Disney now acquire Fox. The next two to tie-up may be CBS/VIAB in 2018. The cable industry may benefit from the new administration with the reversal of the Open Internet Order derisking retail price regulation, and also less regulatory interference overall. WWE, LYV, and NFLX were the top performers in this group in 2017. In the movie theater group Regal (RGC) recently received a $3.6B buyout offer from Cineworld and AMC Entertainment (AMC) has activist involvement, so a changing landscape. The alternative theme park names **SIX & FUN** are nice spots for dividend investors with 4.19% & 5.22% respective dividend yields. **Charter (CHTR)** remains a highly likely takeover target while **Dish Network (DISH)** is always tricky to evaluate because the underlying business trends are rather poor but it is seeking M&A and has value tied up in Spectrum assets.

Disney (DIS) is an attractive name into 2018 as it looks to integrate its massive deal for 21st Century Fox assets while also having strong catalysts with Theme Parks, Box Office, and the launch of its stand-alone streaming service. At 17X Earnings, 3X Sales and 22.4X FCF with a 1.5% yield and Iger set to be at the helm for at least three more years, it looks ready to make a move back to new highs after a year it performed below the market at just +6.5%. DIS is finishing the year with Star War's and Frozen 2 is set for late 2019. ESPN has been the big drag on shares and still not seeing a real turnaround there, but the streaming product could do the trick. DIS should be revalued at a higher multiple once its Direct-to-Consumer product launches and subscriber growth will come into focus as a key metric.

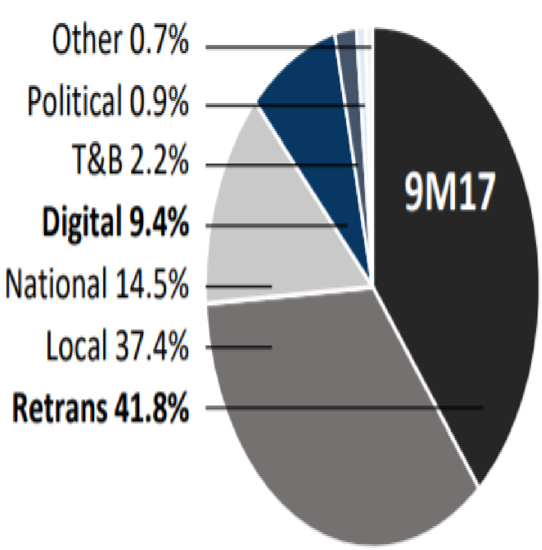
Netflix (NFLX) remains the leader in streaming and has completely shifted the landscape in Media, and original content has made its service one that consumers refuse to give up while having strong pricing power to improve margins/profits. NFLX is still growing revenues and subscribers, the latter via International expansion, but the operating leverage story is the current focus with a powerful EPS growth cycle that started this year as it is set to earning $1.25/share and projects $5.65/share in 2020. 2018 could be a trickier year with the implications from the Net Neutrality vote, the DIS/FOXA combination, and continued competitive pressures from Amazon & Google among others. NFLX still has a nice 2-3 year runway before it hits peak subscribers and valuation becomes more of a concern.

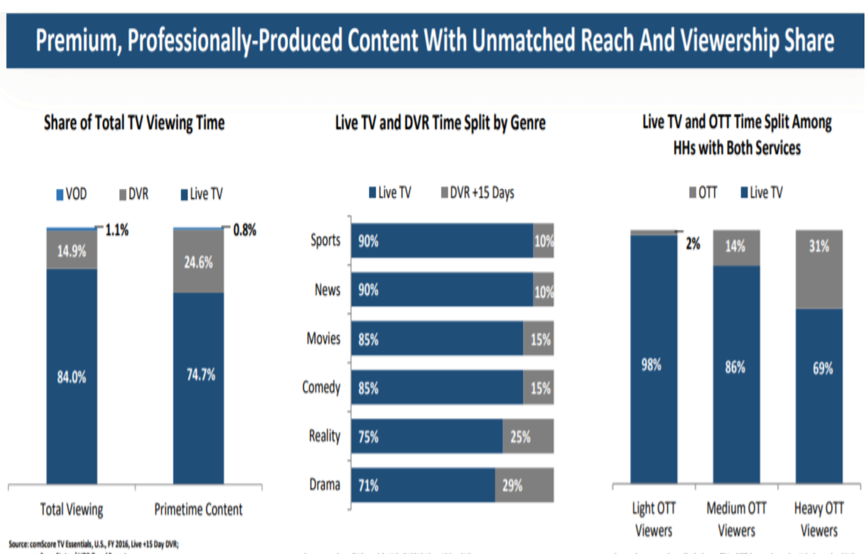
Comcast (CMCSA) has a $189B market cap trading 18X Earnings, 2.25X Sales and 11X FCF with a 1.6% dividend yield, and shares +15% YTD despite a volatile year it remains a top operator in the group. CMCSA enters 2018 with two big wins on the legislative side with tax reform and the net neutrality vote. CMCSA is a consistent grower that has been posting its best numbers in decades. NBC Universal accounts for 28% of EBITDA and remains an intriguing asset if it looks to join in on the consolidation theme, or it could make a move into wireless with CHTR/VZ two potential assets if it does a transformational deal. Overall, CMCSA is the best operator in the Media space with plenty of upside optionality while trading at a more than reasonable multiple.

CBS Corp (CBS) shares are down around 7% on the year and the $23.7B Co. trades 11.8X Earnings, 1.9X Sales and 27.4X FCF with a 1.22% dividend yield. CBS leads the group with a 14% ROIC and has been a consistent grower. CBS has managed well in a year that had tough Y/Y comps due to the Election and Olympics. CBS also has its own DTC product with CBS All Access. CBS is providing healthy capital returns, seeing strong growth in retransmission fees, leading audience ratings, and a growing platform with potential to do a key M&A deal in 2018, or itself it a very attractive M&A target for its unique content & distribution model with a declining exposure to advertising revenue.



Nexstar Media (NXST) is a $3.4B media Co. trading 10.4X Earnings, 1.63X Sales and 59.1X FCF with a 1.59% dividend yield. NXST is one of the largest North American local media companies with the second largest household reach in the US as a pure play broadcast television and digital media leader. NXST is integrating its strategic Media General (MEG) deal. It is diversifying its revenue mic with Retransmission and Digital. NXST reaches 4 states in 100 market with a 26% household reach and a growing digital business. Despite the rapid changes in distribution technology traditional TV continues to dominate with American adults spending 16% more time with TV than all media combined. NXST is a top execution story in the group and Political spending continues to provide upside while 2018 is expected to be a tough year for growth, and further FCC deregulation and tax reform are additional tailwinds.



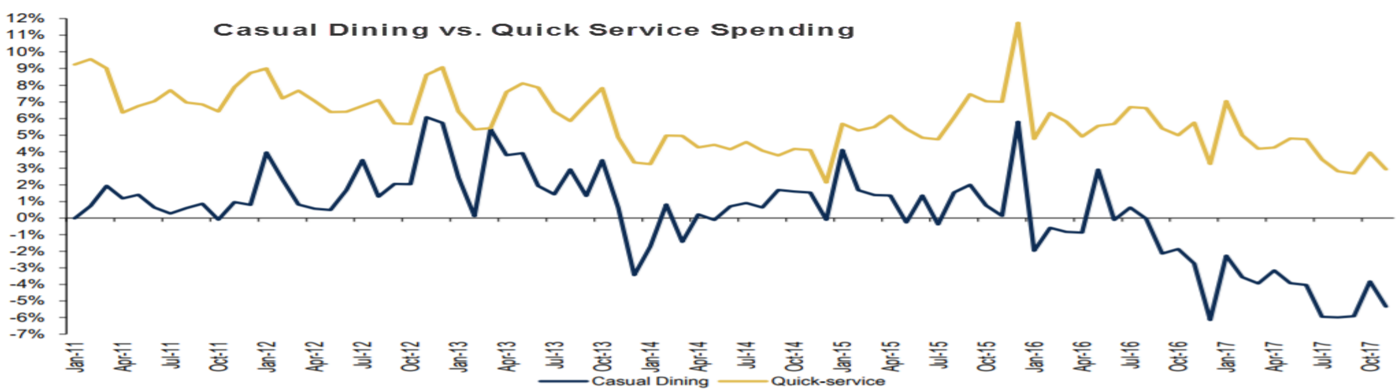


Roku (ROKU) is the newcomer to the group carrying a $5.33B market cap as a provider of a streaming platform. ROKU is leading the way in a rapidly evolving TV streaming ecosystem and saw platform growth of 137% last quarter with active accounts +48%, streaming hours +58%, and ARPU +37%, very impressive metrics. Although it is too early to effectively value ROKU it is posting extraordinary growth numbers that make it a highly speculative, but attractive investment. In 2017, 1 in 5 smart TV's sold were licensed ROKU TV's. ROKU has a lot of meaningful upside drivers to revenues and looks to be the start of a very successful Tech/Media story.

Restaurants & Grocery:

Components:*ARMK,BJRI,BLMN,CAKE,CASY,CBRL,CMG,CORE,DIN,DNKN,DPZ,DRI,EAT,IMKTA,JACK,KR,MCD,PFGC,PLAY,PZZA,QSR,SBUX,SFM,SHAK,SONC,SYY,TXRH,UNFI,USFD,WEN,WING,YUM,YUMC,DENN,BH,RRGB,RUTH,FRGI,BOJA,TACO,CHUY*

In 2017 it was a fairly even split with this group with about half the names positive and half negative. Sales have softened across the industry as a whole and rising commodity and wage pressures remain a headwind into 2018. The quick-service space outperformed with YUM, MCD, QSR and DRI leading performance along with newcomer WING. M&A was a new theme later in the year as Buffalo Wild Wings (BWLD) was bought for $2.3B by private-equity and Bob Evans Restaurants acquired by Golden Gate Capital. Panera Bread (PNRA) was acquired earlier in the year by JAB for $7.5B and Popeye's Kitchen was acquired by Restaurant Brands (QSR) for $1.8B. Jack in the Box (JACK) is also set to sell its Qdoba chain for $300M. The grocer landscape really changed this year as Amazon (AMZN) agreed to buy Whole Foods (WFM) for $13.4B. Q3 and Q4 trends are showing some hope for an inflection in comp recovery for the restaurant industry with Pizza and Quick-Services showing the most strength. Traffic remains weak, however, and rising tickets have been the offset. M&A and tax reform have been the biggest drivers of Q4 strength as fundamentals remain shaky. Knapp-Track casual dining same store sales for November were +0.6% with guest counts down 1.8% and average check +2.4% with high-end steakhouses a bright spot for the last two months.

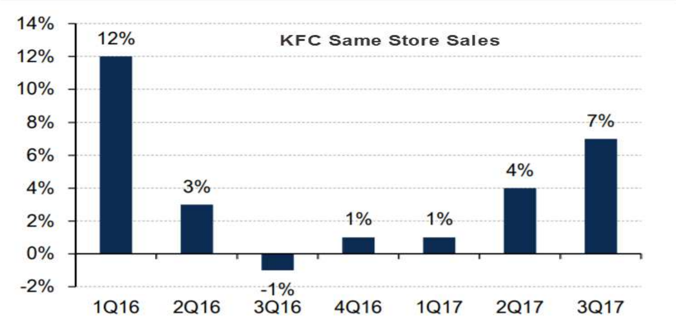


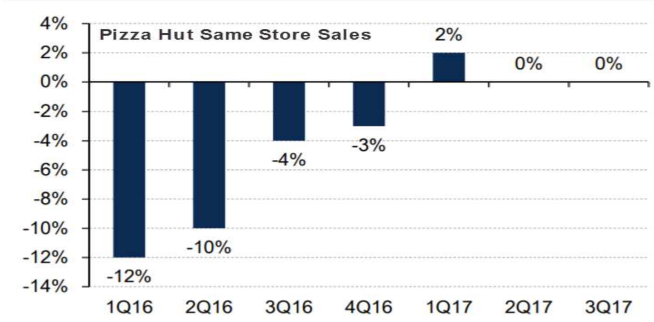
First, looking at the $5B+ restaurants the group trades at 24.7X Earnings, 4.7X EV/Sales with a 19.1% ROIC. A few important industry-specific metrics to consider are sales per labor hour, average cover, up-selling, and food costs.

Dunkin' Brands (DNKN) surprisingly has just a $5.55B market cap trading 23.35X Earnings, 6.55X Sales and 40.3X FCF with a 2.1% dividend yield. DNKN has industry-leading EBITDA margins and still has ample room for expansion in Domestic and International markets. DNKN is undergoing profitability initiatives that should bear fruit in 2018 and its menu overhaul is improving traffic and average tickets. DNKN operates an asset-light model with 100% franchised and Baskin Robbins is a small contributor as 18% of revenues. DNKN has seen comps come under pressure but its new initiatives look ready to re-accelerate comps and drive shares higher. DNKN is seen doubling its current store base to 18,000 over the long term. DNKN still trades at a discount to an implied takeout value of $72/share based on industry comparable deals.

Restaurant Brands (QSR) as a $14.7B quick-service leader trading 22.9X Earnings and 3.4X Sales with strong EPS growth and cash flows. QSR acquired Popeye's Kitchen earlier this year adding to tis Burger King and Tim Horton brands and reportedly is open to doing another deal, possibly entering a new market such as Pizza with Papa John's. The PLKI integration should be a positive story in 2018 as it was always one of my favorite names in this industry. QSR's 4.8% FCF yield remains well above peers. QSR operates a high quality, capital-light business model with strong cash flow. QSR has some of the best earnings growth potential in this group and is a core own within the QSR names.

Yum China (YUMC) has a $15.65B market cap after its spin-off from YUM and trades 25X Earnings, 2.27X Sales and 26.1X FCF with a 0.99% yield, a great way to gain exposure to China. The success at KFC has resulted in shares gaining more than 50% this year and now a turnaround in Pizza Hut can be the next driver though it will see margin pressure over the next few quarters. YUMC is also building out a digital & delivery model, becoming a Tech leader in this industry with strong delivery and mobile order numbers the last few quarters. YUMC is a solid combination of unit growth, margin expansion, and improving same store sales.



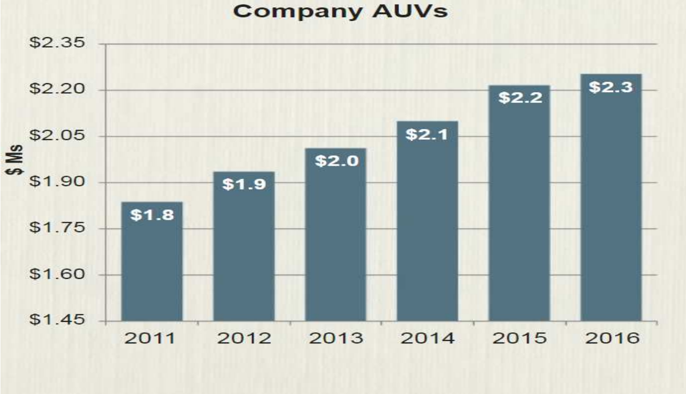


Domino's Pizza (DPZ) is a name that needs to be included with the top names of this group due to its outstanding comp growth performance and the overall strength in Pizza versus other areas. The $8.2B Co. trades 26.9X Earnings, 3X Sales and 39.55X FCF with a 0.99% dividend yield. DPZ should be able to deliver 7.8% global unit growth and 11% global system sales growth next year, operating at faster growth but trading in-line with slower growth peers on an EV/EBITDA basis. DPZ is seeing a ton of success from its loyalty program. The main risk here is growth may have peaked and increased competition from food delivery as well as the rising labor costs. DPZ should see 20% higher EPS from tax reform.

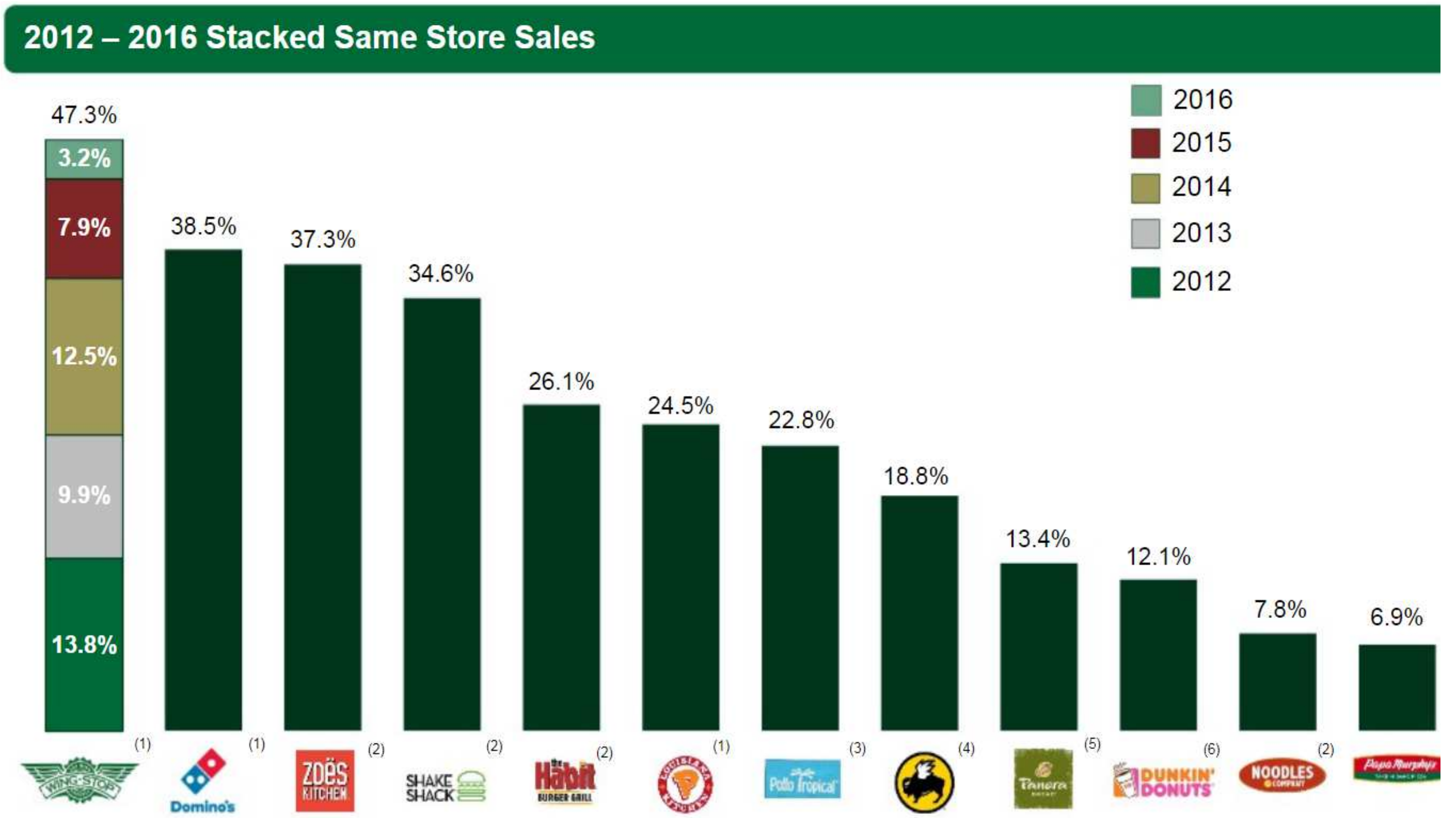
For the sub $5B names WING and SHAK as growth names with a ton of room for expansion were the best performers in 2017. There are a number of potential M&A targets in this group like Cheesecake Factory (CAKE), Papa John's (PZZA), Red Robin (RRGB), Bloomin' Brands (BLMN) and Ruth (RUTH).

Texas Roadhouse (TXRH) has a $3.75B market cap and has been a consistent performer with shares up just 8% in 2017 trading 24.25X Earnings, 1.74X Sales and yielding 1.6%. TXRH has one of the best growth profiles among these names and a strong 9.3% ROIC. TXRH is a top beneficiary from tax reform as well and has the most room for margin expansion. At 12X EBITDA, TXRH trades at a premium, but it continues to deliver numbers well above industry averages. TXRH continues to gain market shares and grow its store base, while labor costs remain the key headwind.

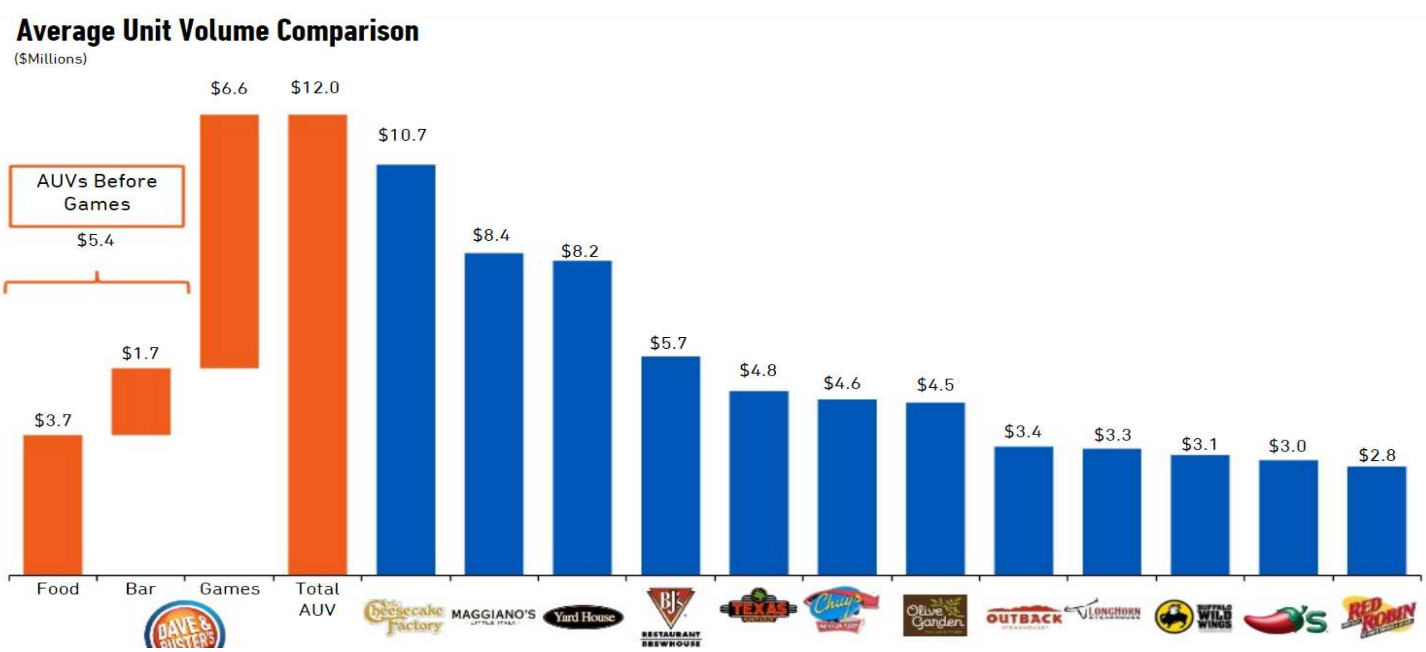
Denny's (DENN) has an $875M market cap trading 22X Earnings, 1.67X Sales and 16.55X FCF with a leading 24% ROIC among these names. DEN has posted same-store sales growth for six consecutive years and been expanding both in the US and in International markets with an asset-light model as 90% franchised. DENN has a revamped menu and launched mobile ordering as well as delivery. DENN is one of the most under-appreciated stories in my view with consistent profitability, expanding margins, growth opportunities, strong FCF, and consistent capital returns.



Wingstop (WING) currently has a $1.19B market cap with shares gaining 38% YTD, trading 11.65X Sales. WING leads the industry with 13-15% unit growth, best-in-class same store sales growth, and a shareholder friendly model for returning capital and deleveraging. WING has a ton of room to grow in US and International markets with a franchise friendly model. It is also doing a great job online with take-out orders, 60% of its restaurants seeing > 20% of sales online where tickets tend to be higher and it is testing a delivery model. WING is also stepping up its National advertising efforts which has already seen a strong improvement in sales trends. WING shares could cool in the near-term, but longer term it is the most compelling growth story in the industry.



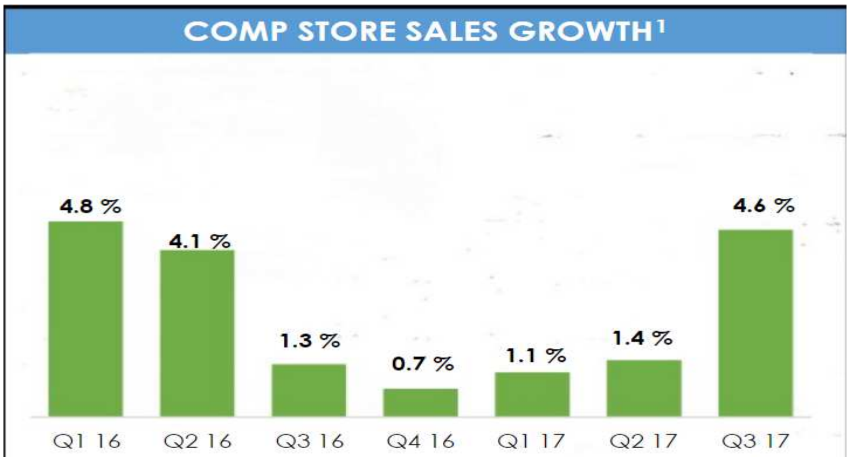
Dave & Buster's (PLAY) has a $2.28B market cap trading 19.5X Earnings, 2.05X Sales and 39.15X FCF with 13.2% ROIC and 23.7% EBITDA margins. PLAY offers a unique guest experience and has been posting consistently strong comps and AUVs while having an untapped International opportunity. PLAY leads the industry with operating margins and also operating income before D&A margin. Comps have weakened in 2H17 that has caused shares to pull back but into FY18 a new VR platform could accelerate comps and new food initiatives also launching. PLAY is a prove-it story in 2018, and once we see comps begin to improve again, a name to own due to its outstanding metrics compared to peers.



Ruth Hospitality (RUTH) has a $678M market cap trading 18.75X Earnings, 1.7X Sales and 22.5X FCF with a 1.67% yield and is a play on the strong trends being seen at high-end steakhouses. RUTH carries an impressive 23% ROIC. RUTH is a consistent growth store with a franchise model. RUTH was impacted heavily by the recent weather events but shares remain near highs as the story remains intact.

Lastly, the food suppliers and grocers (KR, SYY, ARMK, CASY, SFM, PFGC, CORE, IMKTA, USFD) trade at average 9.9X EBITDA with 5.3% EBITDA margins and 6.7% ROIC. This is not a very exciting group for a growth investor.

Sprouts Farmer Market (SFM) has a $3.2B market cap trading 21.55X Earnings, 0.7X Sales and 20.2X FCF with double digit revenue and EPS growth, a clear M&A target in the consolidating grocer space. SFM targets the positive trends seen in fresh, natural and organic foods and is opening ~ 30 stores per year. SFM is coming off a solid quarter with improving traffic and strong new store productivity, also beating on margins. SFM will be expanding into MD, WA, SC, and PA in 2018.



Sysco (SYY) has a $32B market cap as a leading food distributor, trading 20.4X Earnings, 0.57X Sales and 51.5X FCF with a 2.36% yield. SYY is a steady growth name with revenue growth seen in the 3-5% range while EPS in the 9-12% range. SYY has also been a target of activist Nelson Peltz. SYY recently gave its long term forecast showing strong EBIT improvement, and is leveraging data and insights to grow its market share. SYY also has ample capacity to do strategic M&A. SYY acquired HFM Foodservice recently to access the growing Hawaiian market. SYY is not flashy, but provides a solid value/yield with consistent growth and room for upside from M&A, market share gains, and cost-controls.

Business Services and Consulting:

Components:*ABM,ACN,ASGN,ARMK,BAH,BRC,CDW,CEB,CMPR,CTAS,CTSH,CVG,DLX,DNB,DST,EXPO,FCN,G,GIB,GK,HCSG, HURN,IRM,IT,KFY,MAN,MMS,QUAD,RHI,TMH,UNF,WIT,XRX,CNDT,NSP,EXLS,LABL,PSDO,ICFI,NCI,TBI,KELYA,KFRC,SEND*

This group includes a variety of different companies but all involved in servicing businesses in some manner, ranging from IT to Staffing to Uniforms to Consulting to Facility Maintenance. Staffing companies had very strong years with employment markets strong, ASGN, KFY and MAN each gaining 40-45% YTD. ACN, CDW and CTSH each had very strong years up around 30% in IT despite all the concerns with tightening borders. Business optimism continues to climb and tax reform will lead to increased business spending, so overall a positive outlook or many of the companies.

Starting with the staffing firms and the uniform/facility service firms:

Cintas (CTAS) is a $16.65B leader in uniform and facility services trading 26X Earnings, 2.95X Sales and 27.6X FCF with a 1% dividend yield. CTAS is forecasting 20% revenue growth in 2018 and 28.5% EPS growth driven via acquisition (G&K) and organic growth. CTAS recently raised its dividend and has plenty of room for margin expansion while also being a top beneficiary of lower corporate tax rates. The main focus here remains on the progress of integrating its key deal for G&K and likely 2018 estimates remain too conservative.

Man-Power (MAN) is an $8.25B workforce solutions company trading 16.3X Earnings, 0.4X Sales and 22X FCF with a 1.5% yield. MAN is targeting another year of 6%+ revenue growth in 2018 and double digit EPS growth. MAN is benefitting from the strong recovery story in Europe and has potential for much greater numbers if the sluggish US and UK markets can start to turn. Workforce trends remain positive for further penetration and emerging markets are also a potential area of growth. MAN is delivering strong results despite some headwinds and margin pressures and trades at a very reasonable valuation.

Korn Ferry (KFY) and On Assignment (ASGN) are neck and neck for the best small cap play, but going to lean KFY on valuation because the other metrics are very close. The $2.4B talent management company trades 15X Earnings, 1.48X Sales and 2.1X Book with a 0.95% yield. KFY has its highest exposure to the Industrial segment at 30%. KFY is seeing steady growth in fees and EBITDA margins. KFY is coming off a very strong quarter and think it closes the valuation gap with peers in 2018.

Onto the IT related names:

Cognizant Tech (CTSH) remains my preferred large cap though Accenture (ACN) is a great company in its own right. CTSH has a $42.4B market cap trading 16.6X Earnings, 2.95X Sales and 24X FCF with a 0.83% yield. CTSH spent years growing revenues 20%/year and in 2016 grew only 8.6%, so shares were revalued but it sees 8-10% forward revenue growth and 15% EPS growth, so still very cheap for its growth. CTSH is accelerating the shift to digital for enterprise clients with Financial Services its top segment followed by Healthcare. The H-1B Bill remains a potential headwind with a vote possibly coming in 1H18. CTSH is targeting margin expansion to 22% in 2019. Digital is now more than 25% of revenue and Healthcare segment is turning positive while the restructuring story from the activist push will continue to play out the next few years.

Gartner (IT) was a top pick last year and returned a solid 20%, and remains a strong operational story as a leader in IT research. IT is a strong growth story with 15%+ EPS growth seen 2017-2019. IT started the year with an acquisition of CEB for $2.6B that will continue to be an upside driver in 2018 as integration is worked out and it expands the addressable market. IT is growing its salesforce and seeing improving productivity. The potential shrinking margins is a risk, but the topline growth is too impressive to ignore.

DST Systems (DST) has a $3.65B market cap as a provider of various solutions for businesses, trading 16.8X Earnings, 1.8X Sales, and yielding 1.2%. Financial Services accounts for over 70% of business with Asset Management, Brokerage, Retirement, Distribution and other services while Healthcare Services include Pharmacy Solutions and Medical Solutions. DST's early 2017 acquisitions of State Street JV's sets up for multiple years of realized synergies. DST is a value play trading at a discount to peers with double digit EPS growth, similar margins and a healthy balance sheet.

Of the remaining names in this group that stand out:

Exelservice (EXLS) is a $2.08B provider of operations management and analytics trading 22X Earnings, 2.8X Sales and 24.77X FCF with a clean balance sheet. EXLS is posting a 10.6% revenue growth year and sees 8-10% the next two years as well. EXLS is a small player in large markets, Operations Management expected to be a $225B market by 2020 and Big Data & Analytics a $200B market. EXLS is positioned for the automation & robotics trends and continues to invest in the Digital business. EXLS is a very profitable company operating in large and growing markets, a real standout small cap that is a long term name to own. EXLS stands to benefit from the growing number of digital transformation projects.

Exponent (EXPO) has a $1.86B market cap as a science & engineering consulting company trading 34X Earnings, 5.55X Sales and yielding 1.17%. EXPO has 25% EBITDA margins and a 17.8% ROIC. EXPO is beating estimates by a healthy margin and seeing positive market trends for its business. EXPO has long worked with the auto making industry and could see benefits as a consultant for the big shift to autonomous driving.

<u>Publishing and Education:</u>

Components:*ATGE,EDU,GCI,HMHC,JW.A,LOPE,PSO,RRD,SCHL,TIME,XRS,GHC,LAUR,BEDU,TAL,STRA,CPLA,HLG,MDP,NYT,NEWM,TRNC,LRN*

This group saw some large upward moves in 2017 with the Chinese education market specifically strong. LOPE was last year's top pick and is up 57% YTD. NYT was another interesting name is this group returning 40% for the supposedly dying newspaper business as it has successfully transitioned to online. The group contains a lot of low growth and low margin names but there are a few worth investments.

New Oriental Education (EDU) is my preferred approach to exposure to the robust growth in Chinese education markets. EDU has a $14.15B market cap trading 29X Earnings, 7.35X Sales and forecasting 30% revenue growth in 2018 and sees a long runway for strong EPS growth as well. EDU is seeing robust growth from Chinese students studying abroad, English language training, and a growing market size for after school tutoring. EDU has seen some near-term margin pressures but rising ASP, operating leverage, dual-teacher classes, and shortened course length can lead to margin expansion. EDU is a leader in a strong secular trend that is gaining market share, a great growth investment.

Grand Canyon (LOPE) continues to screen the best among US names, The $4.4B Company trading 22.45X Earnings, 4.65X Sales and 18X FCF with a clean balance sheet. LOPE has a 20% ROIC and impressive margins with strong FCF. LOPE has beaten analyst expectations for 28 consecutive quarters and coming off a quarter of 11% enrollment growth.

Meredith Corp (MDP) is a $3B diversified media Company that recently agreed to buy Time (TIME) for $2.8B. MDP expects to see $400-$500M in synergies from the deal. The resultant company will have 33% exposure to print advertising, 26% to circulation, 16% to digital, 14% to broadcasting and 11% to licensing. Its digital assets are also a potential source of upside with combined unique visitors trailing only industry behemoths like GOOG, YHOO, MSFT, AMZN and AOL. MDP is an interesting diverse media play that also is a synergy play in 2018.

<u>Travel, Leisure and Gaming:</u>

Components:*BYD,CAR,CCL,CHDN,CHH,CTRP,EXPE,FUN,H,HLT,HTZ,IGT,IHG,LVS,LQ,MAR,MGM,MTN,NCLH,PCLN,PENN,RCL,RRR,SABR,SGMS,STAY,TRIP,VAC,WYN,WYNN,TRVG,HTHT,PK,PLYA,GDEN,BXG,PNK,ERI,ILG,HGV,MLCO,CZR*

This group includes Casinos/Resorts, Lodging and Rental Cars, Online Travel Agencies, and Cruise Ships. Overall the group saw strong returns in 2017 with a number of names climbing 50% or more. The casino names continued momentum from late 2016 into 2017 as Macau markets recovered and the US gaming markets also strengthened. Japan remains a major market for opportunity and the US gaming market may be changing with potential legalization of sports betting in New Jersey.

Beginning with the casino a& gaming related names we have a group of 12 stocks trading on average 25X Earnings and 11.7X EBITDA. News late in 2017 came with PENN and PNK in merger talks. A few other recent deals with smaller players included PNK buying Ameristar Casinos and Eldorado buying Isle of Capri Casinos. CHDN remains an interesting small cap that was a top pick last year and gained 45% in 2017, but recently decided to sell its Big Fish Games unit that was one of the reasons I picked the name.

Wynn Reports (WYNN) seriously outperformed peers in 2017 and now trades at a modest premium but continues to have the strongest growth profile in the industry. WYNN's $17B market cap is surprisingly strong for a leader in a massive industry and trades 25.5X Earnings, 2.85X Sales and yields 1.2%. WYNN is set to grow revenues 38% this year and EPS 54% and sees 2018 growth rates at 5.5% and 24.7% respectively. WYNN recently bought 38 acres of land on the Las Vegas Strip as it expands its presence. WYNN can be volatile with monthly Macau numbers but trends continue to look strong as we enter 2018 and it is best positioned.

Scientific Games (SGMS) is a $4.5B maker of technology for the gaming and lottery industries trading 1.5X Sales and 23.35X FCF. SGMS is positioned well for increased casino openings across the country boosting demand for hardware and has been focusing on cutting costs to improve margins and solidify the balance sheet. SGMS also has a pending deal for NYX Gaming. SGMS has been positive on lottery performance and taking market share in gaming with 30% Y/Y replacement growth last quarter. The new CEO is transforming the company through better execution to deliver stronger FCF.

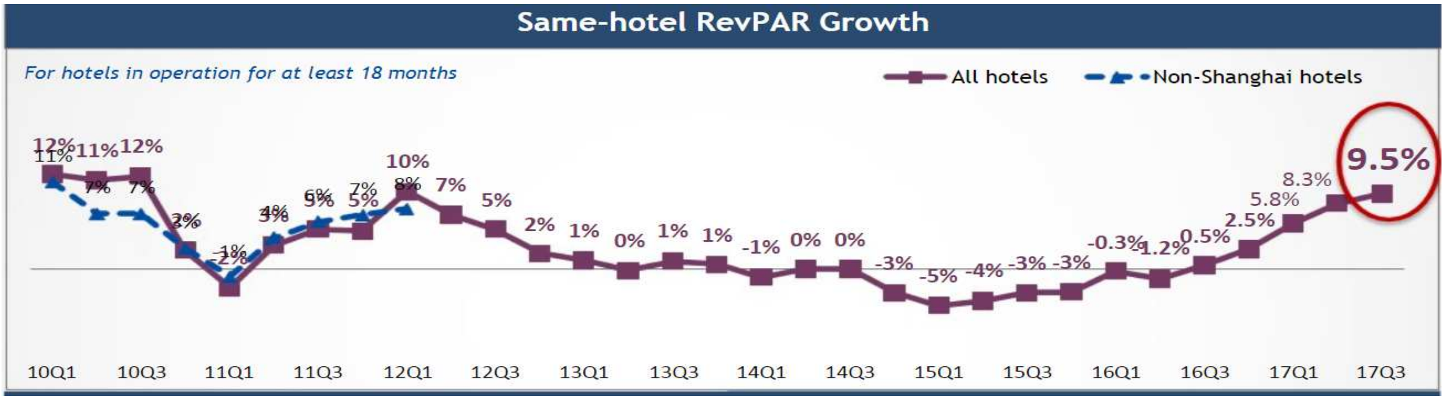
RevPAR is a key metric used for the lodging industry, an indicator that is highly correlated with GDP on a 6 month lag. Recent earnings across the hotel group with occupancies, rates and margins suggest the group is in the late cycle, but the potential for renewed economic strength can extend the move. The industry also faces stiff competition from home-sharing companies like Airbnb and Home-Away. The industry faces a supply/demand imbalance which is a headwind that limits pricing power, and occupancy is already at its highest level in 35 years. I do not have any interest in the car rental companies due to the many headwinds in that industry.

The 10 lodging stocks are trading on average 29.7X Earnings, 14.9X EBITDA and an 8.3% ROIC. Seven of the ten names are +26% or more in 2017 led by the large caps MAR and HLT.

Hilton (HLT) with a $24.5B market cap is my favored lodging name trading 33.7X Earnings, 2.5X Sales and 32.5X FCF with a 0.78% yield. HLT is guiding for 7% revenue and 20% EPS growth in 2018. HLT is seeing benefits of its Honors loyalty program and its franchise structure is very efficient. HLT also is a leader on the development front outpacing peers. RevPAR growth has been lackluster, the latest quarter at +1.3%, but fee growth remains strong and it has raised EBITDA guidance three times this year. HLT's capital light, unit-driven business model is attractive and can driver a lot of upside while tax reform and RevPAR acceleration can even add more value.

Vail Resorts (MTN) is an $8.8B leader in the ski resort space trading 30.7X Earnings, 4.6X Sales and 53X FCF with a 1.9% dividend yield. MTN grew revenues double digits for four straight years until 2018 expected to be a 9% growth year while EPS set to jump more than 25%. MTN has 6 of the top 10 visited resorts in North America and has focused on data-driven marketing. Season Pass has posted a 12% CAGR since 2012 and MTN also is active in acquisitions. The EBITDA margin expansion story has been impressive, 31.2% in 2017 up from 21% in 2012. Early indications of soft snowfall conditions could weigh in the near-term, but the MTN long term story remains robust. MTN is a must-own in this group for its excellent assets.

China Lodging (HTHT) has a market cap of $8.3B and a great way for exposure to the Chinese leisure market, trading 32.3X Earnings, 7.2X Sales and 24X FCF. HTHT is closing 2017 with 32% Y/Y revenue growth and 77.5% EPS growth and targets 22.5%/32.5% respectively in 2018. HTHT is posting 14.5% RevPAR growth, seeing acceleration. HTHT's membership program surpassed 100M in November, up from 49.1M in 2015. HTHT expects to equip half of its hotels with automatic check-in platforms next year and is targeting 650-700 openings in 2018. The Chinese lodging industry is very fragmented and HTHT is emerging as a powerhouse player.

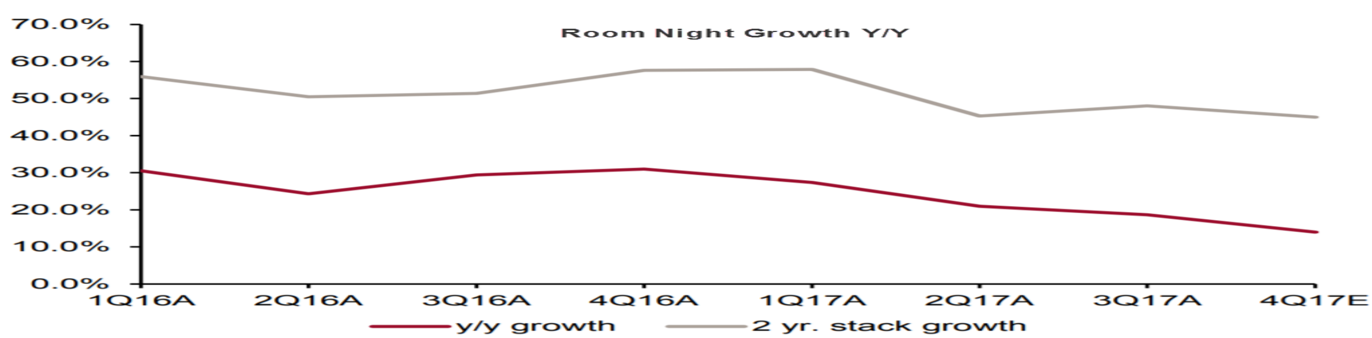


The vacation ownership group includes VAC, HGV, BXG, WYN, and ILG. The group trades on average 20X Earnings, 13X EBITDA with 20% EBITDA margins and an 8.6% ROIC. ILG has received a takeover offer from VAC and likely see a deal in 2018.

Hilton Grand Vacations (HGV) is a $4.15B timeshare Company trading 19.7X Earnings, 2.47X Sales and 13.4X FCF. HGV screened best to peers on a number of metrics including a 14.4% ROIC, and sees 5.4% revenue growth for 2018. HGV has 269K members and seeing an 8% CAGR while generating strong FCF and increasing its ROIC. HGV has a different business model with 56% fee-for-service. HGV has also steadily rose its market share to 13% from 5% and has the best net owner growth in the industry. HGV also has plenty of capital to deploy and has the advantage of its relationship with Hilton (HLT).

The last two groups to look at are the Online Travel (OTA) and Cruise companies. The OTA's have a few industry-specific metrics always looked at such as gross bookings and room night growth. TRIP is a compelling M&A target as we enter 2018.

Priceline.com (PCLN) with an $86B market cap trading 21.15X Earnings, 7.1X Sales and 19.1X FCF remains the best OTA in the World. PCLN has a 22.7% ROIC and a long runway for double digit revenue and EPS growth through at least 2020. PCLN has changed its marketing strategy to get a higher mix of direct traffic, and will see easier comps starting in Q1. PCLN continues to post impressive room night growth numbers but do want to see the deceleration end. PCLN has higher exposure to the International markets and a healthy alternative accommodations business. The new marketing strategy is expected to benefit long-term margins and enhance market share, and PCLN has closed 2017 weak due to a conservative outlook and the uncertainty that this strategy shift caused.



The cruise industry looks to be positioned well into 2018 with a strong travel market and rising consumer confidence. The addition of routes to Cuba can boost growth. Cruise Lines International forecasts 27.2M people will take cruises in 2018, up 5.4% Y/Y.

Royal Caribbean (RCL) has a $26B market cap and my preferred name in the cruise liners, trading just 14.55X Earnings, 3X Sales, and 13.1X FCF. RCL is targeting more than $10/share in earnings by 2020 and double digit ROIC. RCL managed well through the Hurricane headwinds and the cruise industry looks set for another strong year in 2018. RCL is at the forefront of technology to enhance the consumer experience and is using data analytics. RCL also is expanding into Asia/Cuba to open new revenue opportunities.

Technology: *The Tech sector was a leader in 2017 with strong thematic trends continuing in cloud, AI, Digitization, Mobility, IoT, Cyber-Security and SaaS. Software, represented by IGV, gained 44%, and Internet (FDN) gained 29%. Semi's (SMH) had a very strong year +38.5% and show no signs of stopping into year-end with demand for chips very healthy across multiple industries. Tech is where we find most of the exciting growth names and also where stock-picking is most critical, a lot of opportunities discovering small cap names that go on long runs. Tech lagged a bit late in the year as a group seeing less benefits from the tax reform plan, but the repatriation of overseas cash could drive a surge in M&A in the sector with many of the large caps flush with cash. Semiconductor sales hit a new record in October jumping 21.9% and sees 7% growth in 2018, moderating a bit. The AI market is expected to grow at a 50% CAGR through 2021. The Global Internet Security Market expects an 8.1% CAGR through 2020 reaching $42.8B. Global Ad spending is expected to grow 5% in 2018, led by digital & mobile growing 13% and specifically growth in video. The IDC forecasts 16.8% growth in 2018 for Digital Transformation, reaching $1.3 Trillion and sees $2.1 Trillion by 2021. IoT spending is expected to rise 14.6% in 2018 reaching $772.5B, and a 14.4% CAGR through 2021. Gartner sees global IT spending to reach $3.7 Trillion in 2018, a 4.3% increase from 2017. It sees communication services driving spending and Software growing 9.4% in 2018, accelerating from 2017 growth. I will post a number of charts below to breakdown the growth in these markets better. M&A was fairly quiet in 2017 but we did see a number of large Private Equity funds launched searching for buyouts in Software, while ARM Holdings (ARMH) and others in Semiconductors continue to look for deals including the recent mega-deal offer that Broadcom (QVGO) made for Qualcomm (QCOM).*

<u>IT Spending Survey</u>

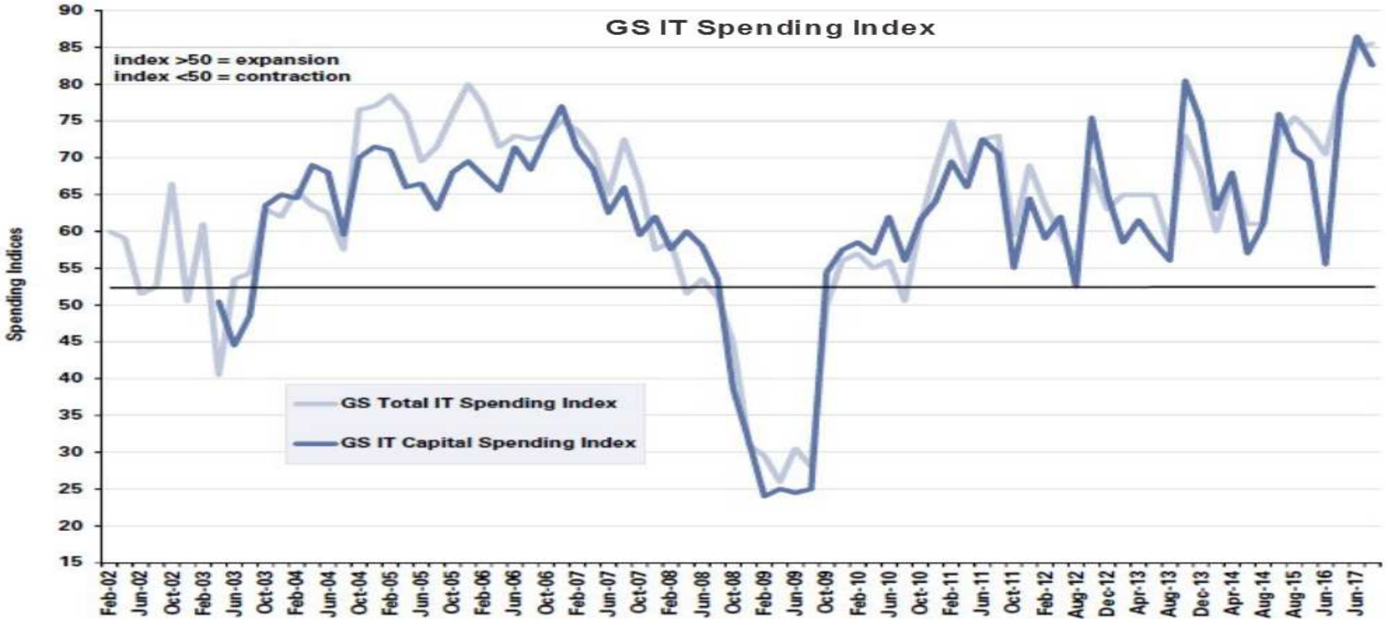
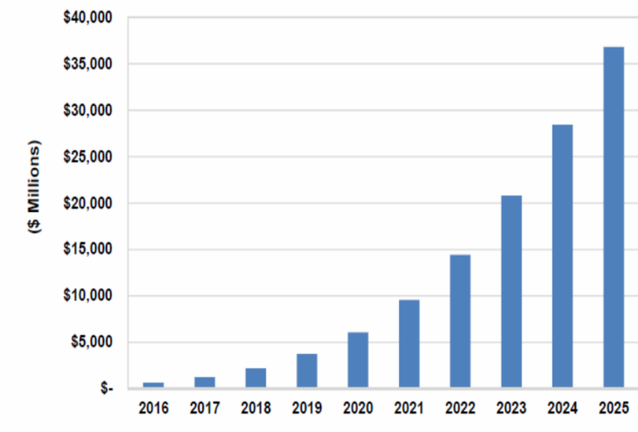
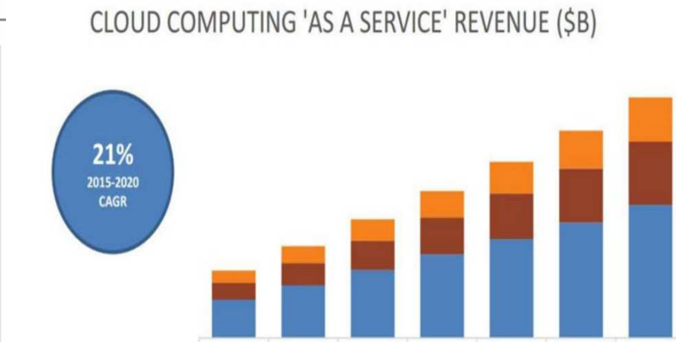


Chart 1.1 Artificial Intelligence Revenue, World Markets: 2016-2025



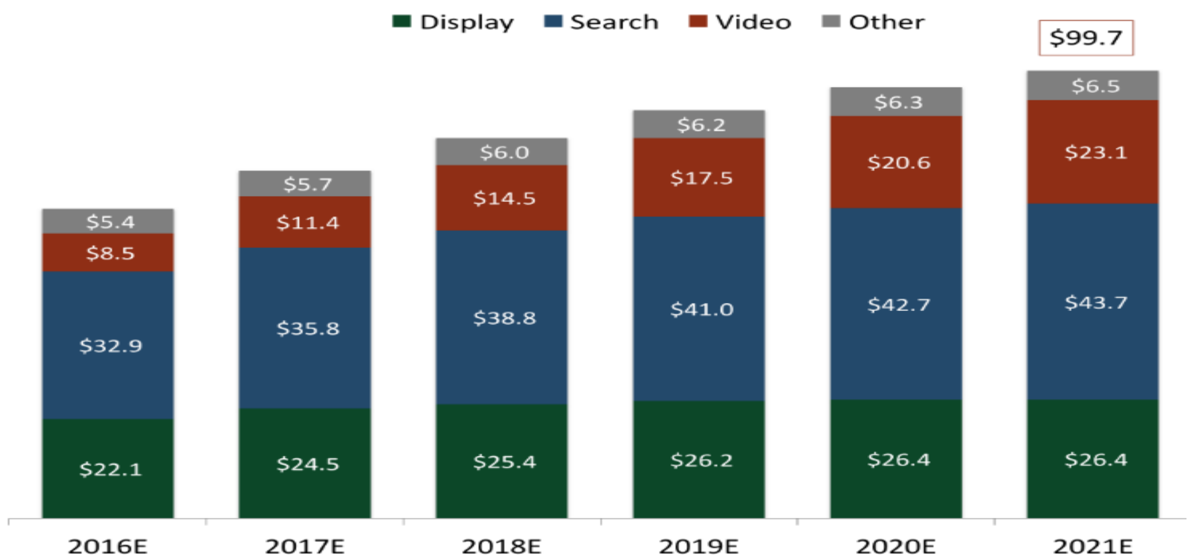
(Source: Tractica)

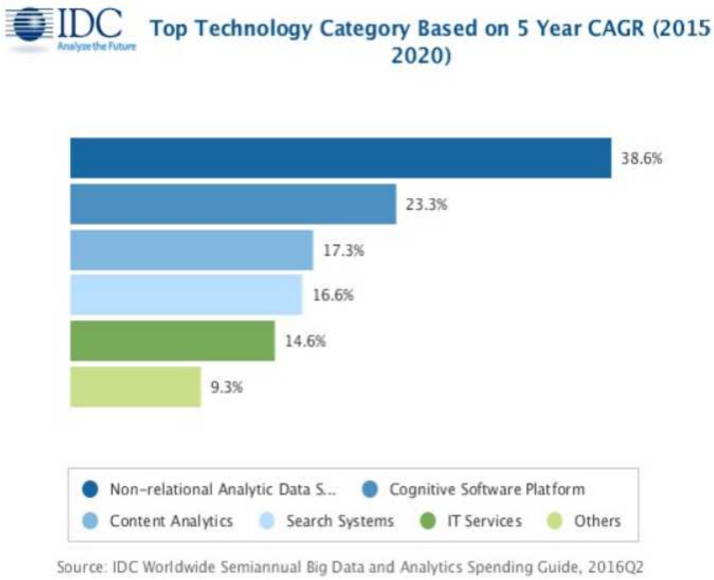


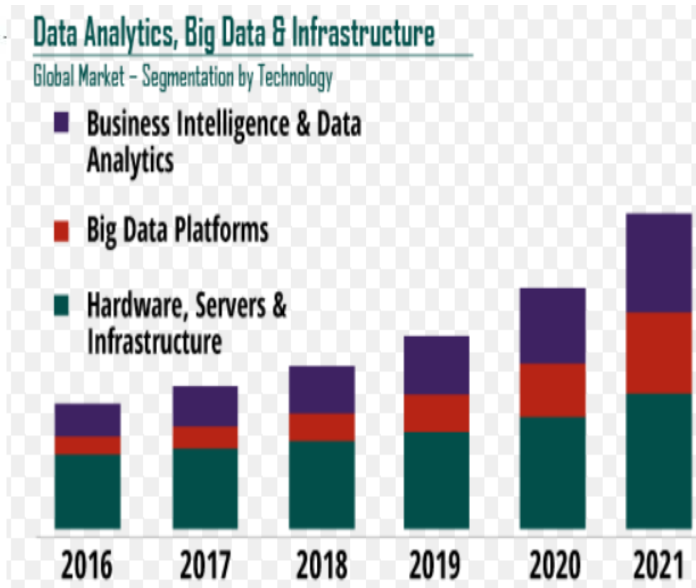
	2014	2015	2016	2017	2018	2019	2020
PaaS	$2.3	$3.1	$4.0	$4.9	$5.9	$6.9	$8.1
Infrastructure SaaS	$3.1	$4.1	$5.4	$6.8	$8.4	$10.0	$11.6
IaaS	$7.0	$9.7	$12.5	$15.4	$18.2	$21.2	$24.5

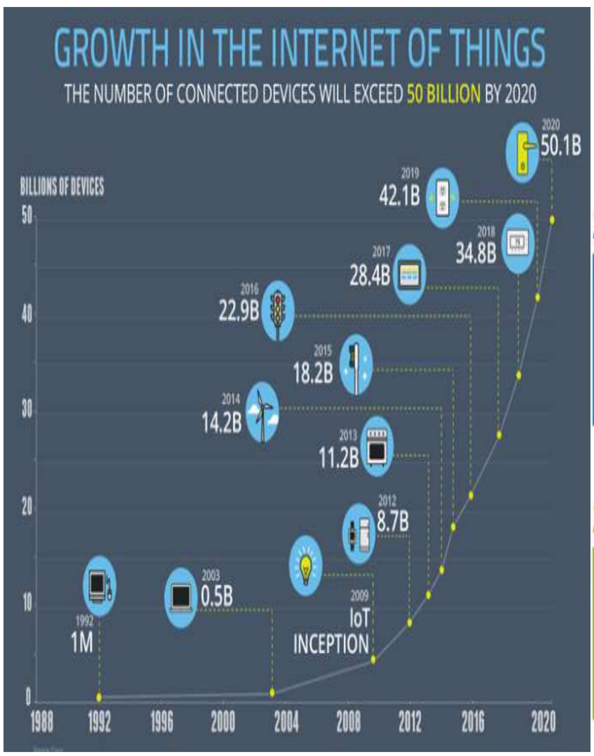
FORECAST: US Digital Ad Revenue, By Format

Billions ($)









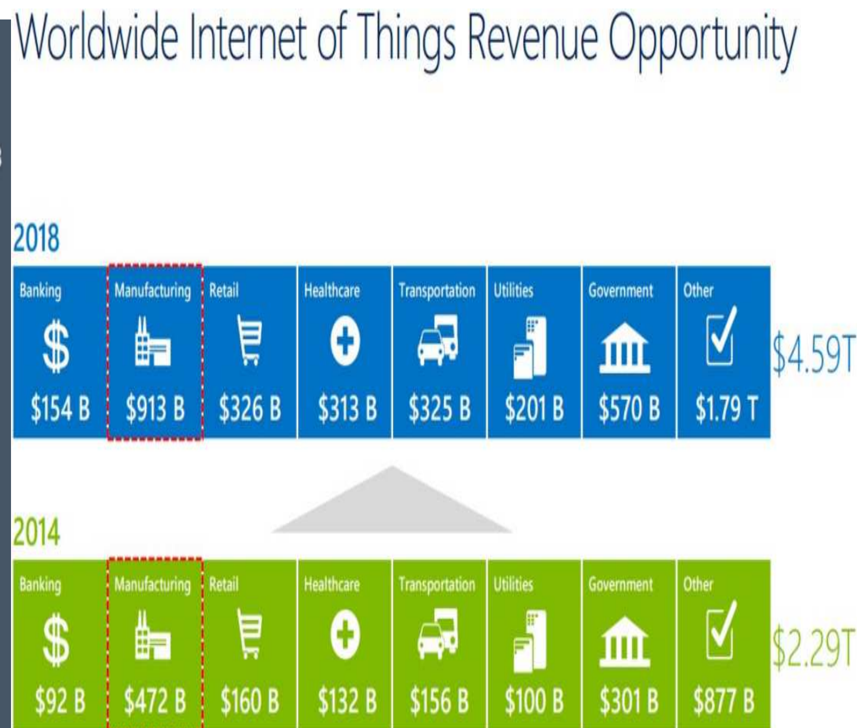
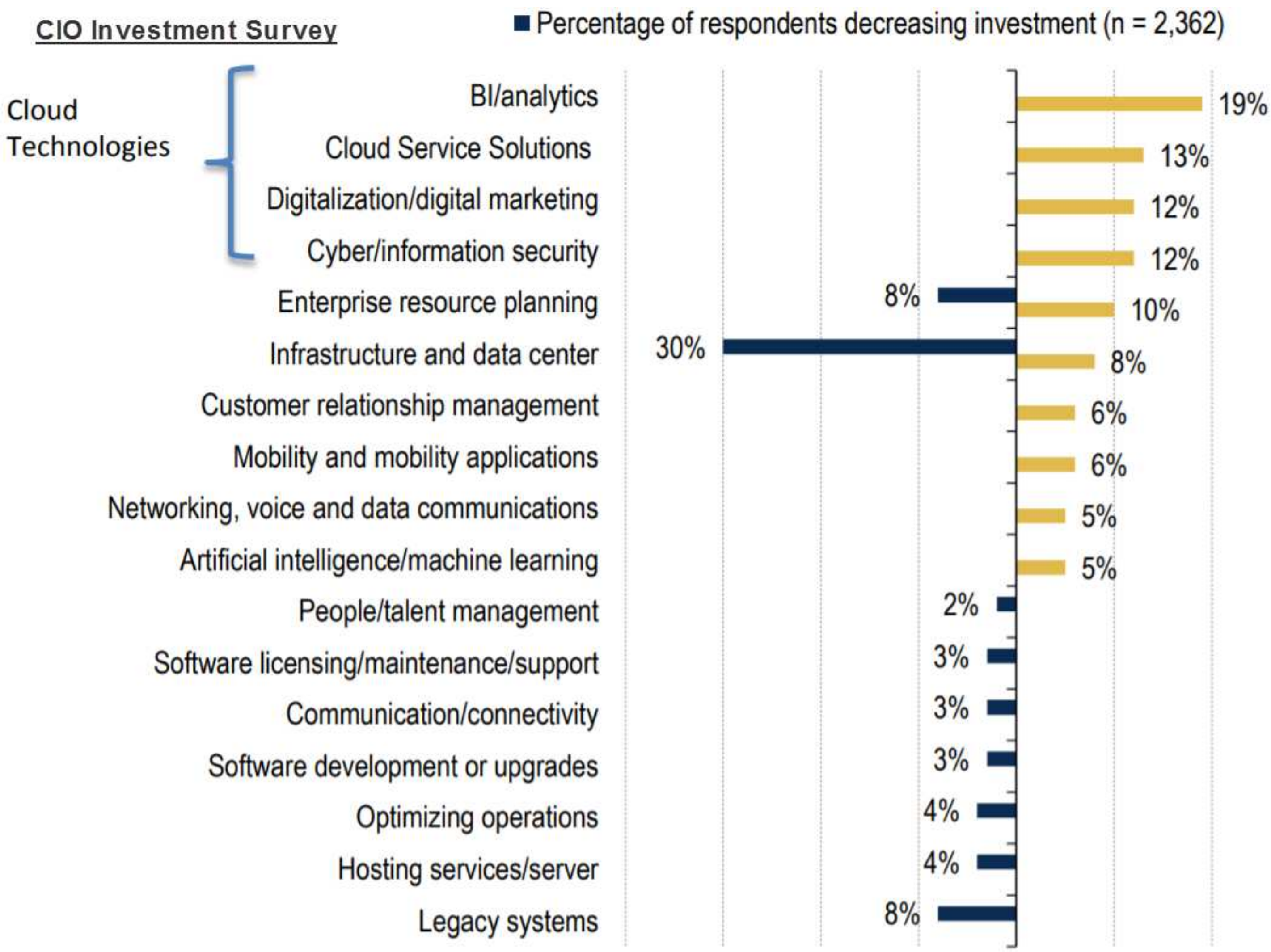


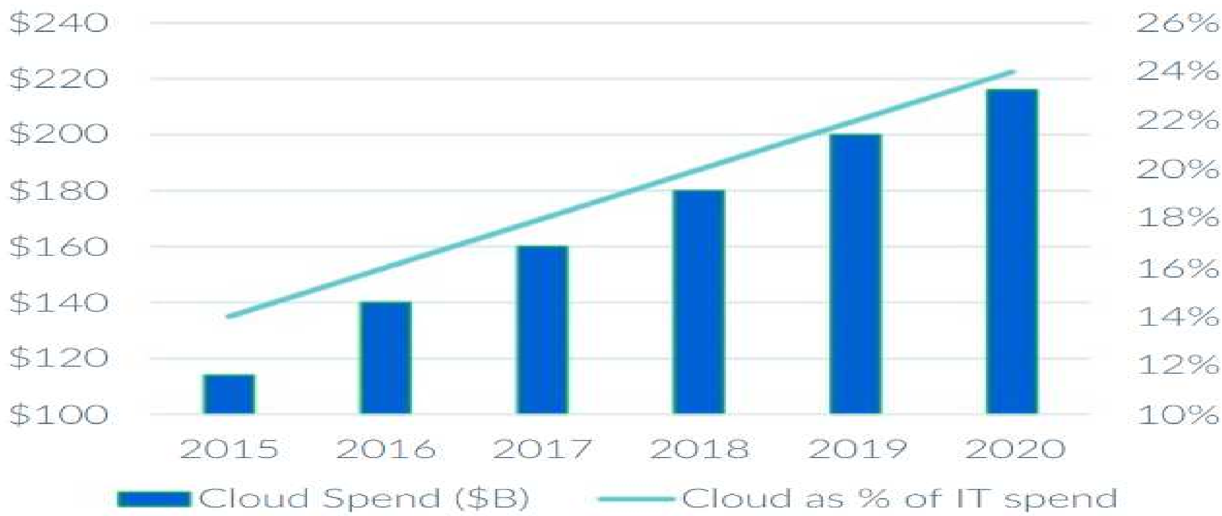
Figure 7: Big Data Analytics Market Size by Business Category

Software - Cloud, Security and SaaS:

Components:*ACXM,ADBE,ADSK,ALRM,APIC,AZPN,BLKB,BSFT,CALD,CARB,CHKP,CRM,CSOD,CTSH,CTXS,CUDA,CYBR,DATA,DOX,EBIX,EGHT,FEYE,FFIV,FIVN,FTNT,GWRE,HUBS,IMPV,INTU,JKHY,LOCK,LOGM,LXFT,MANH,MB,MIME,MSFT,NEWR,NOW,NTCT,NTNX,ORCL,OTEX,PANW,PAYC,PCTY,PEGA,PFPT,QLYS,QTWO,RHT,RNG,RPD,SAP,SHOP,SPLK,TEAM,TWLO,TWOU,ULTI,VEEV,VMW,VRNT,WAGE,WDAY,WK,ZEN,HDP,VRNS,OKTA,SYMC,COUP,YEXT,RDWR,DSGX,SAIL,LPSN,MULE,BOX,CLDR,PRGS,AYX,CISN,APPF,MDB,APPN,TLND,INST,FSCT,CHUBA,EVBG,QADA,MODN*

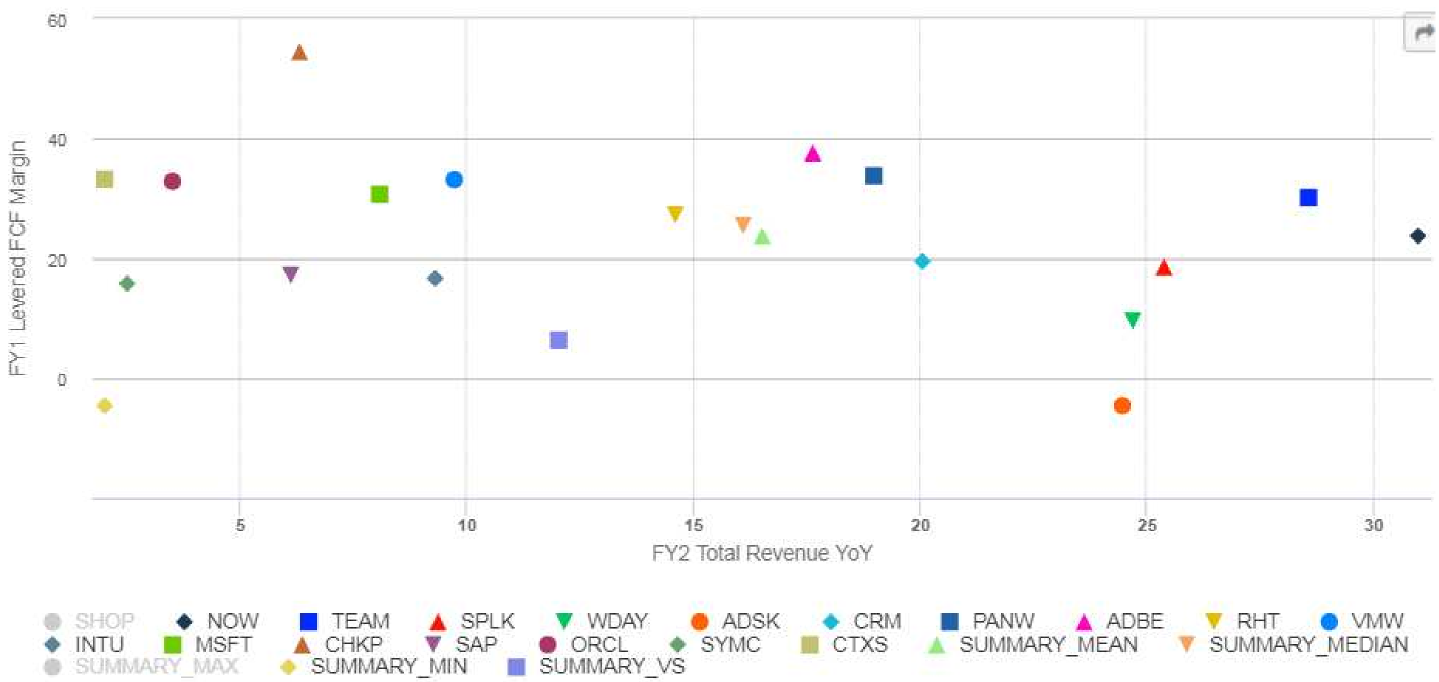
This is a large group to tackle consisting of 92 stocks and contains many of the top growth names in Tech. Software overall had a very strong year in 2017 and CIO budget surveys and Gartner/IDC forecasts continue to see strong spending in software. Of the 92 names, 42 were up 40% or more with 75%+ moves coming from HDP, SHOP, RNG, TWOU, NEWR, HUBS, TEAM, QLYS, RHT, VRNS, PAYC, INST, APPF, MODN, NOW and AYX. The same top themes from 2017 continue in 2018 with Artificial Intelligence (MSFT, CRM, ADBE, SPLK, HUBS, ZEN), Business Intelligence (DATA, SPLK), Digital Transformation of Enterprise (SAP, ORCL, CRM, ADBE), Line of Business IT (CRM, HUBS, ZEN, BOX), Bi-modal IT (MSFT, ORCL, INTU), Cloud transitions (ADBE, ADSK, SPLK, DATA), public cloud deflationary pressure, software defined data center, next-gen applications, and IoT (MSFT, CRM, SPLK, ALRM). An interesting method towards analyzing software companies is "Rule of 40", a number derived by adding a company's rate of revenue growth and its FCF margin. Names that satisfy the 40+ condition include TEAM, NOW, ADBE, RHT, ZEN, WDAY, PFPT and CRM, closely followed by APPF, CSOD, NEWR, GWRE and BOX.



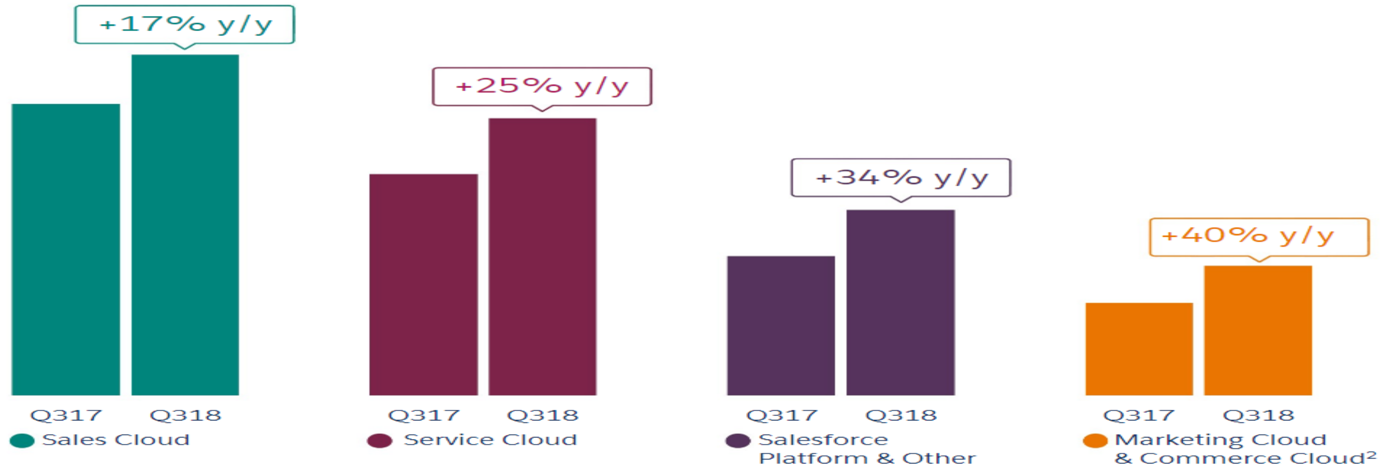


Dividing them up by size is the most effective approach, so starting with the $10B+ names they trade on average 6.7X EV/Sales with 79.9% gross margins, 23.7% FCF margin, and a 17.9% ROIC. There are a number of excellent names in this group but want to highlight a few favorites.

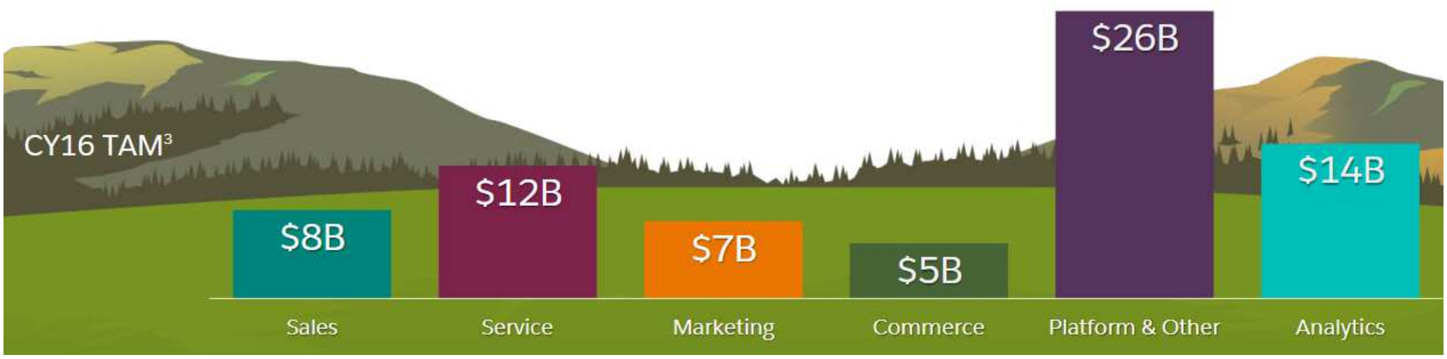
Revenue Growth vs. FCF Margin



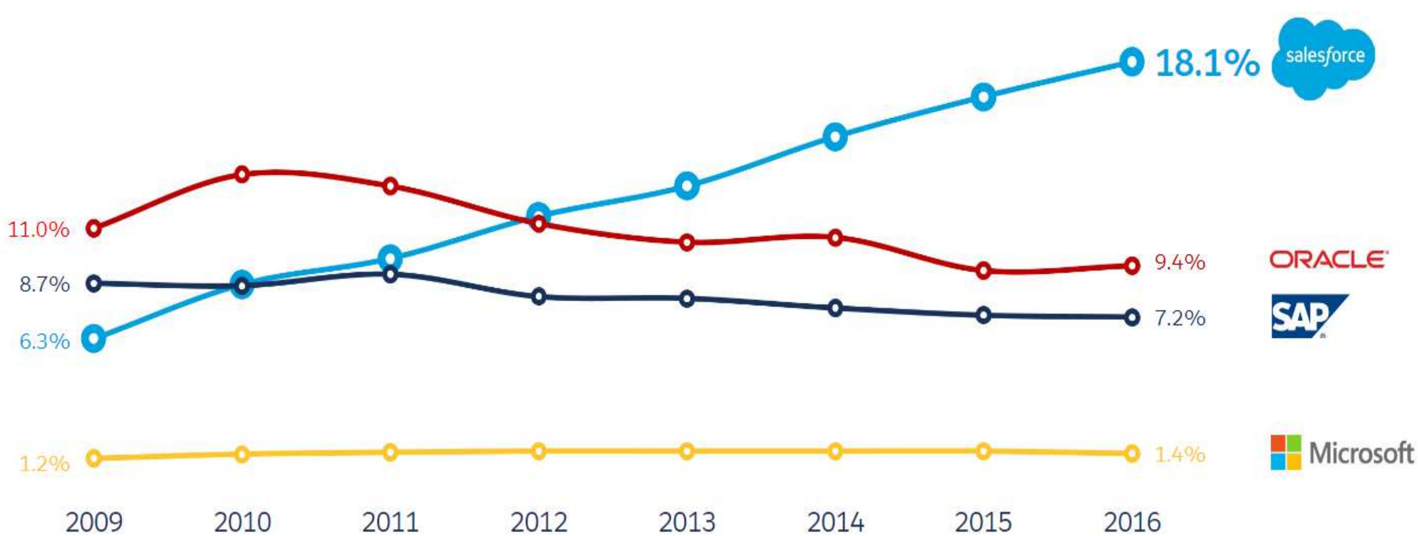
Salesforce.com (CRM) remains the cloud leader, the $75B Company trading 6X EV/Sales and 37X EV/FCF with consistent 20% topline growth and EPS growth seen 25-30% per year through 2020. CRM has been closing large deals and posting strong billings and margin beats with its multi-cloud strategy. CRM has a large market opportunity where it continues to gain market share and cross-sell/up-sell opportunities while benefiting from strong operating leverage. CRM will also see EPS upside from tax reform and has 50% of cash overseas that could be utilized for more M&A. CRM Is targeting $20B of revenues by FY22 and 100-300 bps of operating margin expansion per year, and both likely prove conservative with its TAMP growing to $100B in FY22 from $70B in FY18.



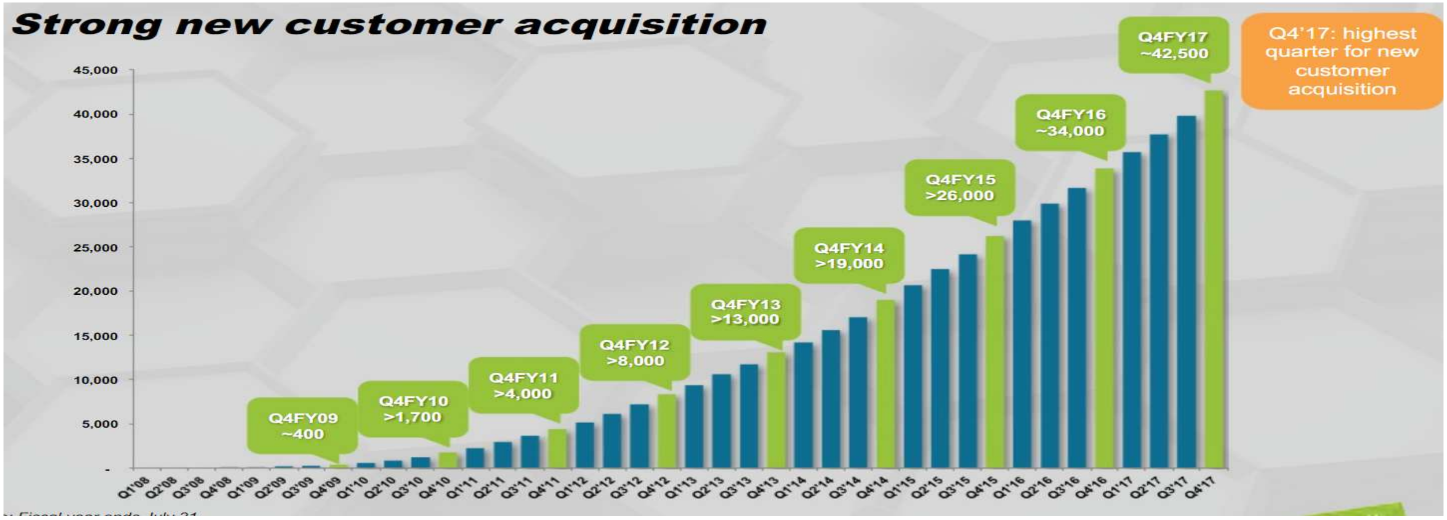
$72 Billion Market Opportunity Today...



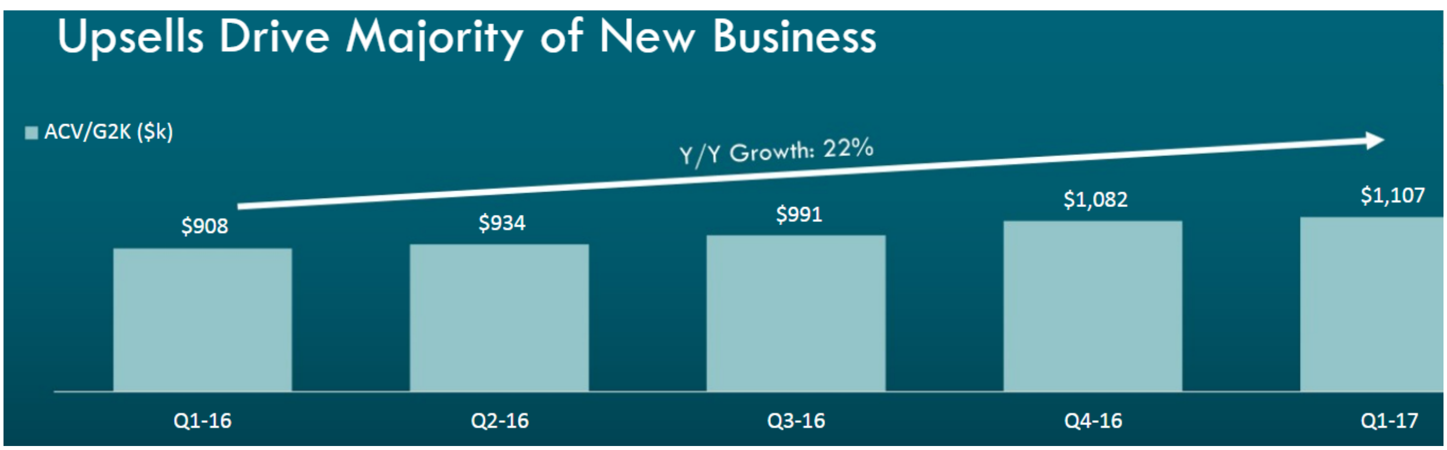
Taking share in the most important enterprise software market



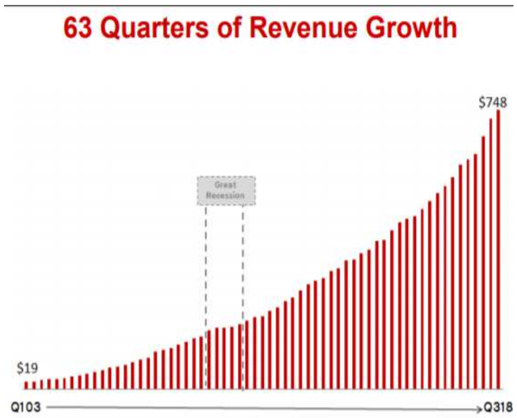
Palo Alto Networks (PANW) is the preferred play in network security, the $13.45B Company trading 35.8X Earnings, 7.2X Sales, and 17.6X FCF. PANW is expecting 23% revenue growth in 2018 after 27.8% last year and sees 20-25% annual EPS growth through 2020. PANW is a market share taker in a large and expanding market with security a key focus for CIO's into 2018. The IDC forecasts network security to be a $24B market by 2020, a 7.9% CAGR. PANW is seeing increasing attach rates, penetration rates and subscription growth. PANW is in a refresh cycle for its core product and newer offerings like Global Protect Cloud Service and Logging Service are gaining traction, while its focus on advanced analytics and automation drive further value to its platform. PANW is coming off a quarter that was far superior to other security vendors, operating very strong.

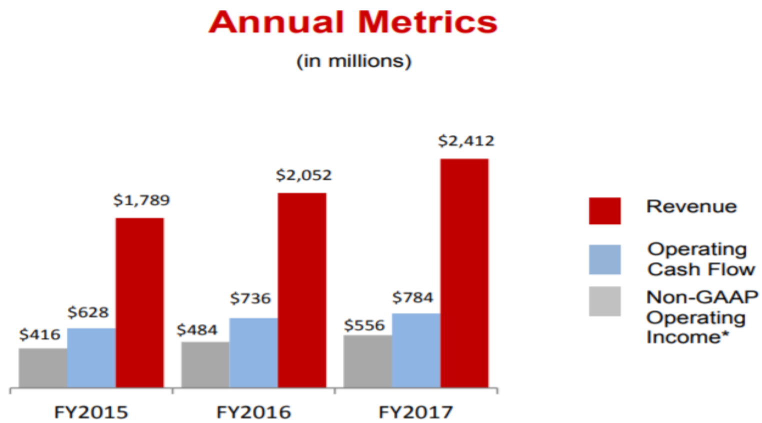


Service-Now (NOW) has been the most consistent SaaS name and considered best of breed, the $21.75B Company trading 72.5X Earnings, 37.7X FCF and 8.7X 2018 EV/Sales. NOW grew revenues 38% in 2017 for the 2nd straight year and sees 31% growth in 2018 along with 50% EPS growth each of the next two years. NOW is seen as a digital disruption play with its stand-out delivery platform and is seeing a healthier mix of higher-margin subscription revenue. NOW in its latest quarter really started to see traction in Federal, a large opportunity. NOW is also one of the top beneficiaries in this group from a lower tax rate. NOW is transforming into a diversified high growth SaaS Company in the early stages of consolidating the core $12.6B IT Services and Operations Management market. NOW has built the most cost-efficient platform in the space giving it a real competitive advantage and lacks any real competition in many of the markets it serves. NOW is targeting $4B in revenues by 2020 which is likely to prove conservative, and sees FCF margin growing to 30-32% from 25%. NOW is the top Enterprise Software company for the Rule of 40.

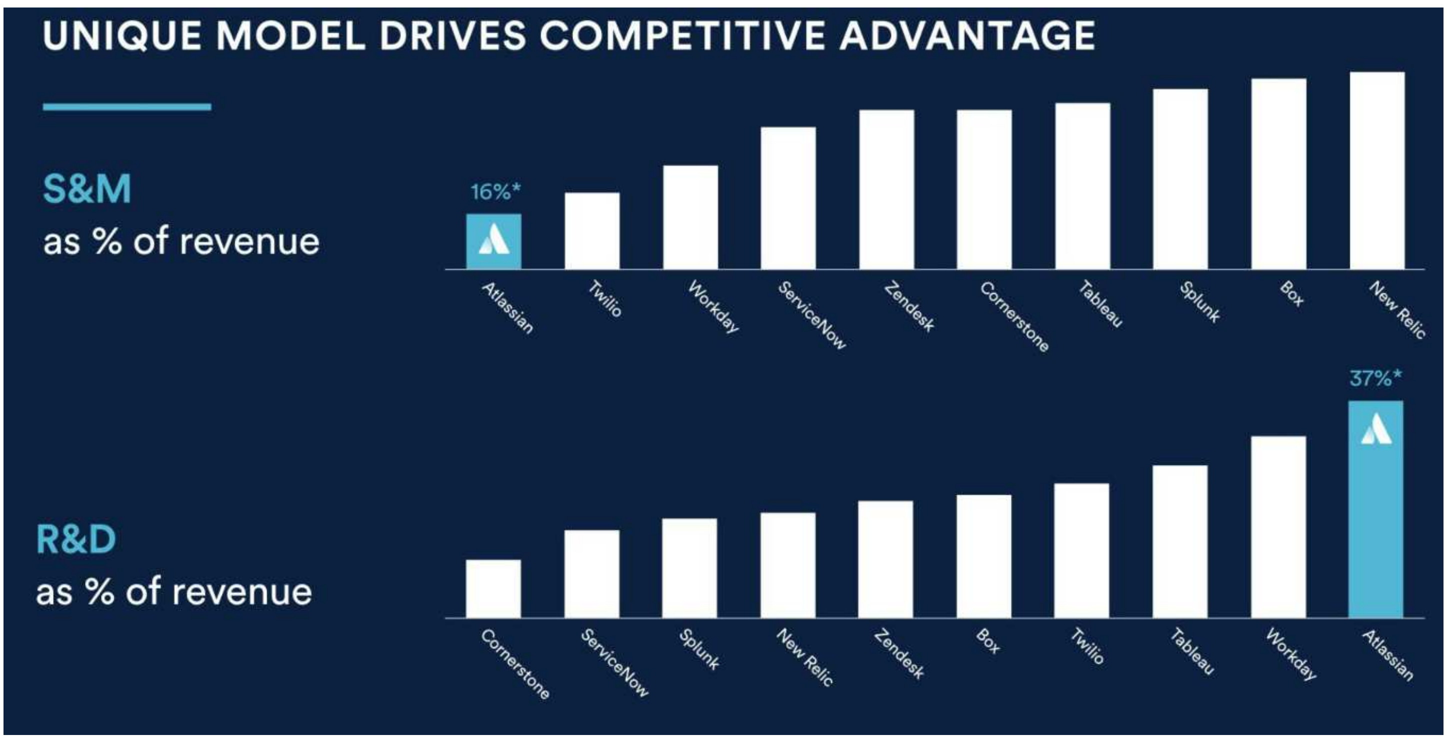


Red Hat (RHT) has a $22.85B market cap trading 39X Earnings, 6.6X EV/Sales, and 27X FCF. RHT has been a strong stock all year gaining 80% and sees 14%+ annual revenue growth through 2020 and 18-22% EPS growth. Red Hat's open source model supplies enterprise computing solutions across physical, virtual and cloud environments that can reduce costs and improve performance, reliability and security. RHT trades at a premium valuation but its hybrid cloud strategy is paying off and appears to be favored by customers, though likely to face much tougher comps in 2018. RHT cloud subscriptions are growing at a 40% rate, in-line with Amazon Web Services, and has been posting better than expected margins. RHT sees a total addressable market of $66B in 2020 with Middleware, Cloud Mgmt., and Operating Systems accounting for $46B.





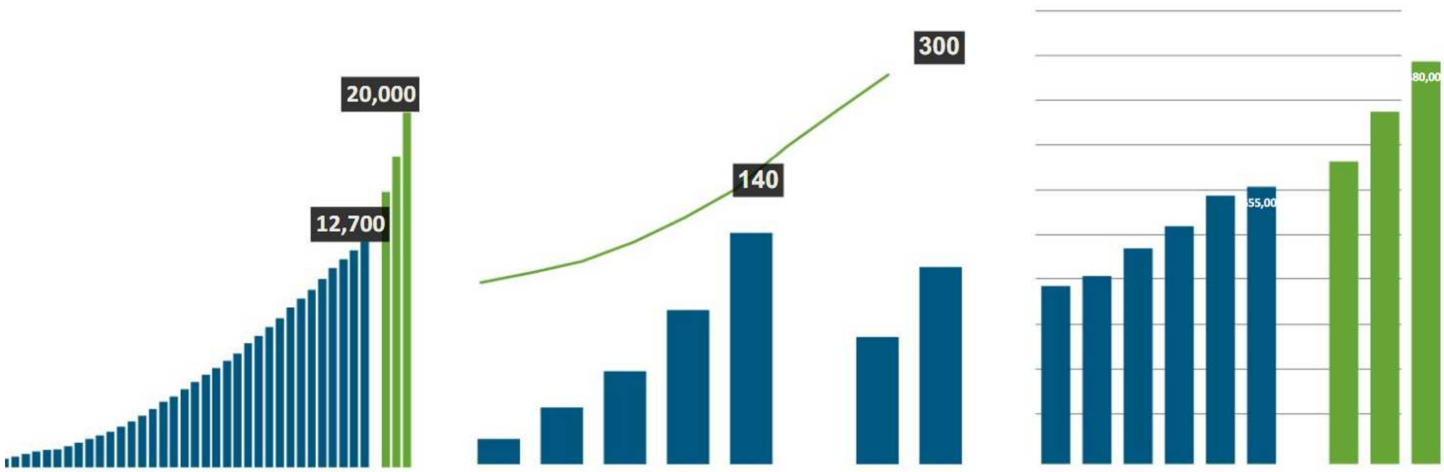
Atlassian (TEAM) is a $10.4B provider of collaboration and productivity software solutions trading 9.6X EV/Sales, 74.25X Earnings and 44.35X FCF. TEAM posted 35% revenue growth last year and projects 36% growth this year with EPS having a long runway of 30%+ annual growth. TEAM is actively investing in R&D and utilizing a go-to-market approach adding large volumes of new customers. Its main sites are bitbucket.com, atlassian.com and trello.com. TEAM has seen $500K+ deals jump to 75 in 2017 from 14 in 2015 and has operated with a 98% retention rate and sees customers often purchasing at least 3 products. It also has the lowest Sales & Marketing costs as a % of revenues versus peers. TEAM's recurring revenue model allows for predictability and it should reach $1B in sales by 2020 and also benefit by subscription revenues outpacing growth of perpetual licenses. TEAM's self-service model is clearly working as the company continues to exceed estimates on a quarterly basis.



Splunk (SPLK) is an $11.75B provider of intelligence and analytics and one of the plays more exposed to the AI theme. SPLK shares trade 7X EV/Sales, 63X FCF and generating 30% revenue and 41.7% EPS growth this year with 25%/46% seen for next fiscal year. SPLK expects to expand its 6% operating margins to 12-14% by 2020 boosted by a better mix and sees a path to $2B in revenues. It sees a $55B market opportunity, and has a 50% CAGR since 2012 with steady growth in its customer base. SPLK is benefitting from up-selling and sees $100K+ orders grow with greater platform adoption and ASPs are also rising. SPLK is also seeing strong retention rates and the move to subscription from perpetual expected to reach 75% mix in 2020 from 47% in 2017. Cloud is currently just 9% of bookings and expected to reach 17% in 2020. SPLK is also showing strength in its Security segment. SPLK is a combination of revenue growth, expanding margins, better mix, improving order metrics, and strong FCF, a name worth owning on a longer term timeframe if it is not acquired first.

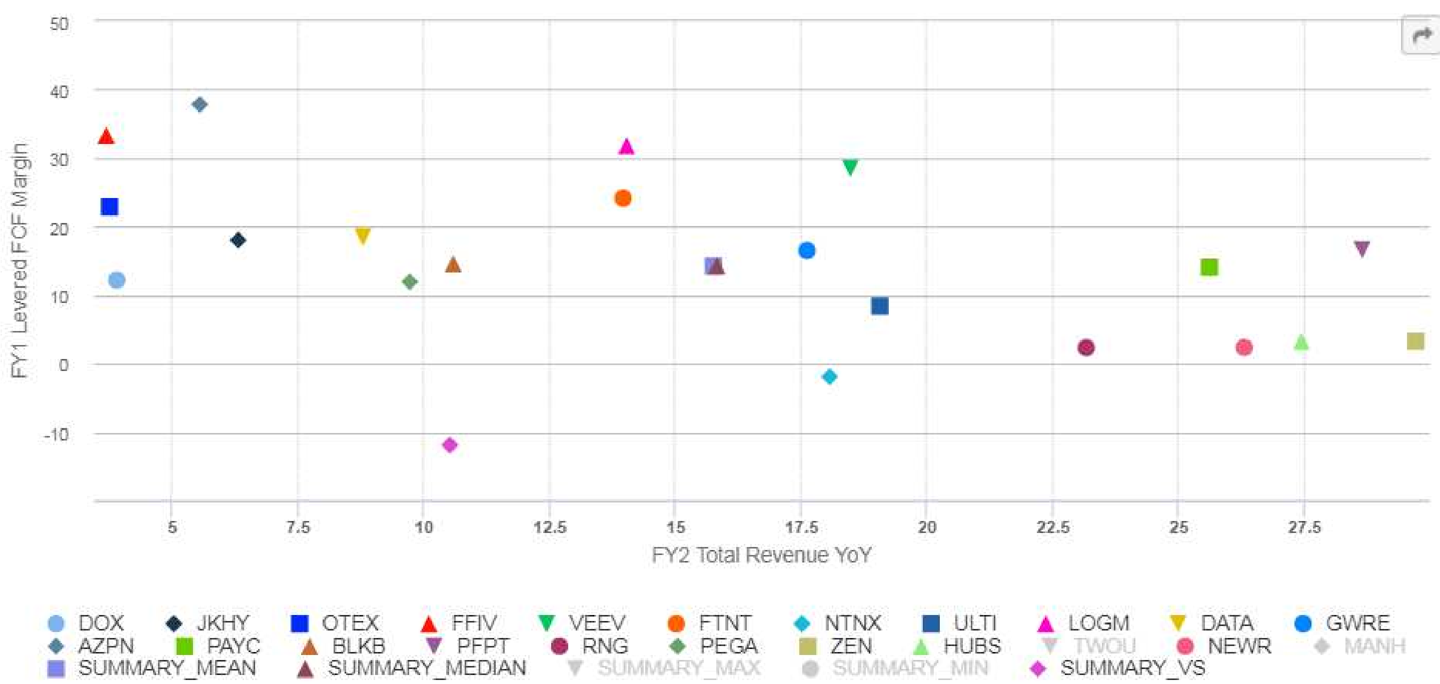
Path to $2B

Customer Growth: 12,700 to 20,000 | **Mega Orders: 140 to 300** | **ASP: $50k to $80k**



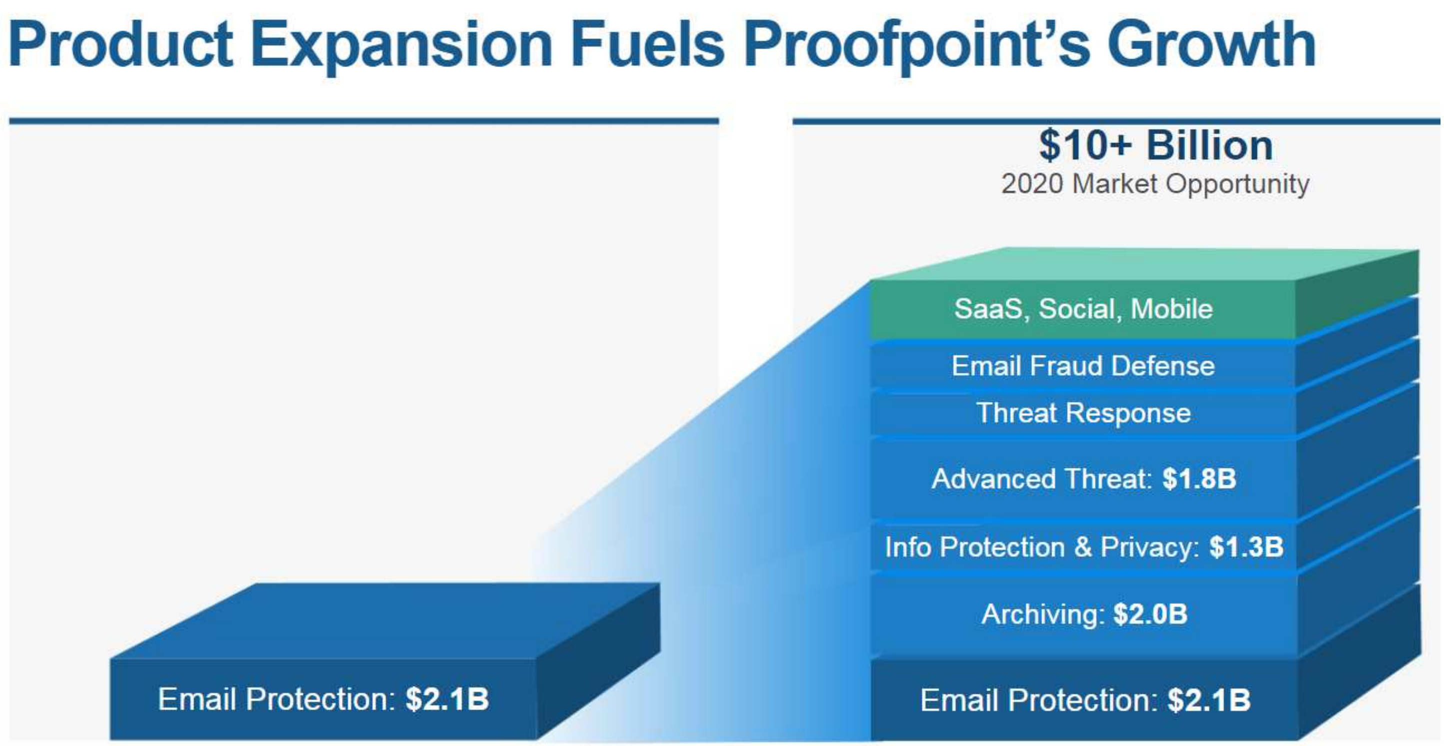
In the $3B to $10B group, the group of 20 stocks trades on average 5.8X EV/Sales with 28.7% forward revenue growth, 71.7% gross margins, and a 14.2% FCF margin. This group is filled with some of the best growth names that are consistently posting excellent quarters. The value name in this group is **Amdocs (DOX)** which trades 2X EV/Sales, a much lower growth and margin profile name than the other names in this group, but a 14.7% ROIC and 12.2% FCF margin. **Fortinet (FTNT)** among the cyber-security names screens especially chap at 3.7X EV/Sales with double digit growth and strong ROIC/FCF.

Revenue Growth vs. FCF Margin



Calendar Year	ADBE	ALRM	CALD	CSOD	CRM	EVBG	MB	OOMA	PAYC	SHOP	SNCR	TWOU	ULTI	WDAY	WK	Average*
2017E Revenue (M)	7,246	327	247	485	10,384	102	182	113	432	658	717	284	938	2,099	206	
2018E Revenue (M)	8,700	378	294	558	12,393	129	227	124	540	959	791	390	1,146	2,620	237	
2017E Revenue Growth Yr/Yr	23.8%	25.3%	19.3%	14.5%	23.7%	33.4%	30.8%	8.6%	31.3%	69.0%	17.1%	38.1%	20.0%	33.3%	15.0%	26.0%
2018E Revenue Growth Yr/Yr	20.1%	15.4%	19.4%	15.2%	19.4%	25.7%	25.1%	9.6%	25.0%	45.8%	10.4%	37.1%	22.3%	24.8%	15.2%	21.2%
2017E EV/Sales Multiple	11.6x	7.0x	6.2x	4.3x	7.0x	7.0x	7.5x	1.3x	11.1x	15.1x	1.7x	11.9x	6.5x	11.2x	4.2x	7.0x
2018E EV/Sales Multiple	9.7x	6.1x	5.2x	3.7x	5.9x	5.5x	6.0x	1.2x	8.9x	10.4x	1.5x	8.7x	5.3x	9.0x	3.7x	5.6x
2017E Rec Revenue Gr Yr/Yr	33.3%	34.6%	21.9%	14.5%	23.5%	33.4%	30.5%	10.8%	31.3%	60.8%	21.3%	38.1%	22.0%	36.0%	16.5%	28.6%
2018E Rec Revenue Gr Yr/Yr	24.0%	20.0%	23.6%	15.2%	19.1%	23.1%	24.5%	11.2%	25.0%	41.4%	13.5%	37.1%	22.5%	27.2%	15.7%	22.9%
2017E EV/Recurring Sales	13.8x	9.8x	7.7x	5.3x	7.6x	7.2x	12.6x	1.4x	11.3x	32.7x	2.3x	11.9x	7.6x	13.4x	5.2x	10.0x
2018E EV/Recurring Sales	11.1x	8.2x	6.2x	4.6x	6.4x	5.8x	10.1x	1.3x	9.1x	23.2x	2.0x	8.7x	6.2x	10.5x	4.5x	7.9x
2017E EV/EBITDA Multiple	27.7x	34.2x	43.1x	32.7x	36.8x	Nmf	Nmf	Nmf	36.4x	Nmf	9.2x	Nmf	28.7x	73.7x	Nmf	35.8x
2018E EV/EBITDA Multiple	21.7x	26.0x	32.3x	20.9x	28.7x	Nmf	62.8x	46.7x	28.6x	Nmf	7.6x	Nmf	23.4x	53.7x	Nmf	32.0x
2017E EV/OCF Multiple	29.4x	53.1x	44.7x	36.2x	27.8x	92.4x	Nmf	77.0x	38.3x	Nmf	8.9x	Nmf	33.5x	55.7x	87.3x	48.7x
2018E EV/OCF Multiple	23.5x	48.5x	28.3x	20.0x	22.4x	58.4x	61.4x	32.7x	31.4x	Nmf	8.3x	Nmf	29.5x	40.4x	74.0x	36.8x
2017E EV/FCF Multiple	31.7x	70.6x	109.4x	67.9x	35.1x	Nmf	Nmf	Nmf	68.4x	Nmf	17.1x	Nmf	62.7x	89.8x	94.6x	64.7x
2018E EV/FCF Multiple	25.3x	65.8x	47.8x	30.9x	27.5x	Nmf	116.2x	89.1x	45.5x	Nmf	14.7x	Nmf	54.8x	61.9x	81.1x	55.0x
2017E FCF Yield	3.0%	1.4%	0.8%	1.3%	2.8%	Nmf	Nmf	Nmf	1.5%	Nmf	12.6%	Nmf	1.6%	1.0%	1.0%	2.7%
2018E FCF Yield	3.8%	1.5%	1.9%	2.8%	3.5%	0.4%	0.7%	0.8%	2.2%	0.0%	14.7%	Nmf	1.8%	1.5%	1.2%	2.6%

Proof-Point (PFPT) is a standout in the mid-cap cyber-security names, the $4.1B company trading 37.5X FCF and 6.2X EV/Sales with 35.7% revenue growth in 2017 projected to remain in the 27-30% range per year through 2020 while EPS seen reaching $2.35/share in 2020 from $0.75/share in 2017. Its customer base has growth to 6,000 from 2,400 in 2012 with 41% of the Fortune 500. PFPT has a model with recurring revenues and high renewal rates and seeing strong FCF growth. PFPT's platform protects the growing threats in security to individuals with Email, Mobile and Social Media. Emerging products are driving an additional $4B opportunity with more than 10% of ARR the past 3 quarters growing 100% Y/Y. In November, PFPT acquired Cloudmark for $110M. PFPT is on track to reach its 25% goal for FCF margin in 2020 and continues to win market share from legacy providers in a large and growing addressable markets.

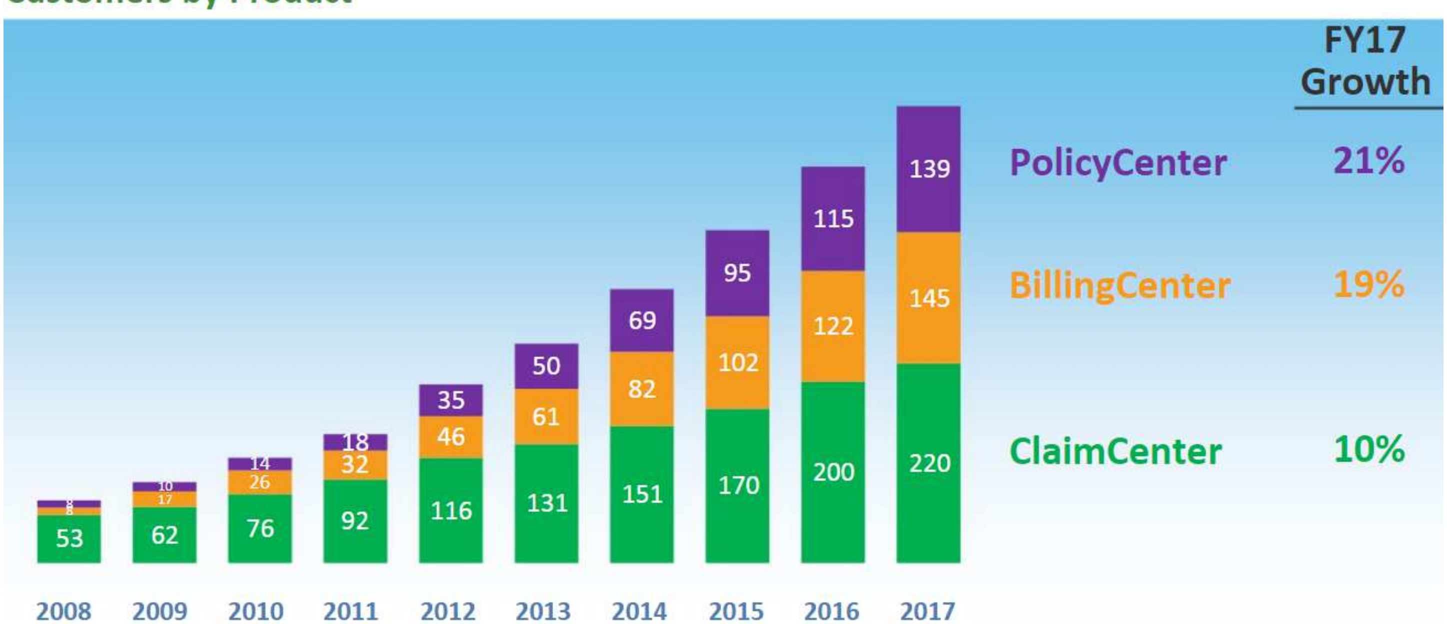


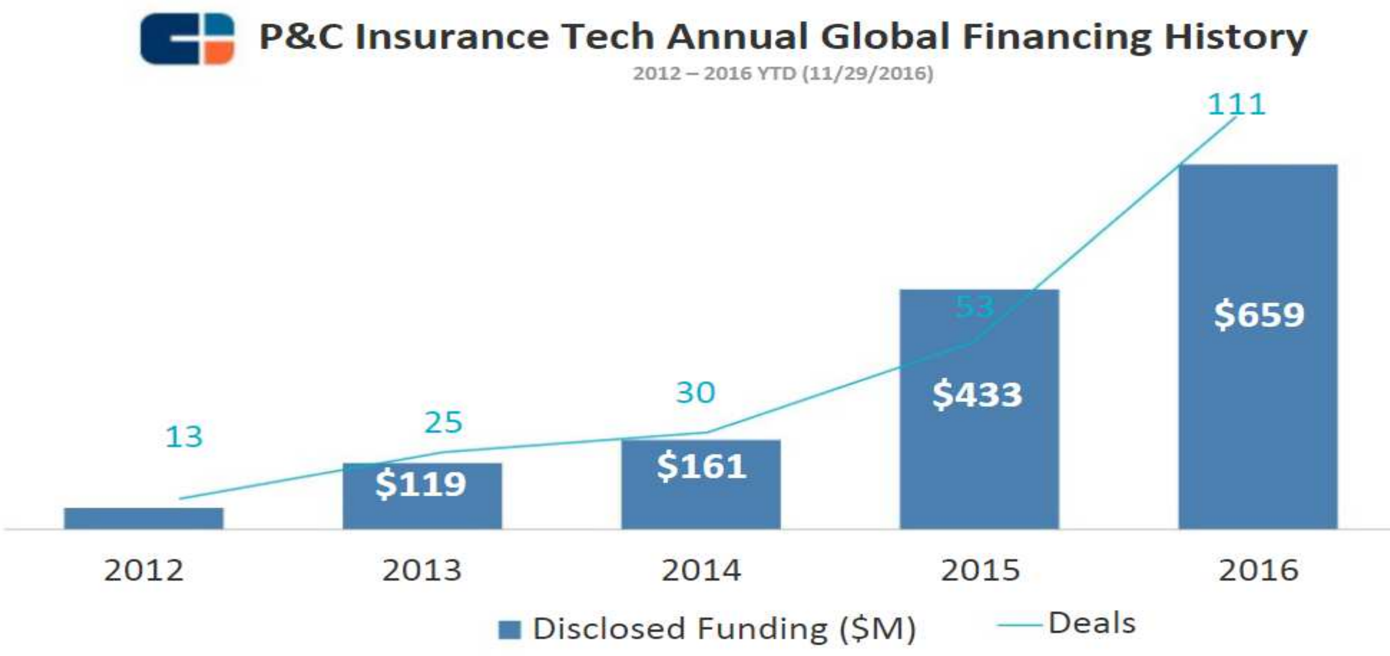
Revenue by Segment

Paycom (PAYC) is a $4.8B provider of cloud-based HCM solutions trading 77X FCF and 8.9X EV/Sales with 31% revenue growth in 2017 set to slow to 24-25% per year through 2019. PAYC is definitely rich on valuation but also screens well across all metrics and has been delivering consistently good quarters. PAYC is expected to see 21% EPS upside from tax reform. PAYC has an opportunity to expand its scale and further displace legacy vendors and is worthy of being a core holding, though valuation in this one is the most concerning as it trades rich based on sales projections. A company like ADP would be smart to acquire PAYC, though they would have to pay a peak multiple.

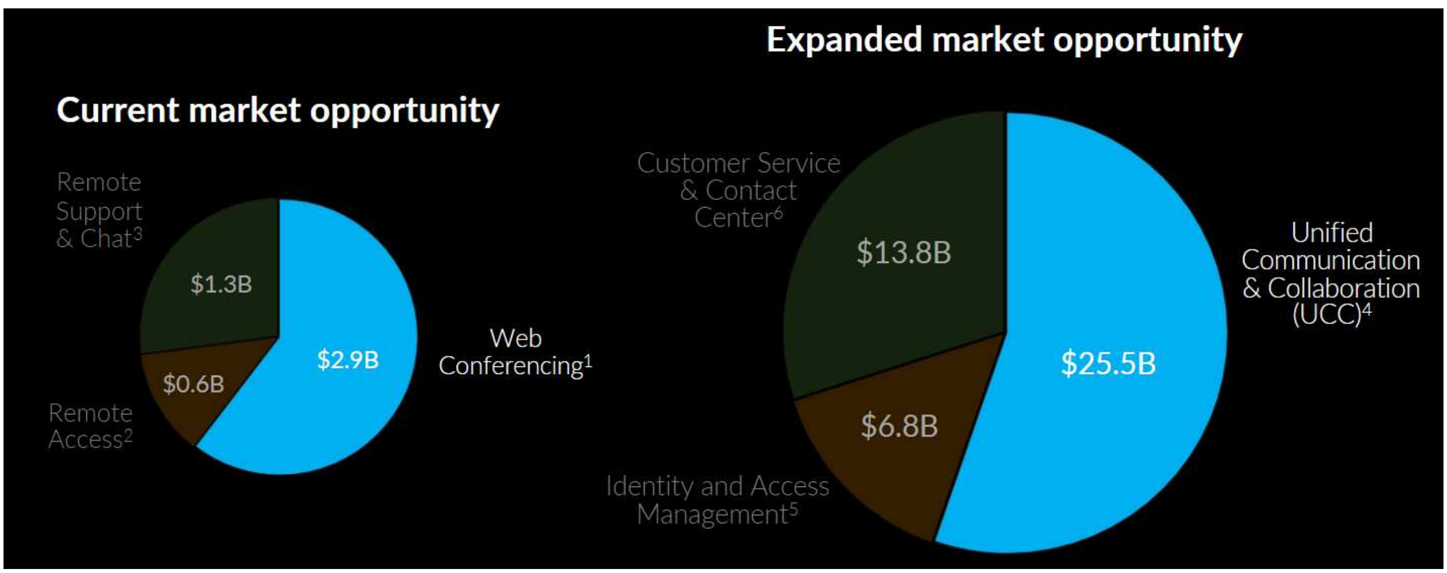
Guidewire (GWRE) is another attractive growth name, a niche play, and the $5.5B provider of software to the P&C Insurance industry trades 45.5X FCF and 6.6X EV/Sales with 24% revenue growth seen in 2018. GWRE is also seeing a model shift from perpetual to subscription and has been winning deals and accelerating that transition. GWRE is see strong growth in attach rates as its installed base grows steadily. GWRE has low penetration in a large market that is expected to grow as P&C companies invest more into technology. GWRE has not been shy about M&A either, recently doing a $275M deal for Cyence. GWRE has been encouraged by the demand environment and is making good progress in becoming the go-to platform for the industry. GWRE also has a long time for the transition story to play out.

Customers by Product



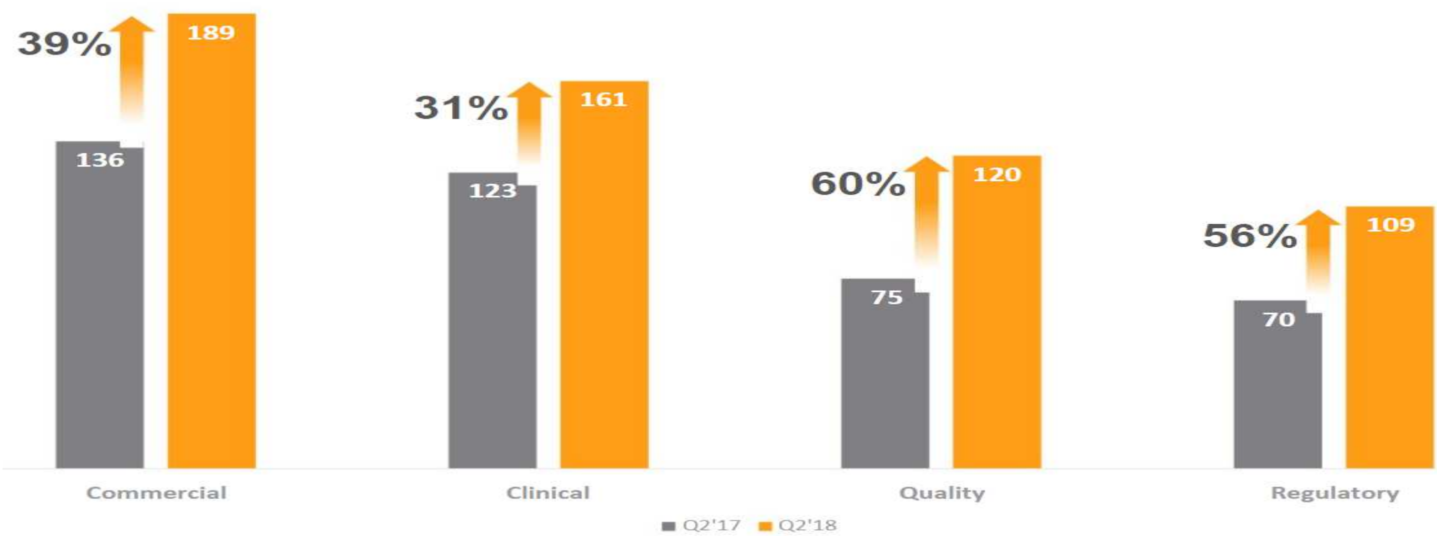


Log-Me-In (LOGM) is a $6.2B provider of cloud-services for collaboration trading 28.4X FCF, 23.7X Earnings and 5X EV/Sales with revenue growth set to cool to 14% in 2018 with 17% EPS growth after years of 20%+ growth. LOGM growth may be decelerating but it is trading overly cheap and remains a strong combination of revenue and FCF growth. LOGM has matured and is now focused on expanding its scale. LOGM has more than 2M customers, 4M daily users, and 24M free users. Go-To-Meeting is the biggest contributor to its collaboration portfolio but LOGM also is sustaining growth by adding new solutions to meet specific user needs. Its Access & Identity portfolio includes LastPass and GoToMyPC. LOGM operates in healthy markets where it has a leadership position and trades too cheap for the expansion potential and still above-average growth profile. LOGM could easily be revalued at 30X Earnings on any signs of initiatives leading to a slight reacceleration in growth.



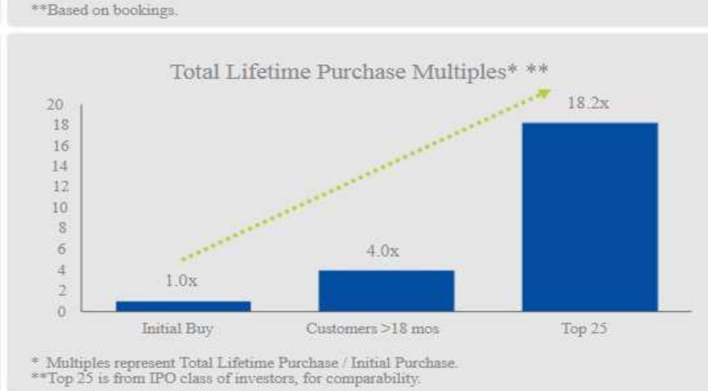
Veeva Systems (VEEV) is a $7.9B provider of cloud software to the life sciences industry trading 56X Earnings, 34.6X FCF and 8.9X EV/Sales. VEEV is set to grow revenues 25% this year after 33% growth last year and eyeing 18% growth each of the next two years. VEEV has come under some pressure with deceleration in Commercial while Vault is very strong and subscription and billings growth are coming in above estimates. As Commercial starts to stabilize it should see a return to mid-twenties bookings growth and see share momentum follow. VEEV is on the path to $1B in revenues and its Vault product has a ton of momentum in the $1.7 Trillion life sciences industry, and estimates an $8B TAM. VEEV is attempting to become the first true multi-vertical SaaS Company, so investors have been patient this year, but it is a very attractive growth story with plenty of upside despite near-term rich valuation. If VEEV starts winning deals for Vault across other verticals it can turn this into an even better story.

Vault Customer Count Up Across All Areas



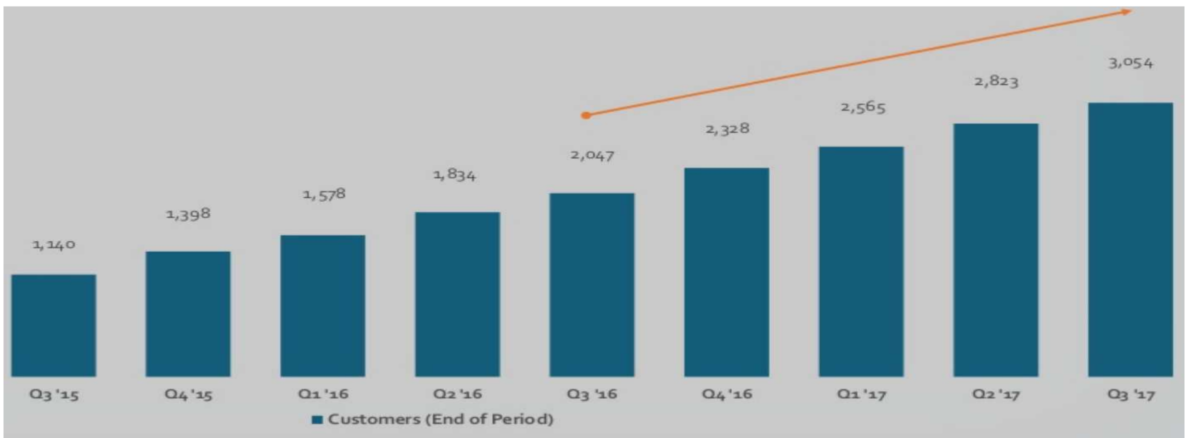
Ultimate Software (ULTI) is a $6.5B provider of cloud-based HCM solutions trading 48X Earnings, 64X FCF and 5.8X EV/Sales with steady 19% revenue growth and sees 25% EPS growth for 2018. ULTI has always been an excellent operator and recent results showing expanding margins and strong recurring revenue guidance. ULTI's multiple has compressed due to some execution errors over the past year it is looking to move beyond and now offers a compelling value for growth story. ULTI also recently signed a new distribution agreement with Microsoft's Dynamic unit. ULTI heads into 2018 with a conservative outlook with potential for upside with sales force expansion, new modules, raised pricing, and better productivity. In a group of stocks that have become rich on valuation and overbought, ULTI shares are cheap and are just +20% YTD with beatable 2018 estimates.

Nutanix (NTNX) is a $5.5B provider of an integrated server, virtualization and storage solution trading 5.2X EV/Sales with 47% revenue growth expected in 2018 after 72% in 2017 and profitability seen in 2020. NTNX is a relatively new name and already has fended off multiple takeover approaches according to reports. NTNX operates in a $100B TAM and in Q3 customer growth was 98% Y/Y with billings up 47%, a number that not a lot of Tech companies can compare. NTNX is transitioning to a go-to-market and financial reporting to a software basis. NTNX valuation is currently cheap and it is set to be revalued as a true software company, and seeing strong large deal momentum. NTNX is seeing productivity improvements, gross margin expansion, strong customer growth and has a differentiated positon within hybrid data centers. As long as NTNX continues to deliver on its transition plan, expect a re-rating throughout 2018.

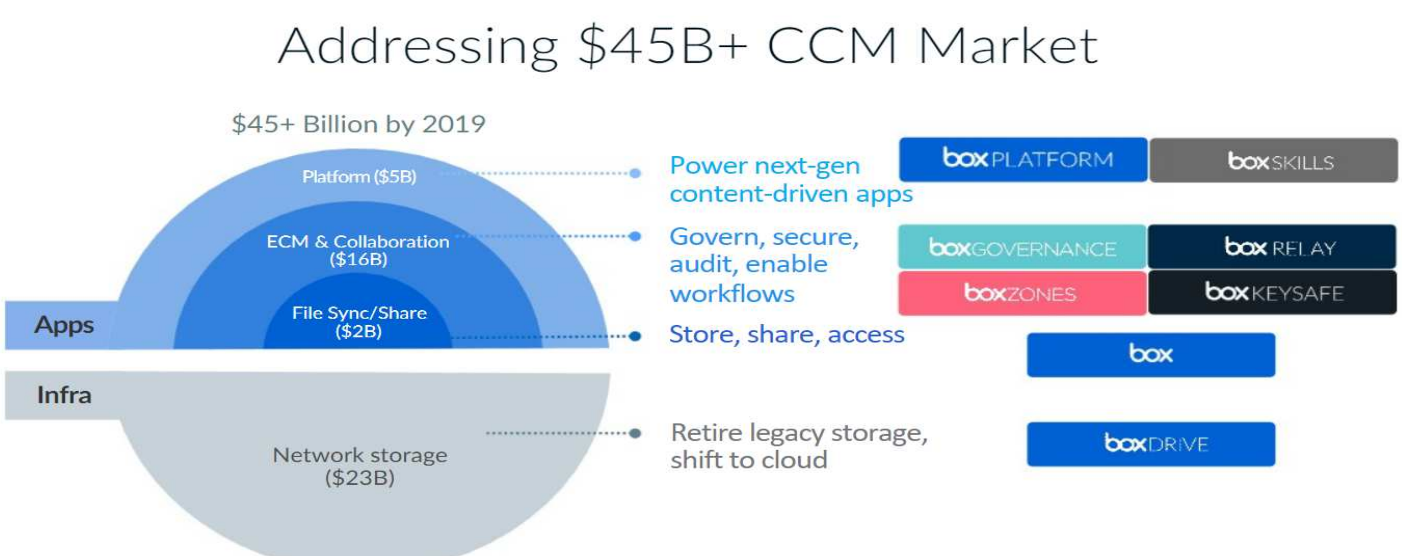


Next up the sub $3B companies where we are looking for strong growth, a history of strong execution, operating in large and growing markets, and healthy fundamentals. There are more than 50 companies in this group so I will screen them and provide a brief note on some of my favorites that excel over peers in the space they operate. There are likely multiple names in this group that will be acquisition targets as larger Tech companies have a lot of cash and are looking to join in on the secular growth trends. **Barracuda Networks (CUDA)** was a recent deal name with a $1.6B buyout from Thomas Bravo. The group trades on average 4.9X EV/Sales with 25% revenue growth this year and 18.5% next year, 70.8% gross margins and a 1 year average return of +40%. There are a number of names I really like in this group, but will keep the brief write-ups to 10, while 5 others worth consideration are **MondoDB (MDB), Commerce Hub (CHUBA), Everbridge (EVBG), Descartes (DSGX), and Five-9 (FIVN).**

Alteryx (AYX) is a $1.58B self-service data analytics software platform trading 8.1X EV/Sales with revenues growing 50% in 2017 and projected at +36% in 2018. AYX has 95% subscription growth, more than 3,000 customers, and 133% dollar-based net revenue retention rate. AYX's large and growing market includes Worldwide Big Data & Analytics at $49B and Advanced Data Prep at $10B, but mainly focused on the $18B BI Market. In its latest quarter AYX posted 39.6% billings growth and 49% customer growth with 4% ASP growth and with higher margins. AYX's land-and-expand go-to-market approach is showing with its sales/marketing leverage. AYX takes the approach as a "Swiss Vendor" meaning it supports all front-end tools and back-end persistence layers. AYX is a fast growing name in the exciting Analytics space, one worthy of an investment.

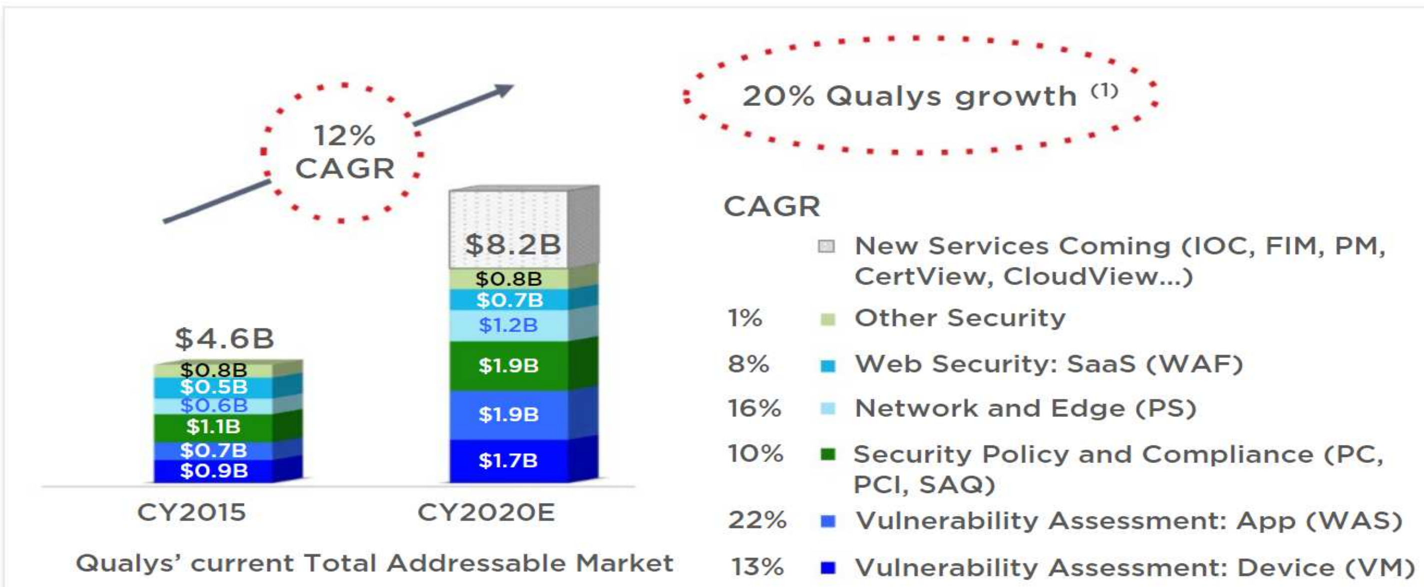


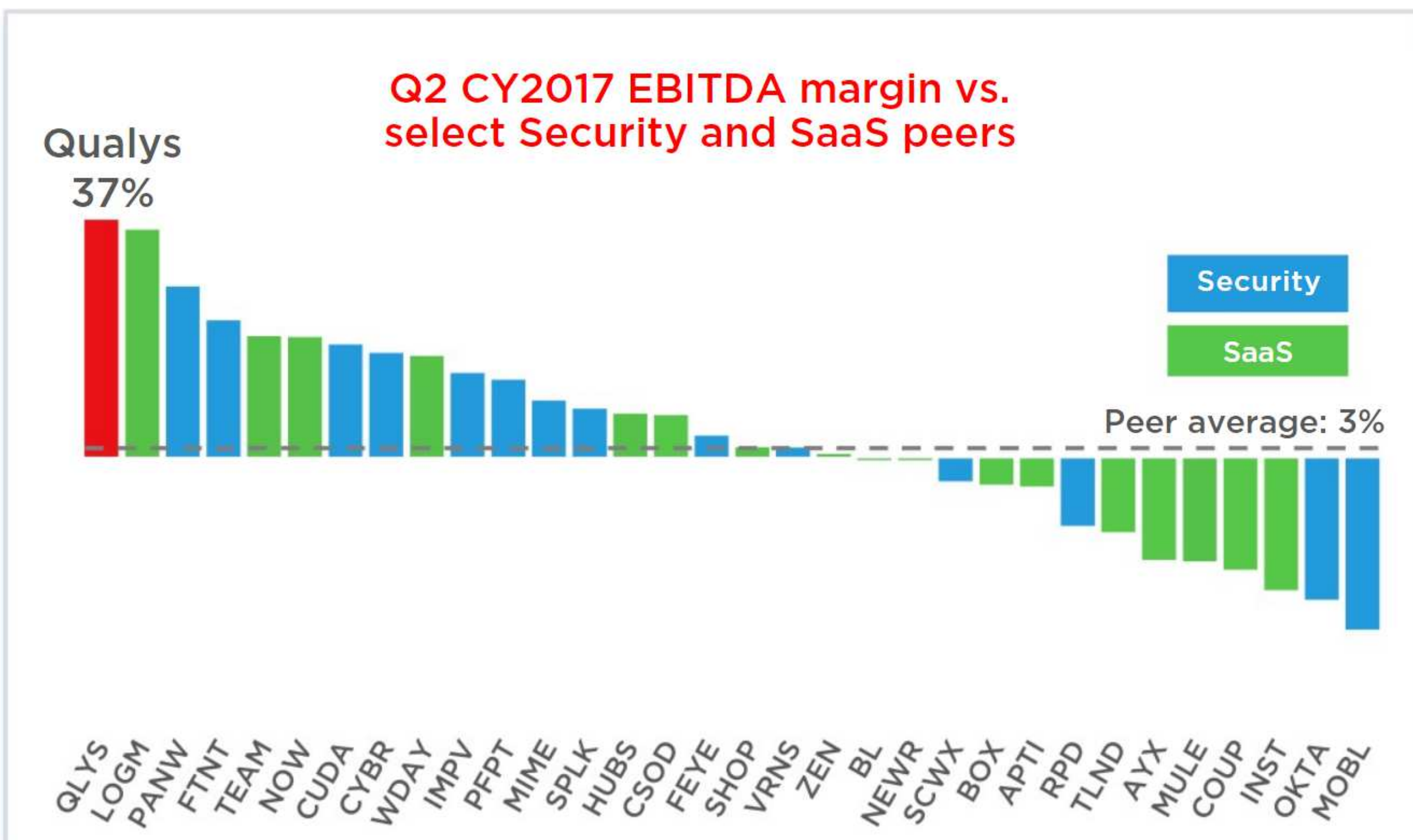
Box (BOX) is a $2.72B cloud content management platform trading 4.5X EV/Sales with 27% revenue growth this year following 31.7% last year and expecting 20-25% annual growth the next two years and also reaching profitability. BOX is at the heart of "Work Smarter" and machine learnings to improve efficiencies in the age of digital transformation at the enterprise level. The CCM market is expected to be $45B in 2019. BOX has a strategic partnership with IBM & Microsoft, which many think will lead to it eventually being acquired. BOX also has partnerships with Google Cloud and Amazon Web Services. BOX has a clear path to $1B in revenues and also seeing efficiency with lower S&M as a % of revenues. It also sees a lot of growth opportunity internationally and new products are accelerating the sizes of initial deals. BOX has best-in-class retention rates as well with 3.5% churn, 17% expansion it heisting customers and 113% retention. As BOX sees inflection in operating and FCF margins I expect shares to be revalued at a much higher multiple.



Qualys (QLYS) is a favorite security focused name, the $2.23B provider of security and compliance solutions trading 32.5X FCF and 7.2X EV/Sales with 16% revenue growth in 2017 following 20.5% last year and sees 15-17% each of the next two years along with double digit EPS growth. QLYS does trade a bit rich on valuation metrics but unlike peers is strongly profitable. QLYS has a strong product cycle set for 2018 with Passive Network Discovery in Q1, Patch Mgmt. in Q2, and Secure Access Control in Q3, providing cross-sell opportunities. QLYS is also using the land-and-expand approach and is seeing strong customer growth and retention and customers with 3+ QLYS products has more than doubled in the last three years. Newer products are driving accelerating growth with Cloud Agent particularly strong and deal sizes are increasing 17%. I see QLYS as a very attractive name that could be a desirable takeover target as well.

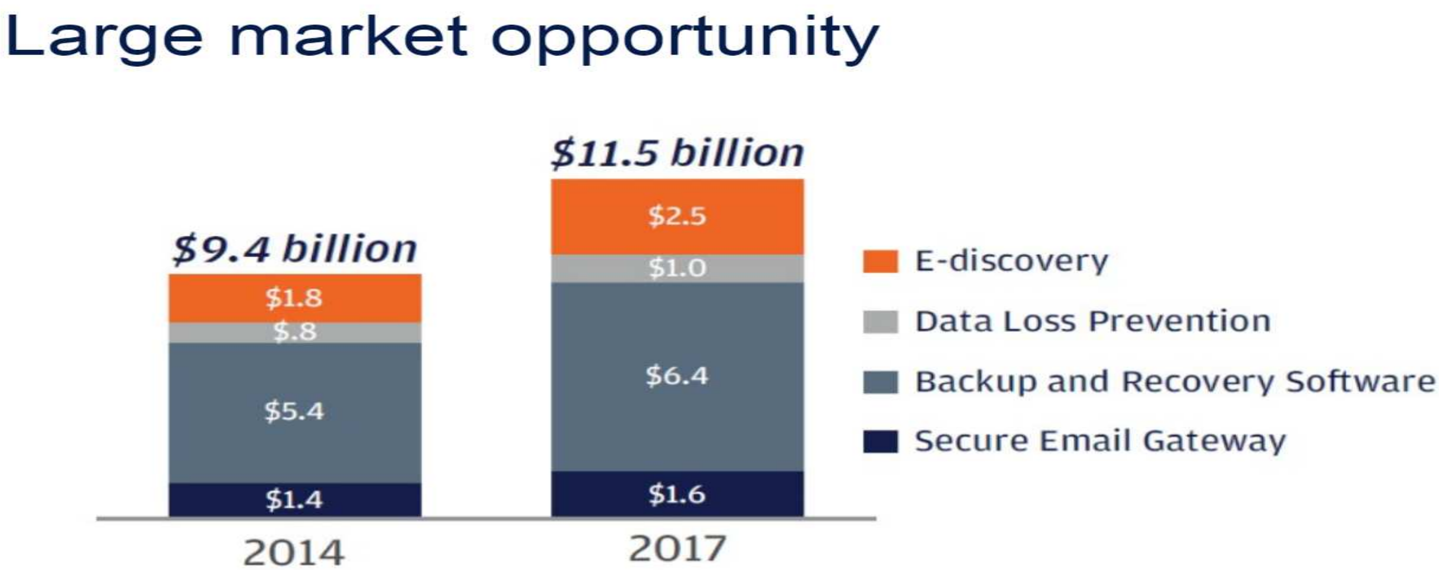
Qualys has taken the #1 market-share position over IBM and HP in the $1.6B Vulnerability Assessment Market



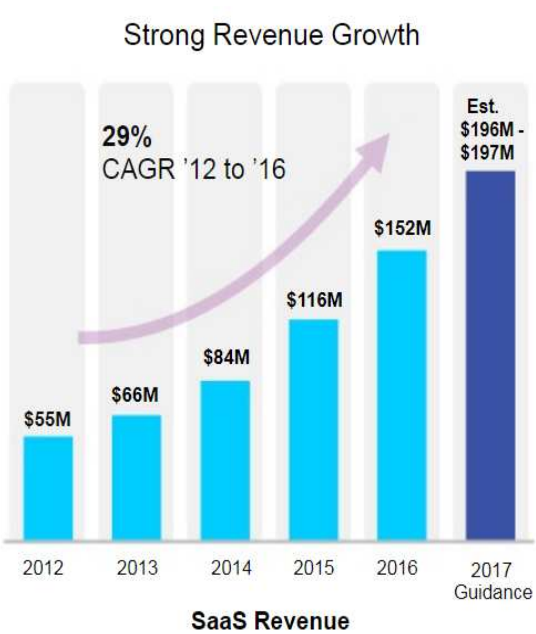


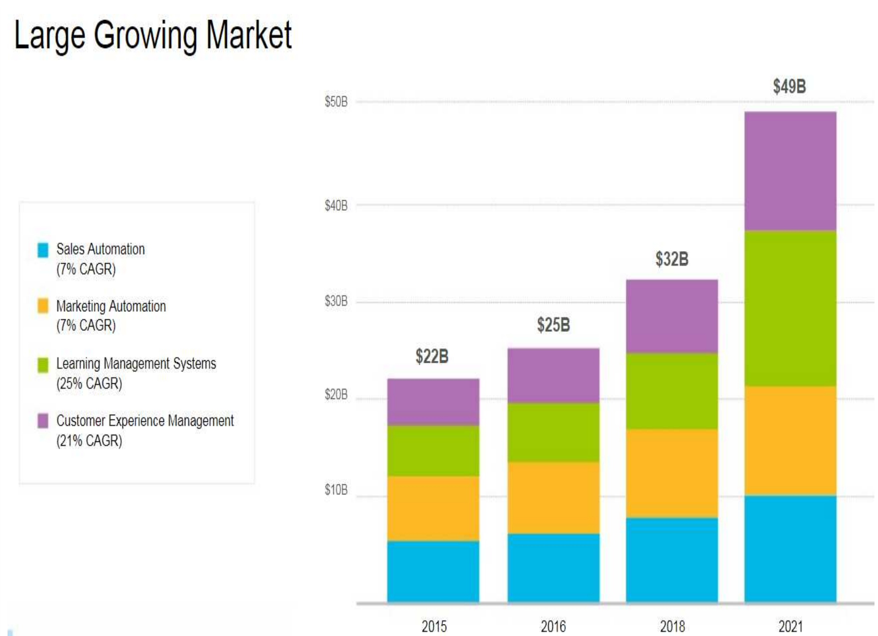
Appfolio (APPF) is a $1.39B provider of cloud solutions in property management and legal industries, and I always like niche names especially with monsters like Salesforce (CRM) always looking at acquisitions to expand verticals. APPF trades 49X FCF and 8.2X EV/Sales with 34% revenue growth this year after 40.8% last year and sees 26.5% next year. APPF has consistently been beating estimates in 2017, and is still a relative unknown on the Street with little coverage (no analysts on latest earnings call). APPF saw strong performance last quarter with more property managers using its electronics payment platform and screening services, 90% of revenues coming from property manager customers.

Mimecast (MIME) is a $1.63B cloud-based email and data protection solutions provider trading 5.1X EV/Sales with 35.9% revenue growth in 2018 after 31.5% last year. It has maintained a consistently high revenue growth rate and a retention rate around 111%. The IT move to cloud is driving a higher demand for security solutions and MIME is mainly targeting the opportunity in mid-markets, accounting for 74% of revenues. MIME has a very diverse customer vertical and 31% of customers are using 4 or more of its services. MIME has 13% R&D/Revenues and S&M as a % of revenues stands at 48%. MIME has a highly recurring model and is benefitting from adoption of cloud email, notably Office 365.



Calidus Software (CALD) is a $1.96B cloudy-based marketing and customer experience solutions provider trading 51.35X FCF and 6.1X EV/Sales with 20.5% revenue growth in 2017 projected to be steady near 20% in 2017 and EPS growth above 45% per year the next two. This segment has been especially active with buyouts. CALD operates in four large markets with especially strong growth in Learning Mgmt. Systems and Customer Experience Management. CALD also operates the land-and-expand model and seeing strong sales to new customers as well as cross-sell and upsell with its installed base. CALD has strong partnerships with SAP and CRM and showing healthier operating leverage while maintaining above-average growth and trading cheap to peers.





Alarm.com (ALRM) is a $1.69B provider of cloud-based solutions for smart homes and businesses trading 39X Earnings, 38X FCF and 4.4X EV/Sales with 14% revenue growth expected in 2018 after three years of 25% growth. The smart home security market is expected to double in 2021 from 2016 levels. ALRM has over 5M subscribers and is looking to add new service providers, upsell and cross-sell products and services, grow internationally and commercially and add new verticals like property management, vacation/rental and wellness. ALRM has a highly recurring model and 93% retention rate with strong cash flows. ALRM currently only has less than 5% of revenues in International markets, but that market expected to growth to $16B in 2020 from $9B in 2016. ALRM is heavily investing in R&D and will have a great opportunity to cross-sell new services. ALRM is leveraging its 7,000+ service provider network to remain the industry leader.

Varonis (VRNS) is a $1.36B security software company trading 4.9X EV/Sales with 28% revenue growth in 2018 and expecting 19% growth in 2018. VRNS has a high 90% renewal rate and 51% of customers purchase two or more products. It does operate a high volume, low ASP perpetual license model, so I see it as a name that could transition to a subscription model to further improve its currently negative operating margins. VRNS is a bit of a niche player as a leader in the merging market for insider threat prevention. The General Data Protection Regulation set to go into effect in May 2018 is an opportunity VRNS should capitalize on. VRNS is seeing rising prices, increased deal pipeline, expanding margins, improved deal closure rates, and expanded opportunities in Government and International markets.

Yext (YEXT) is a $1.12B recent IPO that provides a knowledge engine platform in the cloud enabling businesses to control and manage digital knowledge. Shares trade 4.5X EV/Sales and set for a 37% revenue growth year with 32% growth seen in both 2019 and 2020. YEXT sees a potential $10B addressable market as businesses can control their own digital knowledge as opposed to a 3rd party. YEXT's ability to provide a database that allows customers to push data in real time to over 100 partners like Google, Apple, Facebook, and Microsoft is a growing need with mobile and voice queries requiring data to be structured properly for accuracy. YEXT is trading at a reasonable valuation with a highly recurring revenue model and provides an essential solution for location-based businesses, so it's a name worth considering at this level and closely monitoring its earnings reports.

Coupa Software (COUP) is a $1.8B provider of a cloud-based spend management solution trading 6.5X EV/Sales with 24% revenue growth expected next year after 35.8% this year. COUP has aggressive plans, seeing a path to $1B in revenues, currently at $133.8M. Annual Contract Value (ACV), a key metric in SaaS, is seeing strong growth for COUP. COUP is actively winning alliances with larger companies driving revenue growth, scaling efficiency and disrupting the market. COUP has a best-in-class product in a large and growing market and has a large upsell opportunity. The company has also been improving efficiencies with gross margins growing the last few quarters. COUP currently has -10% operating margins and 4% FCF margin and sees long-term goals of 25%+ and 30%+ respectively. COUP is fairly rich on valuation but if it can get anywhere near its aggressive longer term targets, it is a very compelling long term hold.

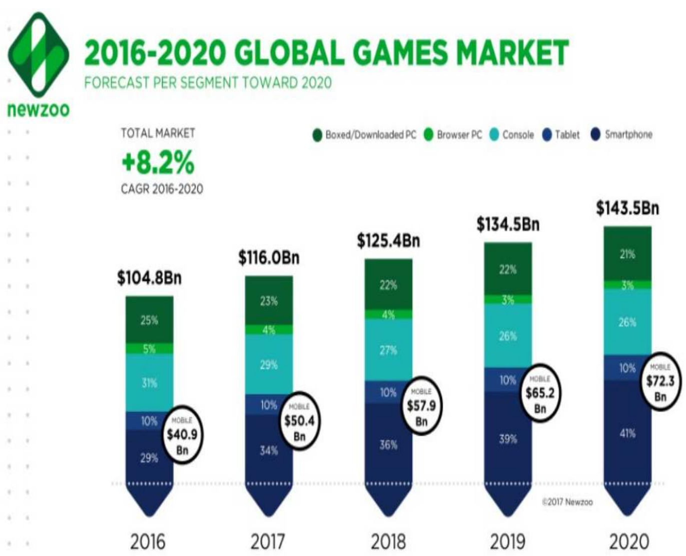
Software – Specific Verticals:

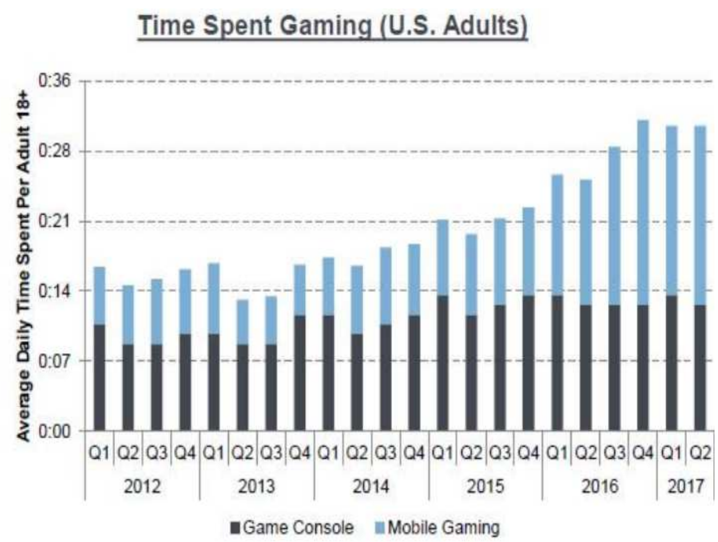
Components:*ABCO,ANSS,ATHN,ATVI,CDW,CERN,COTV,CSRA,EA,EGOV,ELLI,EPAM,GLOB,HQY,INOV,INVA, KEYS, MDRX,MDSO,NICE,NLSN,NSIT,PINC,PRGS,PTC,RP,SPSC,TTD,TTWO,TYL,SYX,TDOC,BL,PLUS*

This group of 33 stocks saw some very strong moves in 2017, led by the videogame names EA, ATVI, and TTWO, while small cap growth names SYX, TDOC, TTD, and RP gained more than 50% each.

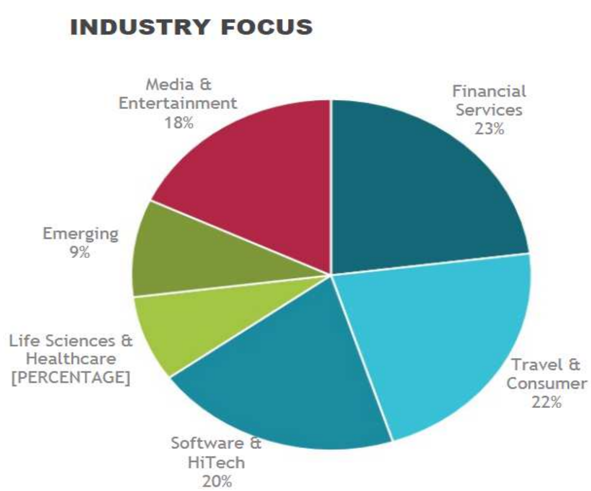
The $5B+ names trade on average 25.5X Earnings, 4.4X EV/Sales with a 22.7% ROIC and have a 15.7% FCF margin.

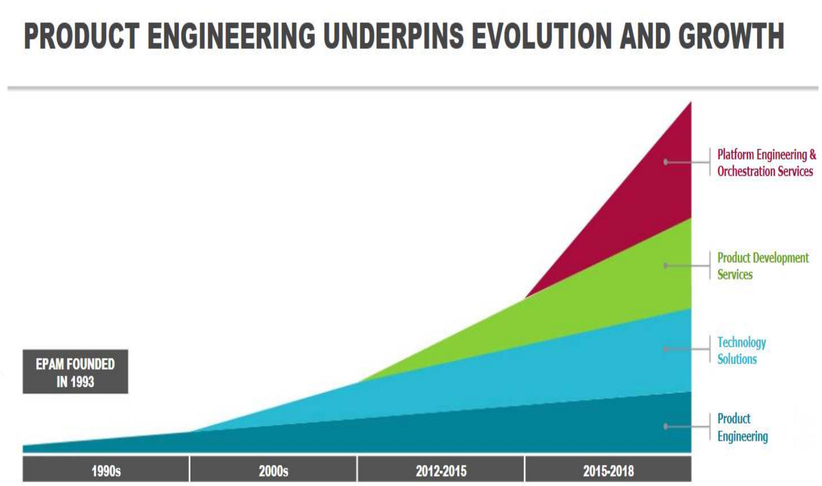
Take Two (TTWO) is a $12.2B videogame maker trading 23X Earnings, 6.4X Sales and 35.5X FCF and shares +120% in 2017 but I see plenty of reason for that momentum to continue. TTWO is projecting 43.5% revenue growth next year and 55% EPS growth and leads its peers in ROIC while trailing in margins, potential to expand those and revalue shares at a higher multiple. The Grand Theft Auto franchise has been the key for TTWO while NBA 2K is also performing well and all evidence across the industry of higher engagement to games plus additional content income from add-ons while the evolution of downloadable games is also a positive. TTWO is still in the early stages of its digital transition and in FY19 has Red Dead and Borderlands as new titles to drive upside. TTWO also has an update to the Grand Theft Auto franchise in the early 2020's, so this growth story has a long way to play out still.



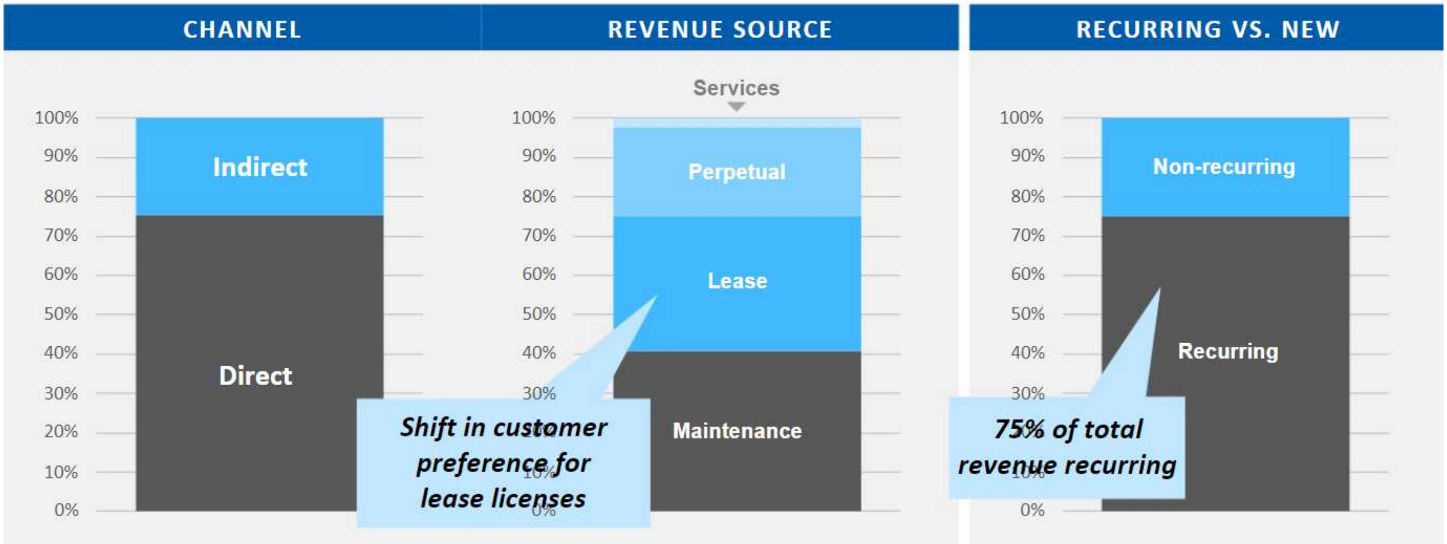


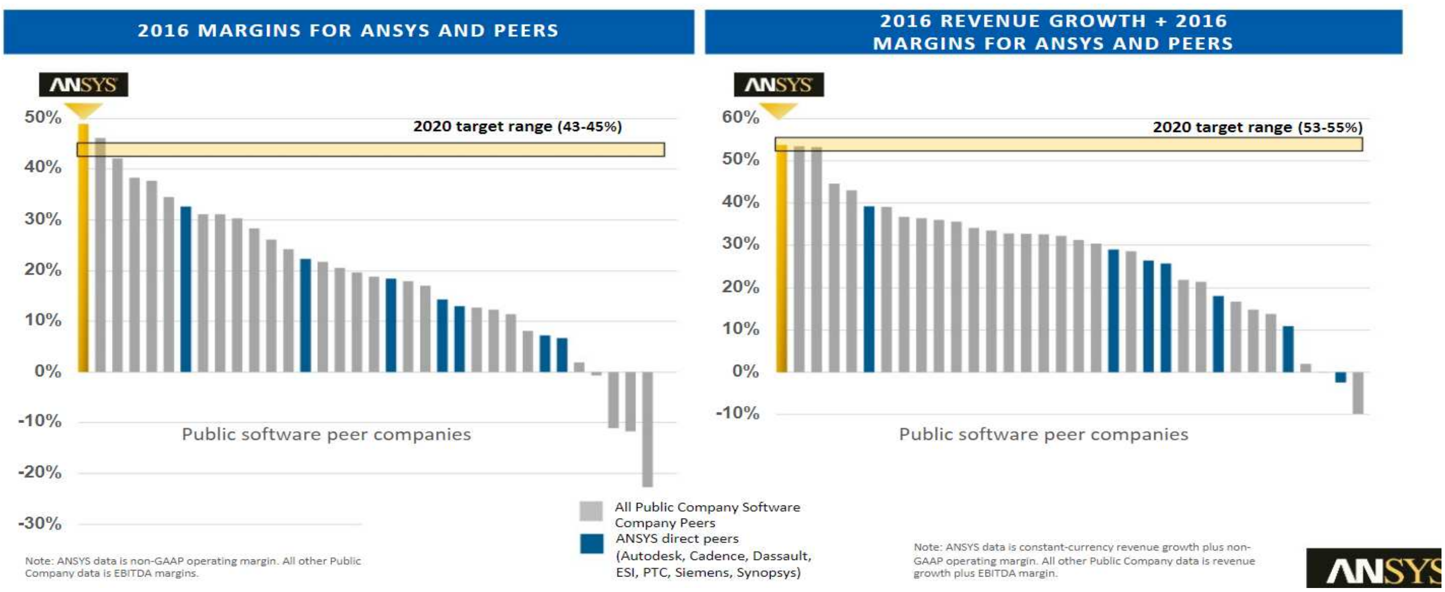
EPAM Systems (EPAM) is a $5.6B software company trading 26X Earnings, 4.1X Sales and 34.8X FCF with 20%+ revenue growth expected each of the next two years following 3 years of 25% CAGR and 20% EPS growth as well. EPAM has a 33% ROIC and 37% gross margins. EPAM is a provider of innovative tech solutions with a focus in Eastern Europe and Russia, a leader in digital platform engineering services. Recurring revenues are 90%+ and it has very strong profitability metrics and a solid balance sheet. EPAM would make a nice acquisition target for Accenture (ACN) or IBM. EPAM does trade rich to its closest peer Luxoft (LXFT) but has consistently performed much better. Despite its valuation, digital transformation still has a long runway and EPAM has industry leading 20-25% organic growth, a name to own.



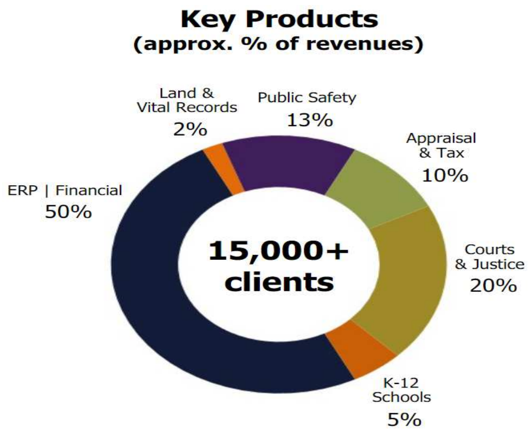


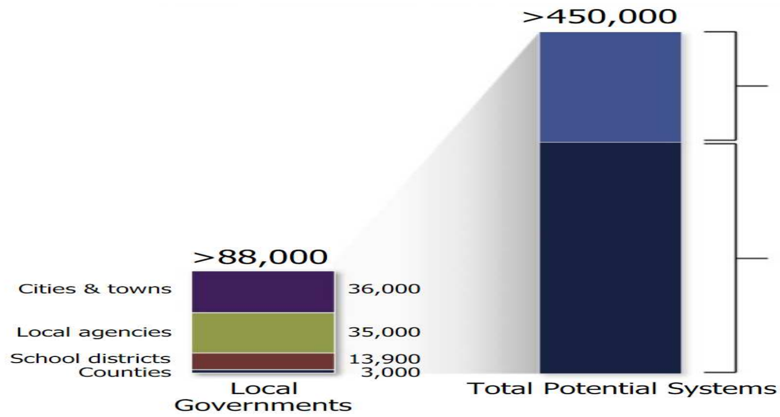
Ansys (ANSS) is a $12.5B maker of engineering simulation software trading 35X Earnings, 31.45X FCF and 10X EV/Sales with a 21% ROIC and 35.6% FCF margin. ANSS is expecting 8-10% consistent annual topline growth and 6-8% EPS growth, not a flash growth name. ANSS is on the forefront of the digital revolution as simulation leads to lower cycle times, reduced costs/risks, better quality and higher innovation. ANSS has a market leadership position across simulation software, and 75% of revenues are recurring. ANSS also has a lot of cash and no debt, giving it flexibility for capital deployment. ANSS is planning to invest more to accelerate growth which will pressure margins near-term, and the opportunity to expand to a higher usage rate among engineers is robust.





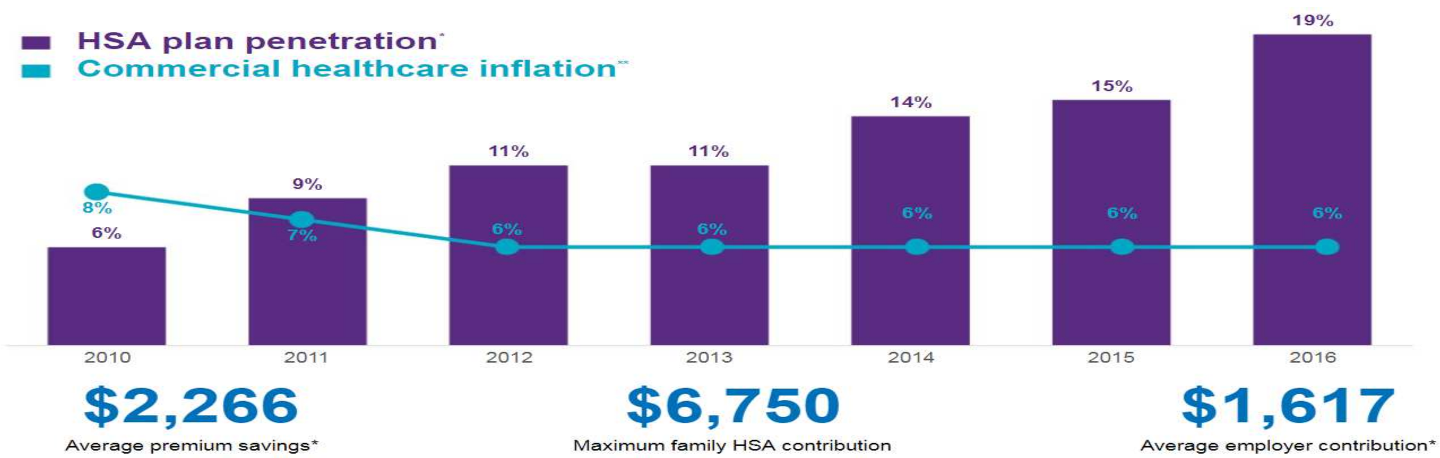
Tyler Tech (TYL) is a $6.75B provider of information management solutions for the public sector with a focus on local governments. Shares trade 41.5X Earnings, 45.5X FCF and 7X EV/Sales with a 14.4% ROIC and 50% gross margins. TYL is expecting double digit topline growth to continue the next two years and with comparable growth for EPS. TYL has 64% of revenues recurring and a long history of double digit organic growth with FCF growing faster than earnings. TYL acquired New World in 2015 making it a leader in Public Safety software. It has a leadership position in its core niche focus and a 97% retention rate. It sees a sizable opportunity remaining for upgrading local government systems, a $7B addressable market according to Gartner that is growing 6-7% annually. It is set to expand the e-filing business which is recurring and high margin, and also continue its acquisitions while looking to expand into International markets for an additional opportunity. It has been transitioning to a SaaS model with 25-33% of new bookings SaaS, a higher margin model.



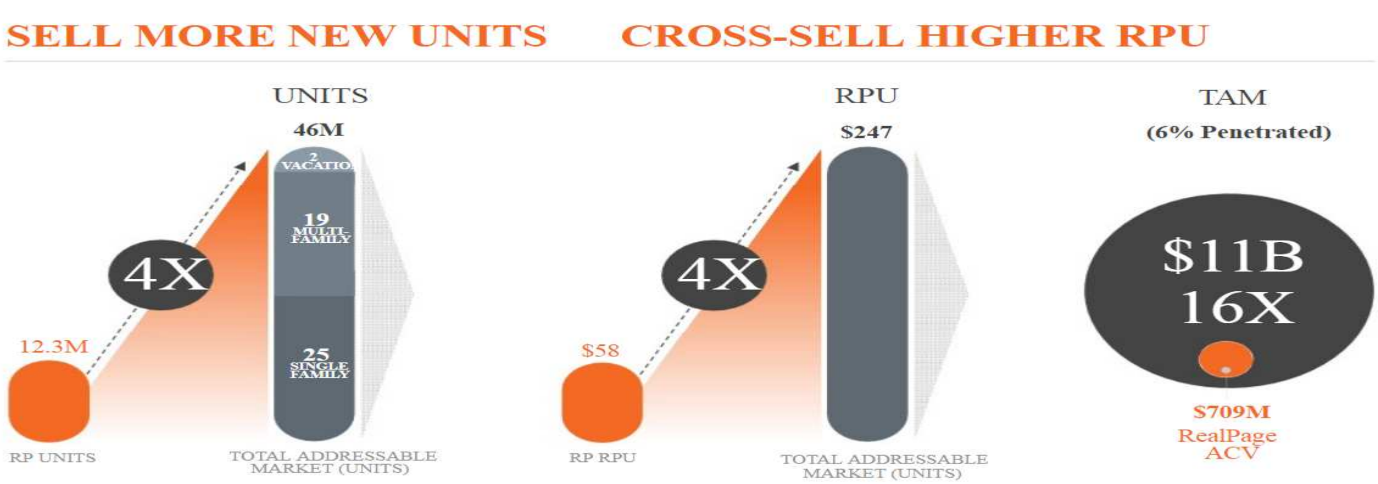


The sub $5B names that stand out across appropriate metrics:

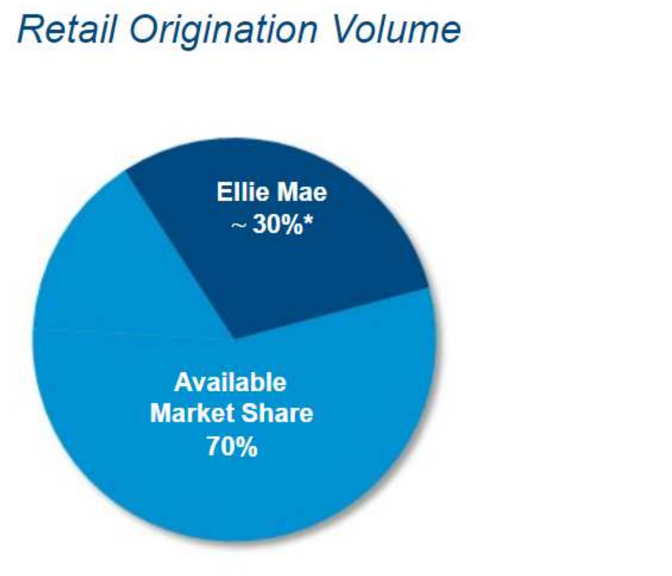
Health-Equity (HQY) is a $2.8B provider of solutions for managing healthcare accounts like health savings and flexible spending. Shares trade 38.6X FCF and 9.5X EV/Sales with a 21.7% ROIC and 26.9% FCF margin. HSA plans still have relatively low penetration rates and HQY has steadily been gaining market share. It has a 95% retention rate and more than 97% of HSA's have yet to invest funds, and overall a massive $1 Trillion market opportunity. HQY's custodial assets are growing 28% Y/Y and AUM rose 30% to $5.6B, and is a key beneficiary of the shifting dynamics of healthcare solutions while also having exposure to the rising rate environment. HQY is uniquely positioned but legislative overhangs need to be watched to see if there is a push towards more HSA plans.

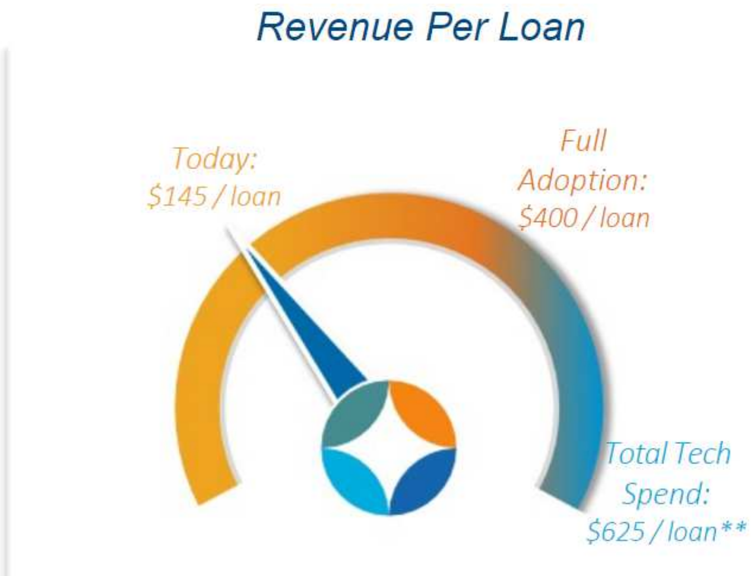


Real-Page (RP) is a $3.6B provider of software and data analytics to the real estate industry trading 38X Earnings, 22.4X FCF and 4.7X EV/Sales with a 16.7% ROIC and 15.6% FCF margin. RP is hitting 18% topline growth this year after 21% last year and sees 22% growth next year. RP operates in an $11B TAM that is 6% penetrated and sees a 4X market size for units and RPU while ACV has a 16X growth potential. RP is seeing steady improvement across all its metrics and operates in a sizable market while trading at a major discount to software peers. RP can also continue to utilize small bolt-on acquisitions to improve its product/service offerings. RP should be able to continue to take market share and consolidate this fragmented industry providing a stable runway for above-average growth and profitability.

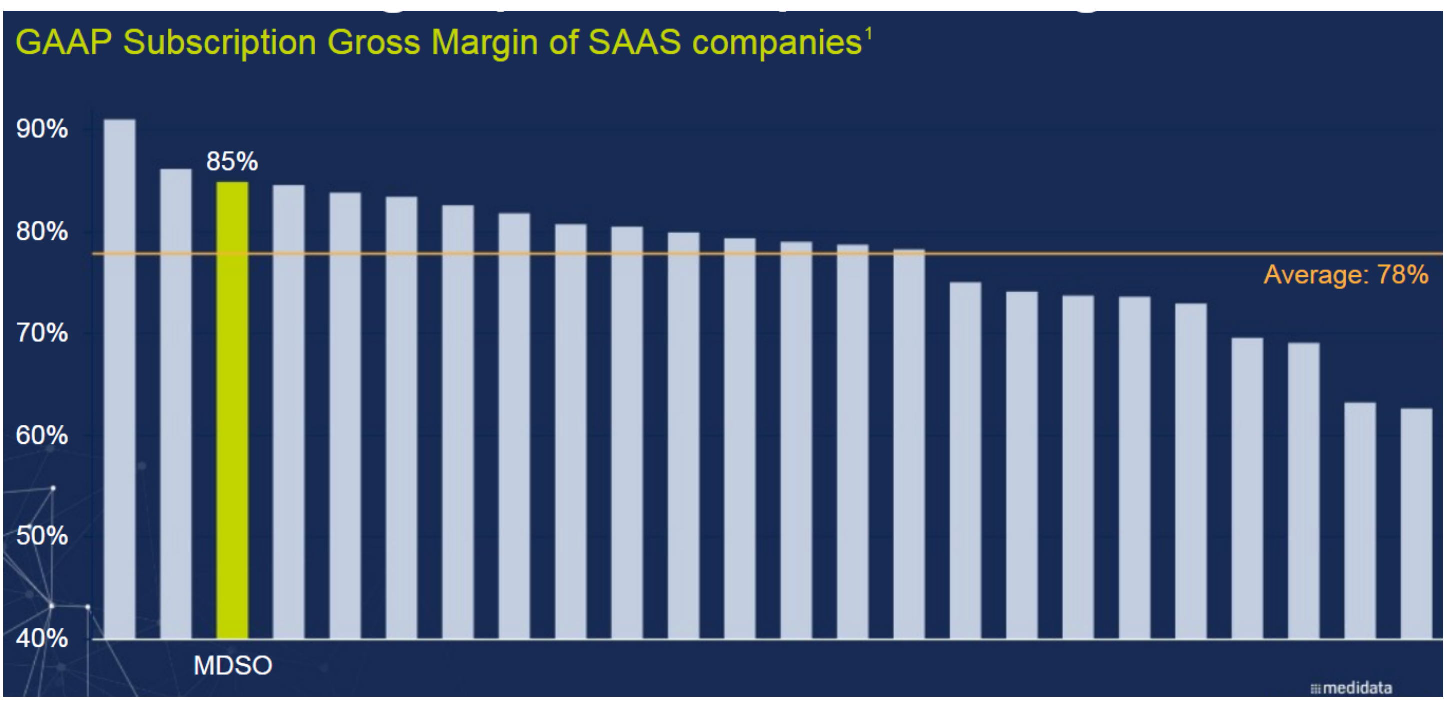


Ellie Mae (ELLI) is a $3.2B provider of software solutions to the residential mortgage industry trading 57.6X Earnings, 38.9X FCF and 5.8X EV/Sales with a 23.3% ROIC and 6.8% FCF margin. ELLI is seeing 14.5% revenue growth this year, down sharply from the prior two years and expects acceleration back to 18-20% the next two years after a 37% CAGR from 2012 to 2016. ELLI operates in a large and underpenetrated market with highly visible/recurring revenue model and strong cash flow conversion. It sees a $6.25B TAM with opportunity to gain new customers, increase network adoption, and add new solutions. ELLI should benefit in 2018 from pent-up housing demand and increasing origination costs. It operates with a 15% R&D spend as a portion of revenues and relatively low Sales & Marketing spend at 13%. ELLI is expected to see margin expansion as it moves to AWS and higher ASPs to boost profitability. ELLI may continue to face some near term margin headwinds as it integrates Velocify, but the overall story remains very attractive.





Medidata Solutions (MDSO) is a $3.7B provider of cloud-based solutions for the life sciences industry trading 44.9X Earnings, 40.5X FCF, and 5.6X EV/Sales with a 12% ROIC. MDOS has a strong position for a smaller company with 18 of the top 25 global Pharma companies using its technology and 13 of the top 15 selling drugs in 2017 developed with its technology. MDSO customers with 4+ products has grown 191% since 2014 and advanced analytics with data science and machine learning are driving opportunity. The company is targeting $1B in revenues by 2020 and subscription revenues currently running with a 5 year 22% CAGR. The long term operating model sees gross margins approaching 80% and Sales & Marketing declining to high 10% of revenues. MDSO should continue to grow market share in the strong clinical development industry as the sole provider of an end-to-end cloud platform.



Blackline (BL) is another niche software player with a $1.85B market cap targeting the accounting industry with SaaS solutions, shares trading 7.77X EV/Sales with 41% topline growth in 2017 and projections for 25-30% per year the next two. BL is utilizing machine learning and AI to provide automation solutions to the Finance industry. BL has a tiny penetration to a massive TAM and is investing seriously in its headcount to continue its rapid expansion. More than 95% of revenues are SaaS recurring and it has 113% dollar based revenue retention. Average Revenue per Customer is also seeing steady growth as are large deals. BL sees a path to 20%+ operating margins, currently at -1%. BL's launch of Intercompany hub should boost its product cycle and result in strategic partnerships.

PC and IT:

Components:*AAPL,CACI,CRAY,CSC,DDD,DLB,EFII,FIT,GRMN,HPQ,IBM,JBL,LOGI,NUAN,PLT,PRLB,SAIC,SNX,SSYS,SYNT,TRMB,BB*

This group features more of the hardware related names including giants like Apple and IBM, and also the 3D Printing, Navigation, and Electronic Components. Hardware has taken a backseat to Software in terms of spending and can see this group has a lot less growth.

Apple (AAPL) with a $900B market cap remains a core holding in Tech trading 14.3X Earnings, 3.9X Sales and 17.8X FCF with a 1.44% yield and a ton of cash. AAPL is in an iPhone launch cycle expecting 19.7% revenue growth in 2018 and 24.5% EPS growth and likely remains a strong stock at least through the first half of 2018. AAPL continues to buy back stock and raise its dividend while also having plenty of optionality to put its cash to use in M&A. Its Services segment is seeing accelerating growth and improving the mix for Apple's margin profile, as is the pricing for the new iPhones. China growth appeared to inflect back to positive last quarter and remains a key market. Tax Reform will results in a 7% boost to EPS but more importantly repatriation can free up its cash.

Logitech (LOGI) is a $5.8B market of peripherals and digital platforms trading 20X Earnings and 25.9X FCF with a 1.88% yield. LOGI grew revenues 10% in 2017, best year since 2011 and sees 2018 as another year of double digit top and bottom line growth. LOGI is seeing robust growth in video collaboration and gaming markets. LOGI has solid FCF and its increasing consumer cloud focus is accelerating growth which is allowing for multiple expansion.

Dolby (DLB) is a $6.25B audio technology company trading 24X Earnings, 5.8X Sales and 20.25X FCF with a 1% dividend yield. DLB is expecting to hit 7% revenue growth in 2018, best since 2010, and 14.8% EPS growth. Apple recently licensed Dolby's Vision which is expected to result in stronger growth and improved margins. DLB has a dominant competitive position and strong cash flows. DLB gets the majority of its profits from broadcasting revenues, a high margin licensing business, and is seeing strong growth in Mobile as well.

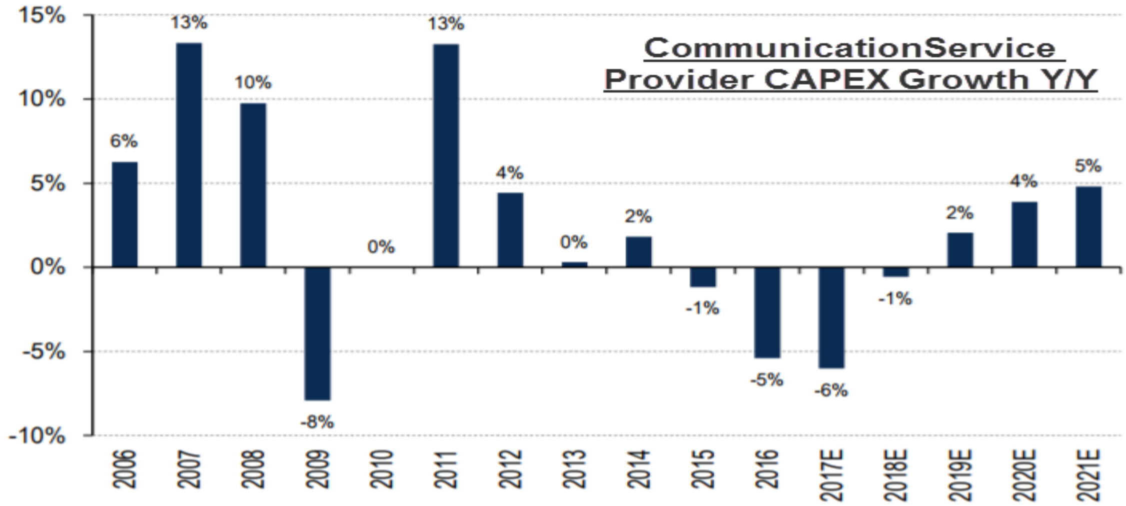
Proto Labs (PRLB) is a $2.7B digital manufacturer trading 40.75X Earnings, 8.4X Sales and 55.2X FCF. PRLB is the high growth name posting 14.6% growth in 2017 and forecasting 25% growth in 2018 as well as accelerating EPS growth. PRLB is taking advantage of the shorter product cycles by utilizing its technology to allow companies to beat competitors to market, ramp production quickly, and keep up with faster innovation rates. PRLB recently made a small acquisition of Rapid Manufacturing and can see it continuing to do deals to expand its capabilities, though this particular one is a negative to margins. PRLB should continue to perform well in 2018 with strength in global manufacturing and the overall shift to digital factories that has a long way to go.

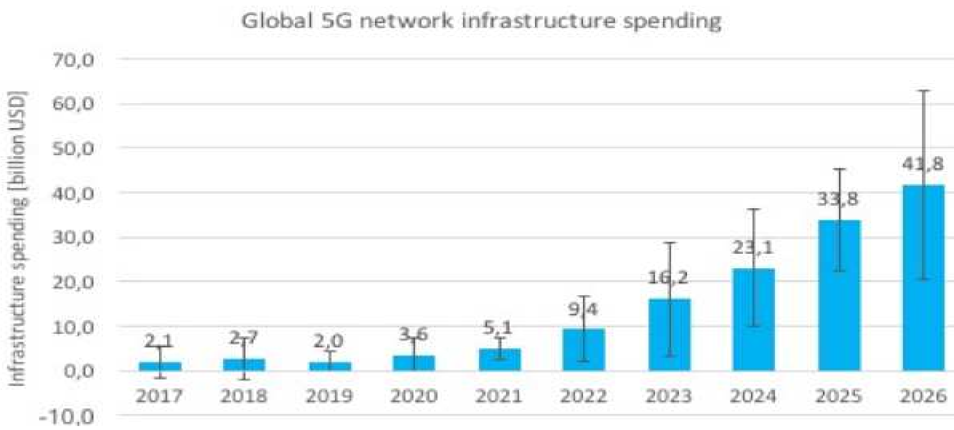
Networking and Storage:

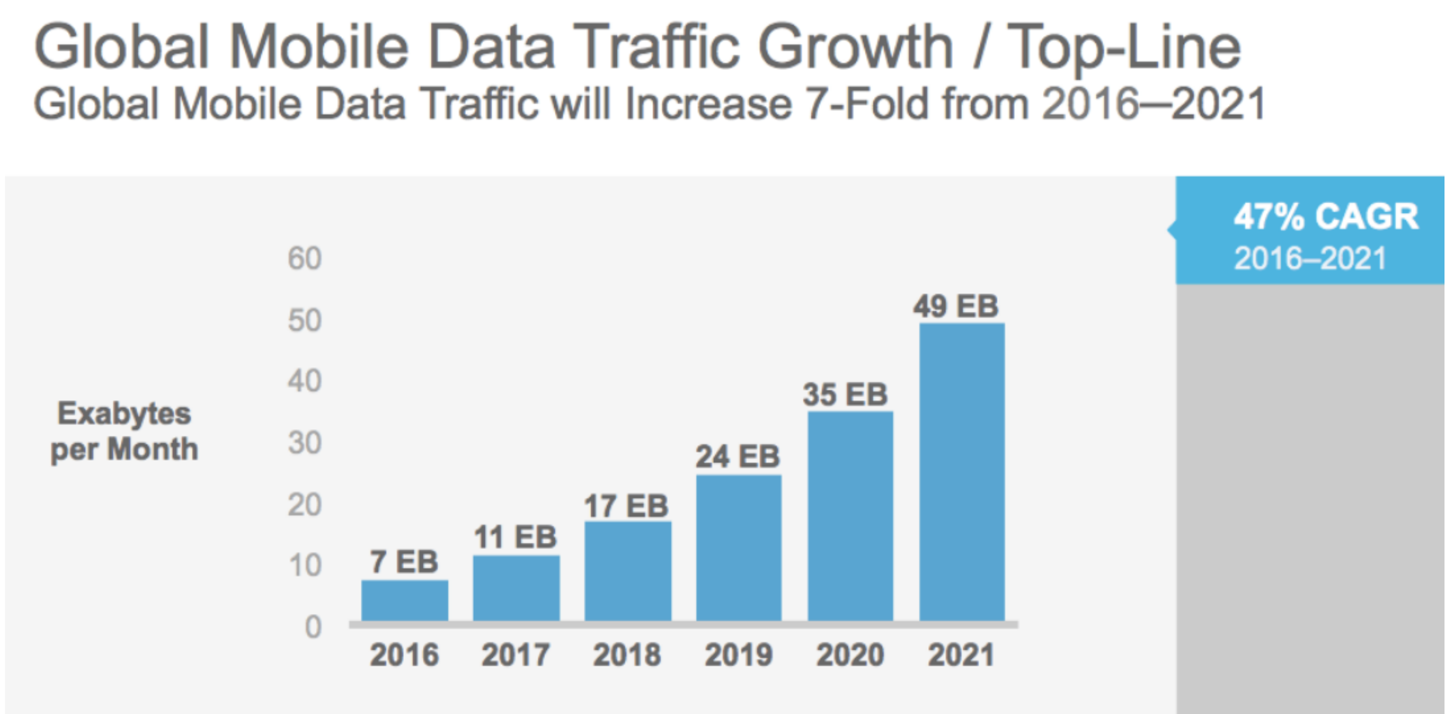
Components:*ACIA,ADTN,AKAM,ANET,ARRS,CIEN,COMM,CSCO,CTL,CVLT,FNSR,GIMO,GTT,HPE,IIVI,INFN,JNPR,LITE,LVLT,NTAP,NTGR,OCLR,PI,PSTG,SMCI,STX,TDC,TEL,UBNT,VSAT,WDC,ZAYO,SWCH,WIFI,ERIC,MSI,VIAV,EXTR,SILC*

This group saw mixed trading in 2017 with 11 names down 13.5% or more on the year, notable weakness among the Telecom spending exposed names like FNSR, CIEN, and ARRS. ANET continued its winning ways as the top pick from last year, a major growth name taking market share and shares +140% YTD. Storage had a solid year with NTAP, PSTG, TDC and WDC all gaining. The main divisions in the industry are Wireless, Wireline, Routing/Switching, Optical, and Voice/IMS. Global wireless capex is expected to remain stagnant until 2019. Fiber and 5G are expected to be strong growth themes moving forward. In storage we are seeing HDDS in a secular decline with a move in favor of Flash.

Network Attached Storage (NAS) and Storage Area Network (SAN) are both seeing weak IT spend trends and the shift to public cloud is negatively impacting storage spending in traditional IT data-centers. Cloud-to-Cloud backup, Open Source Containerization, High-Capacity Flash, Nonvolatile Memory Express (NVMe), and Software-Defined Storage remain stronger trends into 2018. In terms of M&A in the group **Akamai (AKAM)** is making the news late in 2017 after Elliott Management disclosed an active stake and could push for a sale, while **Juniper (JNPR)** is reportedly being eyed by **Nokia (NOK)** in a potential deal.

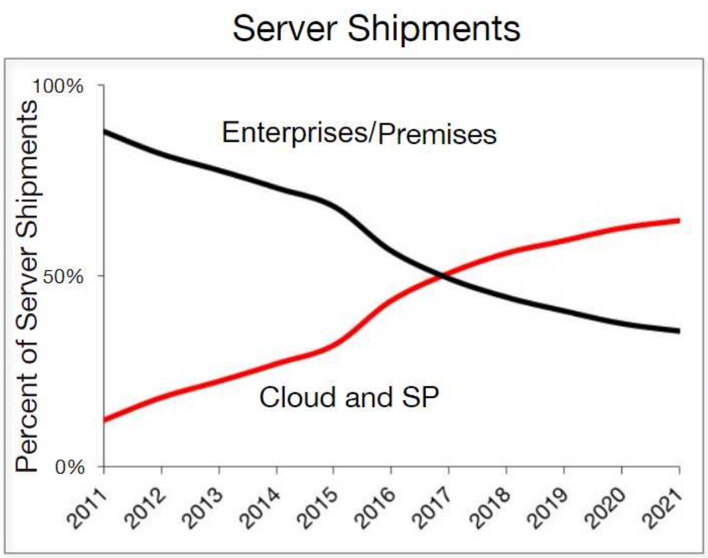


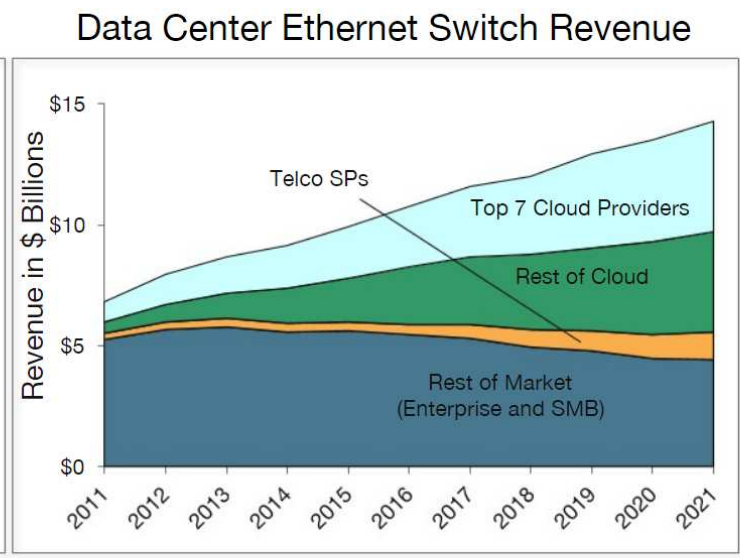


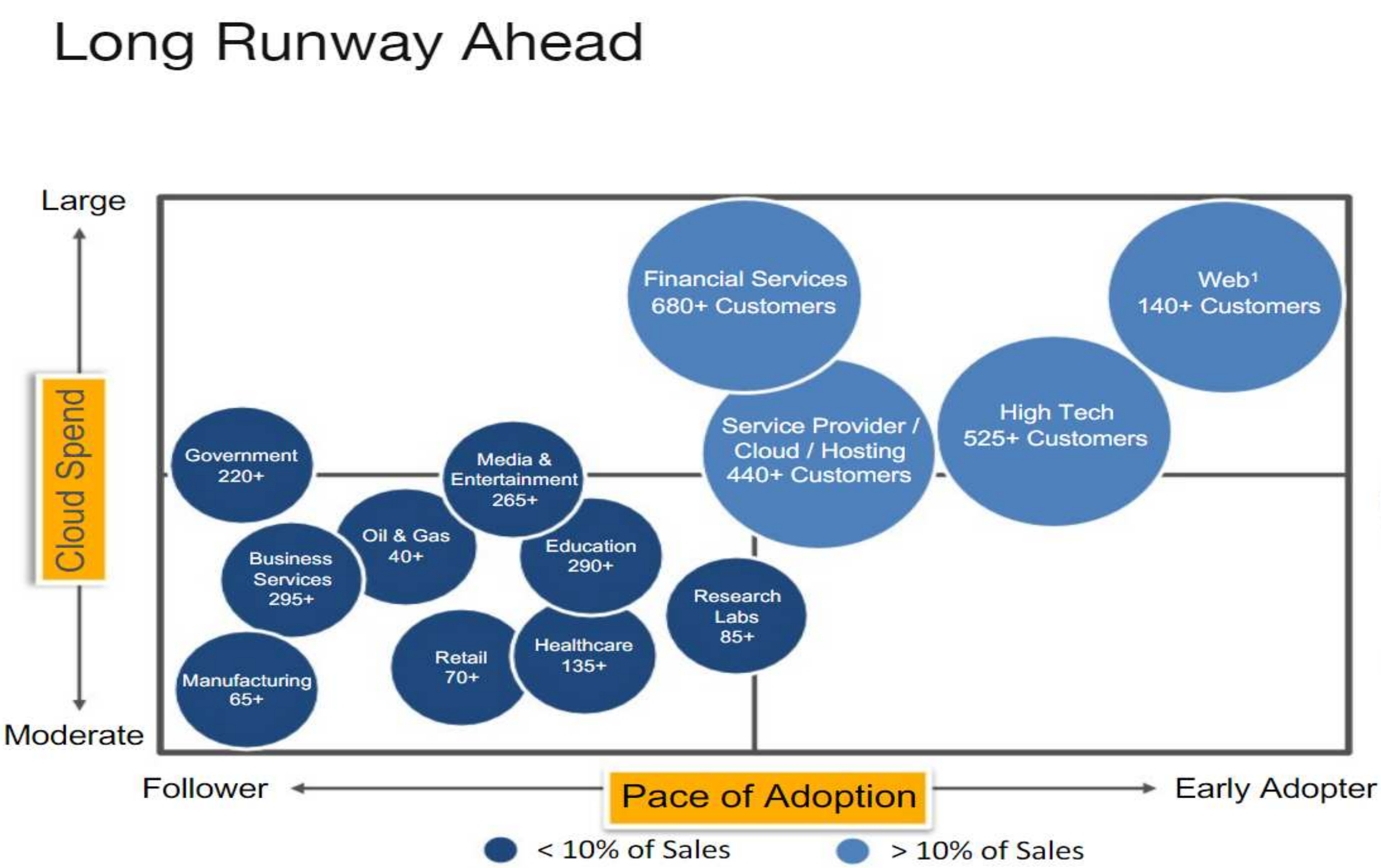


First, looking at the $7B+ names in the group that trade on average 21X Earnings, 10.3X EBITDA and with 28% EBITDA margins and a 14.8% ROIC.

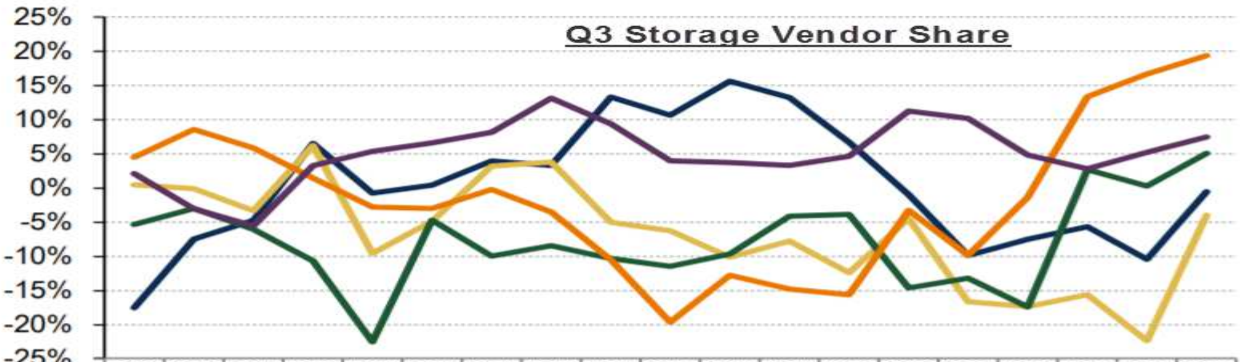
Arista Networks (ANET) is a $16.8B provider of cloud networking solutions trading 38X Earnings and 28.3X FCF, fairly cheap considering its growth. ANET has a 67% ROIC and 27% FCF margin, growing revenues 45% in 2017 which looks to be a peak growth year with 27% and 21% growth seen the next two years. ANET is in the sweet-spot of the shift being seen with Servers and Ethernet Switch markets as Enterprises migrate to clouds. ANET has been taking market share from Cisco each and every year, and at a 14.5% share versus Cisco at 52% in 2016, still plenty out there to take. ANET is also an outstanding operator seeing margins rise to new highs and strong cash conversion and inventory management. ANET recently posted 141% Y/Y International growth, another large opportunity. ANET also is launching new products like FlexRoute for routing software. ANET shares may be rich on valuation, but over the longer term it still has a lot of market cap expansion potential.





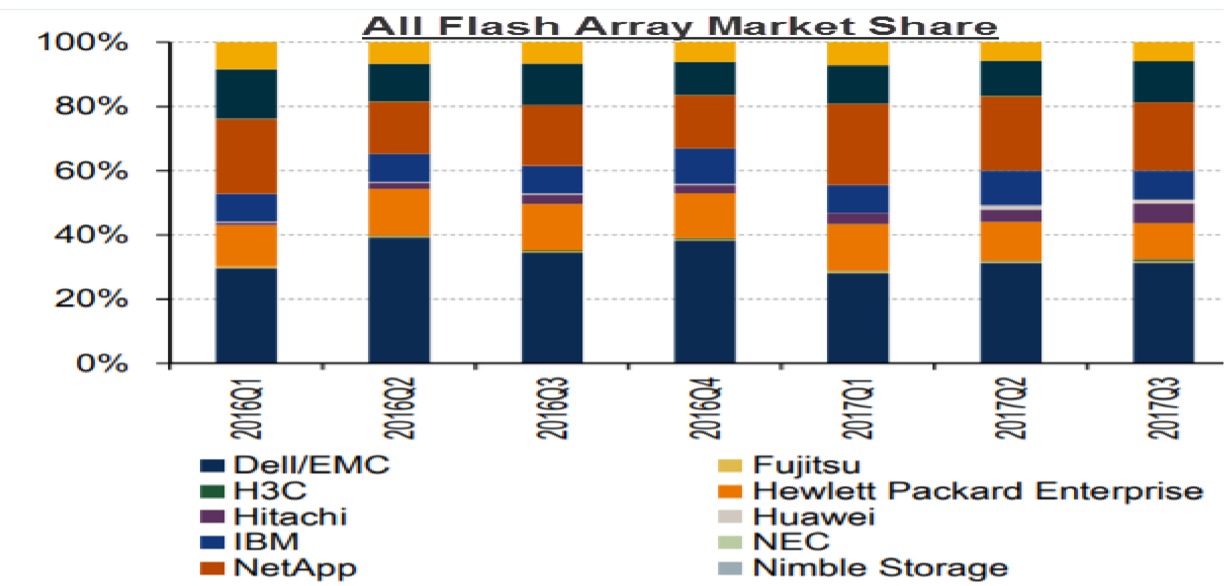


NetApp (NTAP) is making a comeback in 2017 with shares up more than 60% after years of trading at ultra-cheap valuation levels. The $15B storage company now trades 15.7X Earnings, 2.7X Sales and 19X FCF with a 1.4% yield, still very cheap. NTAP remains a lower growth name with 5.4% revenue growth seen in FY18 and 3.5% in FY19, the former being its best since 2012. NTAP is benefitting from improving margins with a better product mix. It is seeing strong growth in its All-Flash portfolio and adoption of its converged Flexpod product while also announcing key partnerships with Fujitsu and Azure. NTAP is a re-rate story as it starts to outgrow the storage industry and is taking share from EMC/Dell. Its large exposure to government can also be a positive driver the next few years while NFS cloud adoption is a longer term growth story. NTAP is a product cycle story as well as it has shifted into stronger markets like Flash and Cloud. NTAP also expects headwinds from its mature products to abate in coming quarters. NTAP should also see benefits from repatriation of cash to driver repurchases and dividend hikes.



	1Q13	2Q13	3Q13	4Q13	1Q14	2Q14	3Q14	4Q14	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17
HP	-18%	-7%	-5%	7%	-1%	0%	4%	3%	13%	11%	16%	13%	7%	-1%	-10%	-7%	-6%	-10%	-1%
Dell	0%	0%	-3%	6%	-10%	-5%	3%	4%	-5%	-6%	-10%	-8%	-12%	-4%	-17%	-17%	-16%	-22%	-4%
IBM	-5%	-3%	-6%	-11%	-22%	-5%	-10%	-8%	-10%	-11%	-10%	-4%	-4%	-15%	-13%	-17%	3%	0%	5%
NTAP	5%	9%	6%	1%	-3%	-3%	0%	-4%	-10%	-20%	-13%	-15%	-16%	-3%	-10%	-1%	13%	17%	19%
Other	2%	-3%	-6%	3%	5%	7%	8%	13%	9%	4%	4%	3%	5%	11%	10%	5%	3%	5%	7%

HP Dell IBM NTAP Other

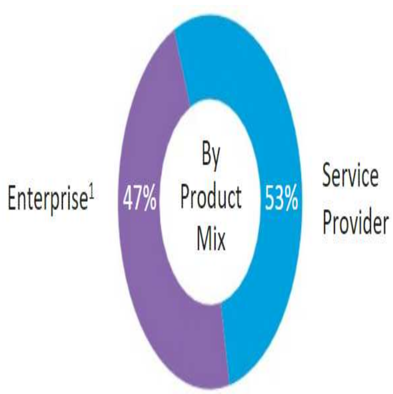


Zayo Group (ZAYO) is an $8.85B provider of bandwidth infrastructure solutions trading 61X Earnings and 70.65X FCF that posted 27.8% topline growth in 2017 and expects 18% growth in 2018. ZAYO is a name that saw a lot of Jan. 2019 call option accumulation in October-December on the likelihood it eventually converts to a REIT to unlock value. ZAYO is a consolidator in the data center & fiber industry with 38% of revenues from fiber solutions, 27% enterprise networks, 23% transport and 11% colocation. Its customers are distributed with 45% exposure to carriers & wireless and 55% enterprise. With carrier spending trends expected to improve next year boosted by tax reform, and churn set to moderate, ZAYO is in a good position to profit from all the network buildout growth trends. With improving revenue trends, potential for a REIT conversion or M&A, and healthier metrics I like how ZAYO sets up into 2018.

The sub $6B group has a few standout names:

Commvault Systems (CVLT) is a $2.45B provider of data management applications trading 40.2X Earnings, 3.66X Sales and 29.75X FCF. CVLT struggled in 2015-2016 but posted 9.3% topline growth last year and sees acceleration coming as it enters a new product cycle. At 2.8X EV/Sales and trading 5X cash value with no debt it feels like a likely M&A target. CVLT is also seeing momentum in its new subscription-based pricing model and a record number of large deals at a record ASP boosted by data migration to the cloud. CVLT also has a significant relationship with Microsoft that it has recently expanded. I like CVLT as a product cycle play that is trading way too cheap for its growth, though a name that often has some lumpy quarters due to Enterprise deal timing. I expect deal momentum to pick back up in 2018 and the subscription model to be a longer term success story.

Ubiquiti Networks (UBNT) is a $5.25B networking technology company trading 15.3X Earnings, 5.8X Sales and 31.4X FCF. UBNT is coming off a strong 29.8% revenue growth year with 18% growth seen in 2018. UBNT is a price disruptor in the industry and targets underpenetrated markets with 62% of revenues outside of North America. Its product suite is targeting a massive TAM of $47B and it has consistently been a strong grower. AirMax AC is set to go through a Gen2 upgrade cycle and other new products are also nearing. At its investor day in September the company noted it expects significant margin improvement over the next two years. UBNT is a unique company with a high short float with Citron a notable bear on the name for a long time, but to this point UBNT continues to deliver for its shareholders, up 17% in 2017 nearing lifetime highs.



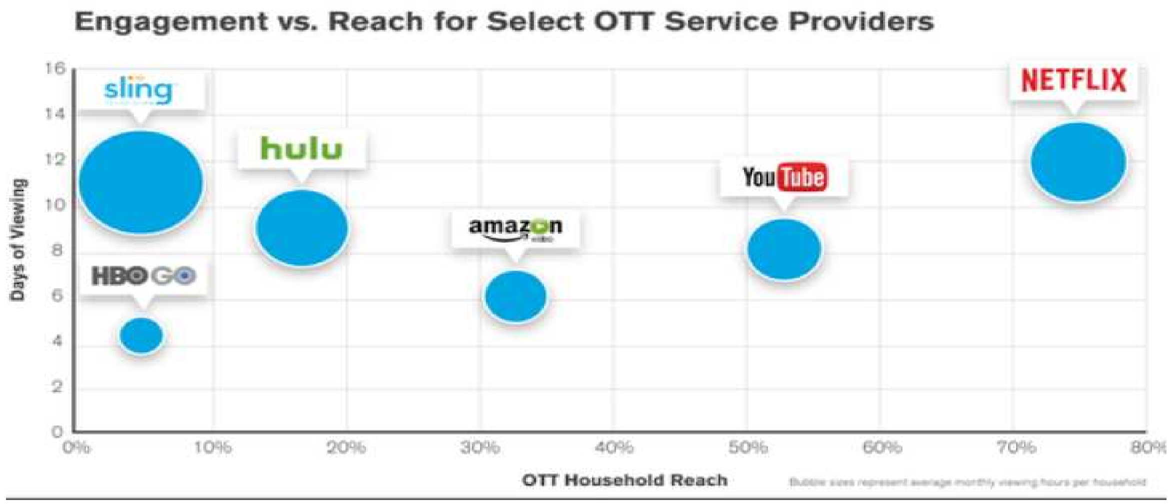
UbiquitiPlatform	TargetMarket	TotalAddressable Market[1]
UniFi	• EnterpriseWi-Fi(AP,Switches,Routers)	$30B
UniFiVideo	• VideoSurveillance	$5B
AmpliFi	• ConsumerHomeWi-Fi	$4B
EdgeMax	• CarrierRoutingandSwitching	$4B
airFiber	• WirelessBackhaul	$4B
Total		**$47B**

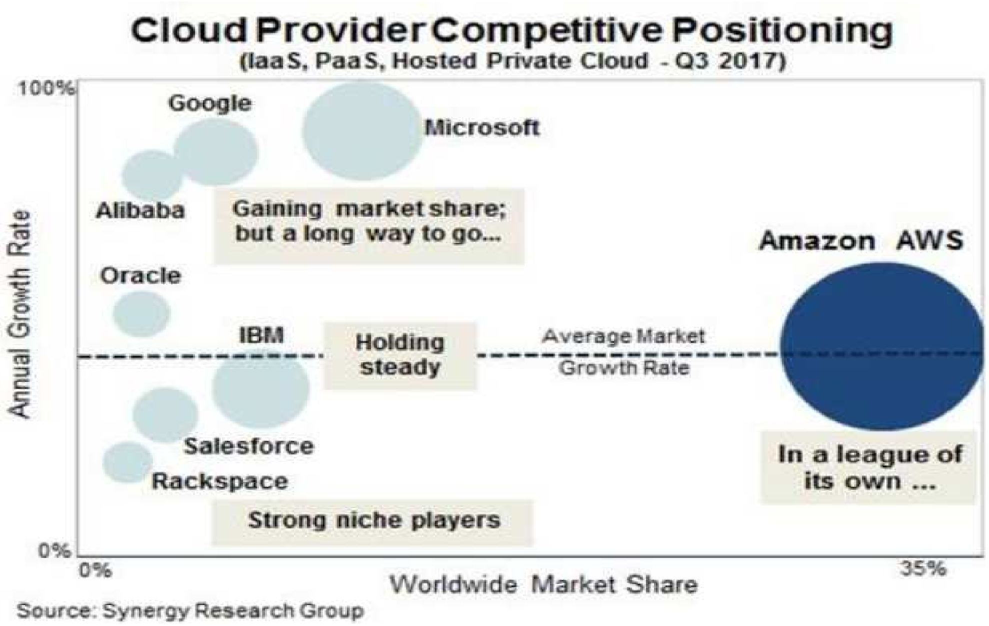
Internet Information:

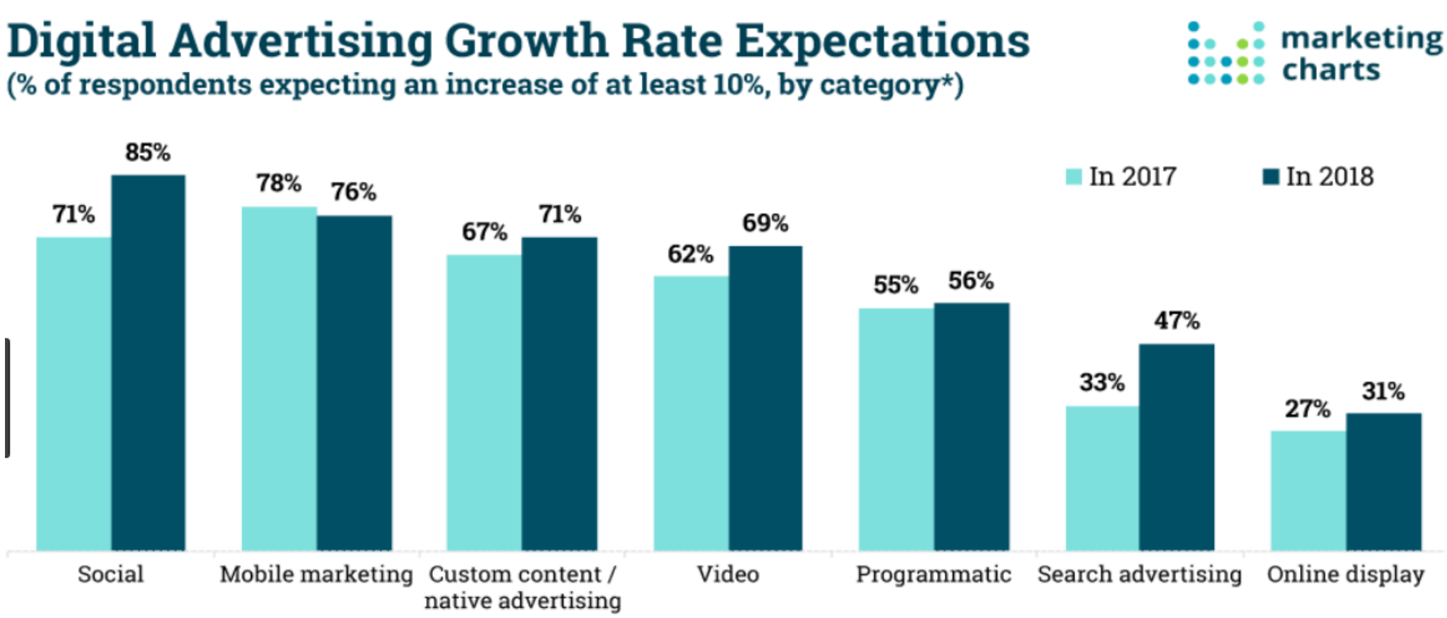
Components:*AMZN,BABA,BIDU,CRTO,DLTH,EBAY,ETSY,FB,GDDY,GOOGL,GRUB,IAC,JCOM,JD,LN,MELI,MTCH,NLSN,NTES,P,SFLY,SIRI,SSTK,STMP,TWTR,VRSN,W,WB,WIX,YELP,YHOO,YNDX,YY,Z,ZNGA,RDFN,ATHM,TCX, TCEHY*

The Internet industry contains some of the major market leaders like Amazon, Google, and Facebook. Digital ad spending has now surpassed TV ad spending and it continues to take market share. Mobile and Social remain the main avenues of growth in digital ad spending. The ecommerce trend remains a major growth market with sales expected to reach near $500B in 2018 from just $300B in 2014. The users of artificial intelligence to drive user engagement and targeting can drive upside to estimates, though many names in the group also face margin pressures from growing investments in technology. The better ad targeting will drive higher ROI and enable better pricing which can lead to upside to earnings. The elimination of Net Neutrality in 2018 raises operational costs resulting in lower margins with NFLX, FB, GOOG, TWTR, and AMZN most at risk. According to comScore US mobile Internet audience rose 1% in

November while PC users declined 5%. Positive trends were send on GOOG, GRUB, TWTR, YELP and W while negative trends seen in FB, NFLX, AMZN, EBAY and P. Companies with the highest tax rates that will benefit the most from tax reform include IAC, TRIP, GRUB, AMZN, YELP, and ZNGA. Cash repatriation mostly benefits EBAY, PCLN, TRIP, and GOOG.

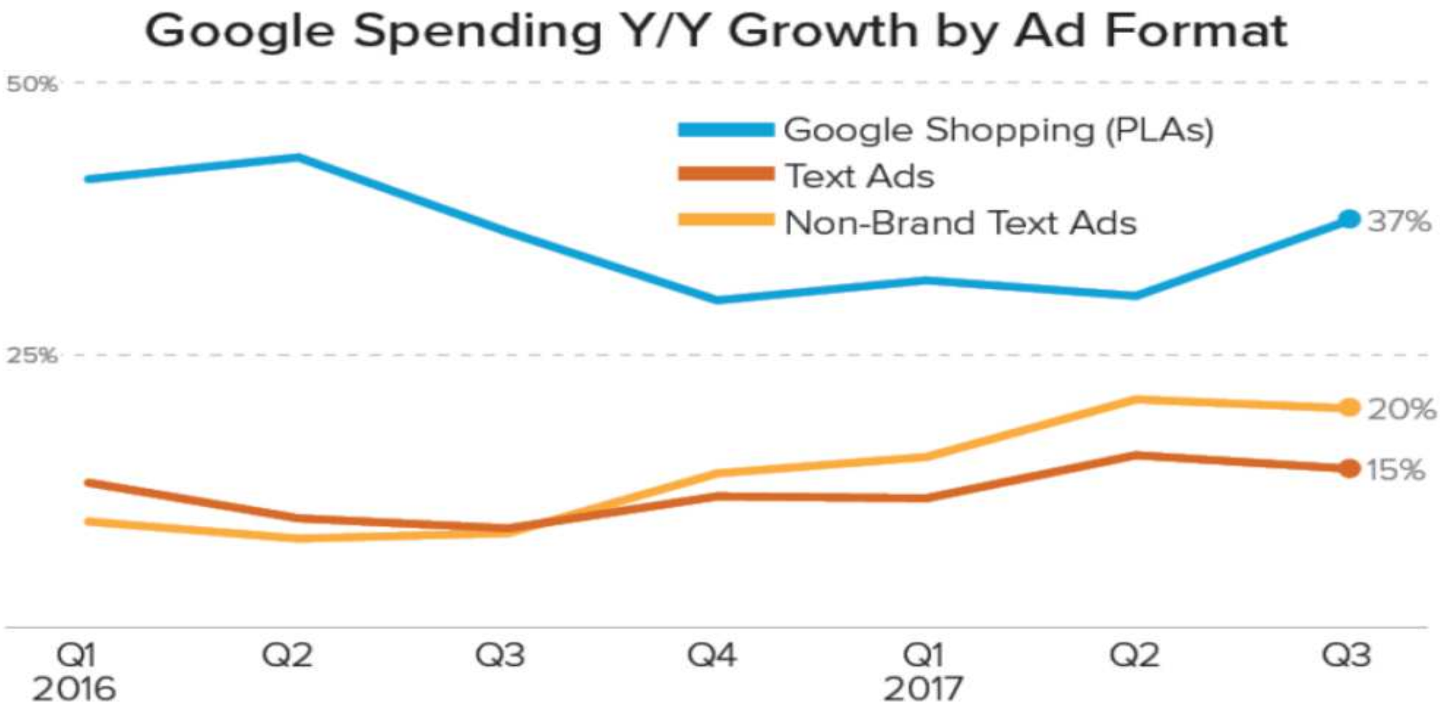


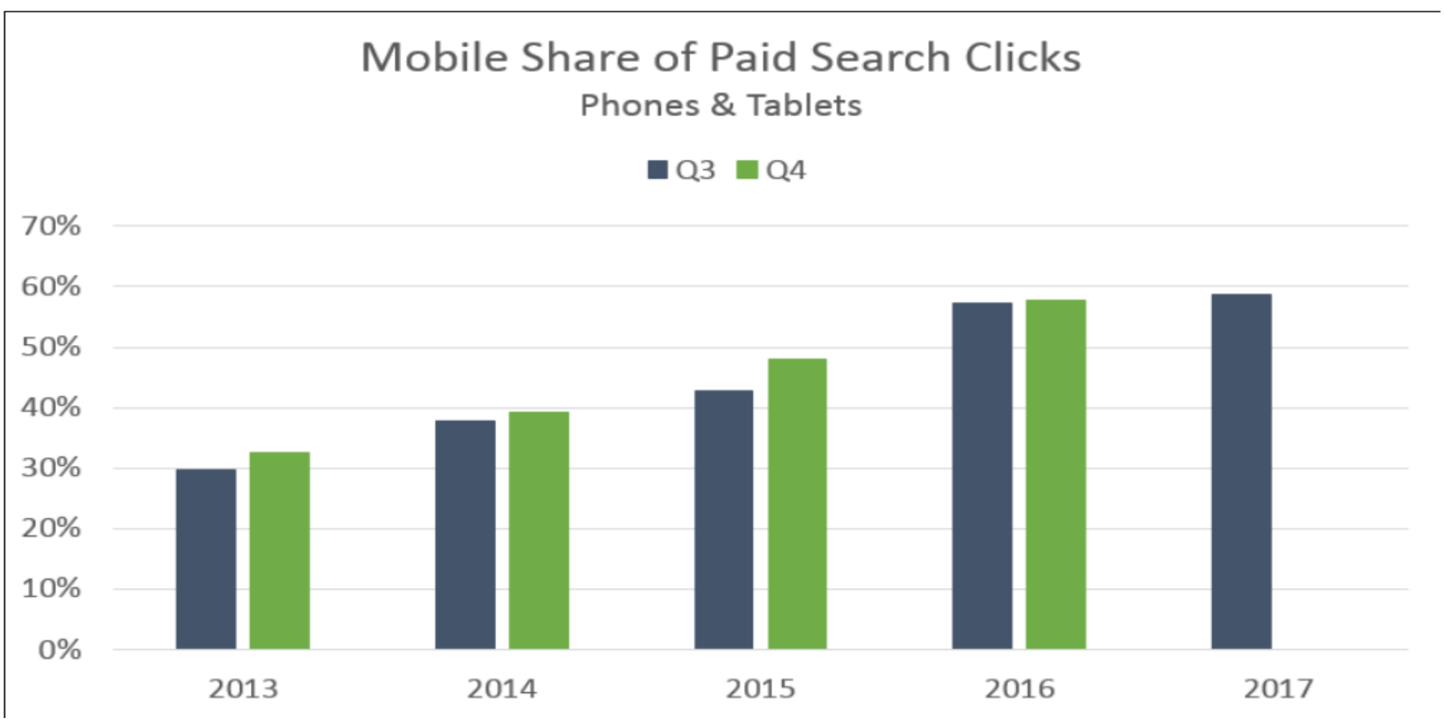




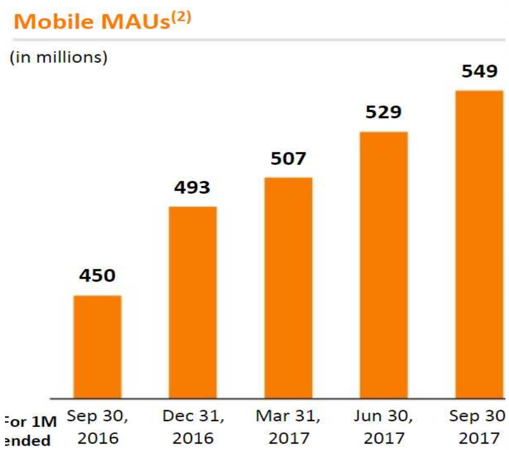
To start with the $10B+ companies:

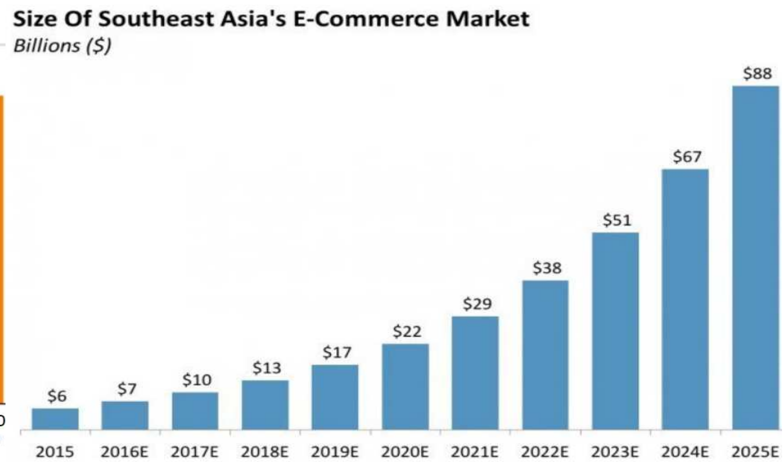
Alphabet (GOOG) with a $725B market cap remains a leader trading 25.65X Earnings with a 20% ROIC and 23% FCF margin. Google is involved in multiple secular growth trends but remains a search giant with its leadership market share in mobile search. It is also seeing a growing presence in cloud with a recent relationship started with Salesforce.com (CRM) and new initiatives like Shopping and Travel seeing strong growth, while You-Tube has become a leader in streaming media. It also has its hands in gaming with its strong Google Play results. Cash allocation will be a key thing to watch in 2018 with $100B, potential for large buybacks and/or M&A such as a splashy purchase of Salesforce.com (CRM) to become a more serious cloud player. Google recently announced a new Media product via YouTube to allure the cord cutters and also plans a new music service in March. If Google can continue to improve margins like it did last quarter the shares could be set for a very strong year. It also has plenty of optionality with initiatives like Maps and Waymo. GOOG has been improving its core search business in 2017 with expanded text ads and utilizing AI for better targeting, certain to pay off with accelerating growth in 2018. GOOG has easy comps for Q4 and also will benefit from a rising Euro.



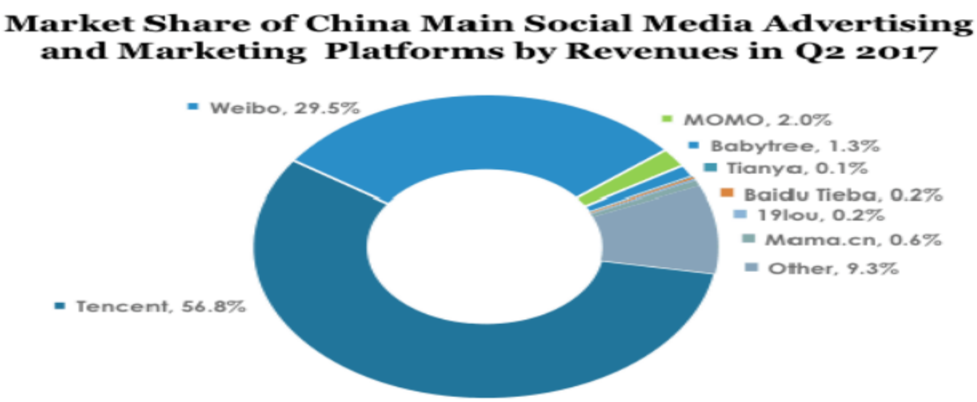


Alibaba (BABA) is a $438B Tech giant in China with its core focus on e-commerce, trading 26.5X Earnings and 27.8X FCF with a 28.9% ROIC and 44% FCF margin. BABA grew revenues 46% last year and set to growth them 60% this year, a massive long term opportunity. BABA is also becoming a major cloud player posting 99% growth last quarter. Its digital media and entertainment segment is also a large contributor and posted 33% growth. BABA recently reported 39% Y/Y growth on Singles Day and continues to improve monetization. The Chinese e-commerce market is expected to exceed $1 trillion by 2019. BABA also has vast international growth opportunities.

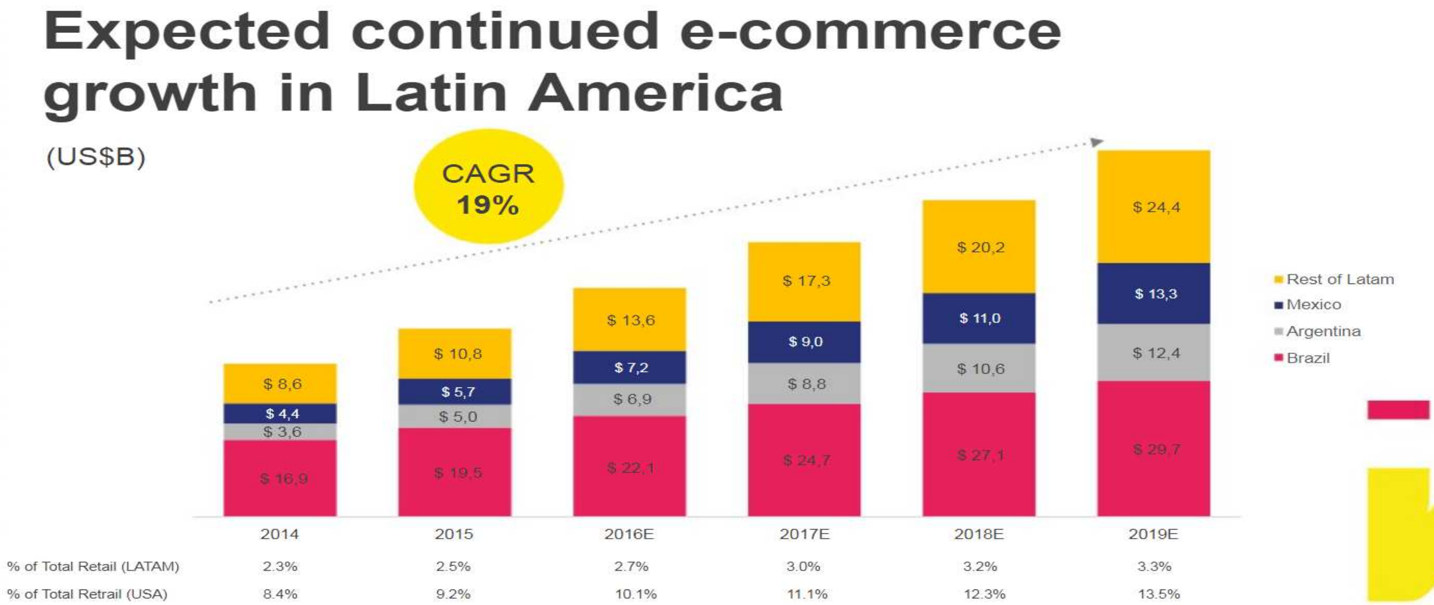




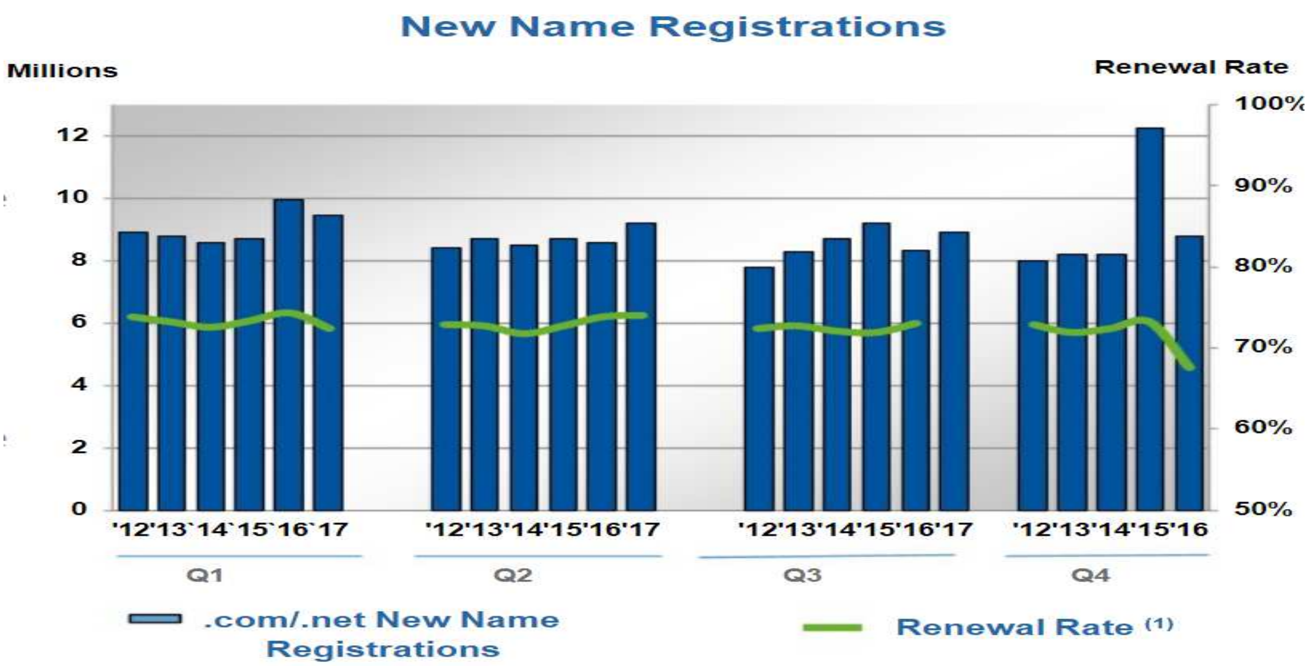
Weibo (WB) is a $22.9B social media platform in China trading 39X Earnings with 73% revenue growth this year and 47% expected next year as well as 60% EPS growth. Weibo is seeing massive user growth as China's leading social media platform showing increased engagement, accelerating revenue growth, and a newly launched ad system using machine learning. WB is set to continue to reap the rewards of ad budgets shifting to mobile, social and video and has potential for new monetization initiatives such as video, live broadcasting, and search.



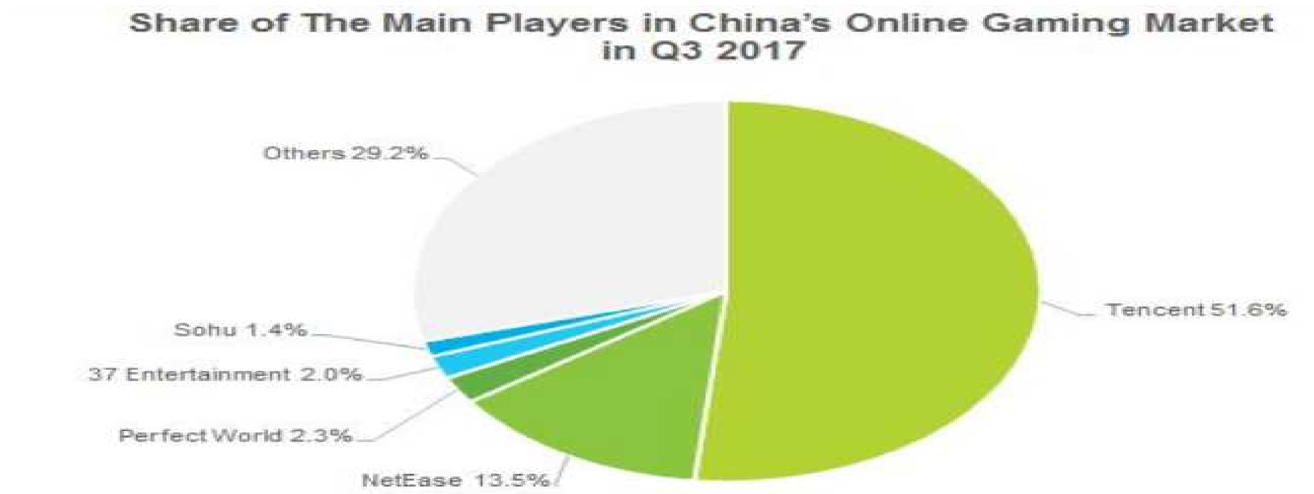
Mercado-Libre (MELI) with a $14B market cap is the largest e-commerce player in Latin America, a market with some of the highest growth potential, and trades 54.25X FCF and 7X EV/Sales. E-Commerce is just 3% of total retail in Latin America compared to 11.1% in the US. MELI also has a payment solution called Mercado Pago that has 17M users and does 52M transactions. Its integrated platform also offers shipping solutions via MercadoEnvios. MELI may look expensive at 100X Earnings but it is growing rapidly and has a massive market left to capture, a name that looks cheap at any price when considering its potential future market cap. MELI is stepping up marketing and offering free shipping in an effort to rapidly gain market share. With low penetration for internet and smartphones in its core focus regions that are set to expand sharply, MELI is simply one of the best investments you can make even with the pending threat of AMZN entering the Latin American market.



VeriSign (VRSN) is an $11.35B company offering registry services trading 27X Earnings, 9.8X Sales and 16.4X FCF with low revenue growth and EPS growth in the 7.5-10% range. VRSN is the largest domain name registry worldwide with control over the dot-com, dot-net, and other smaller domain directories. They also offer DDoS protection services, a cloud-based service which is growing in demand with the rise in cyber-attacks. VRSN is coming off a strong quarter with the .com/.net domain base up 1.2% on the year to over 145M names and a 74% renewal rate. VRSN won a big contract late in 2016 to maintain control of the dot-com registry until 2024 which gives them better pricing power with fees expected to increase 10% annually. VRSN is not a flashy growth name but one with a wide moat and offers a 75% ROIC and 44% FCF margins.



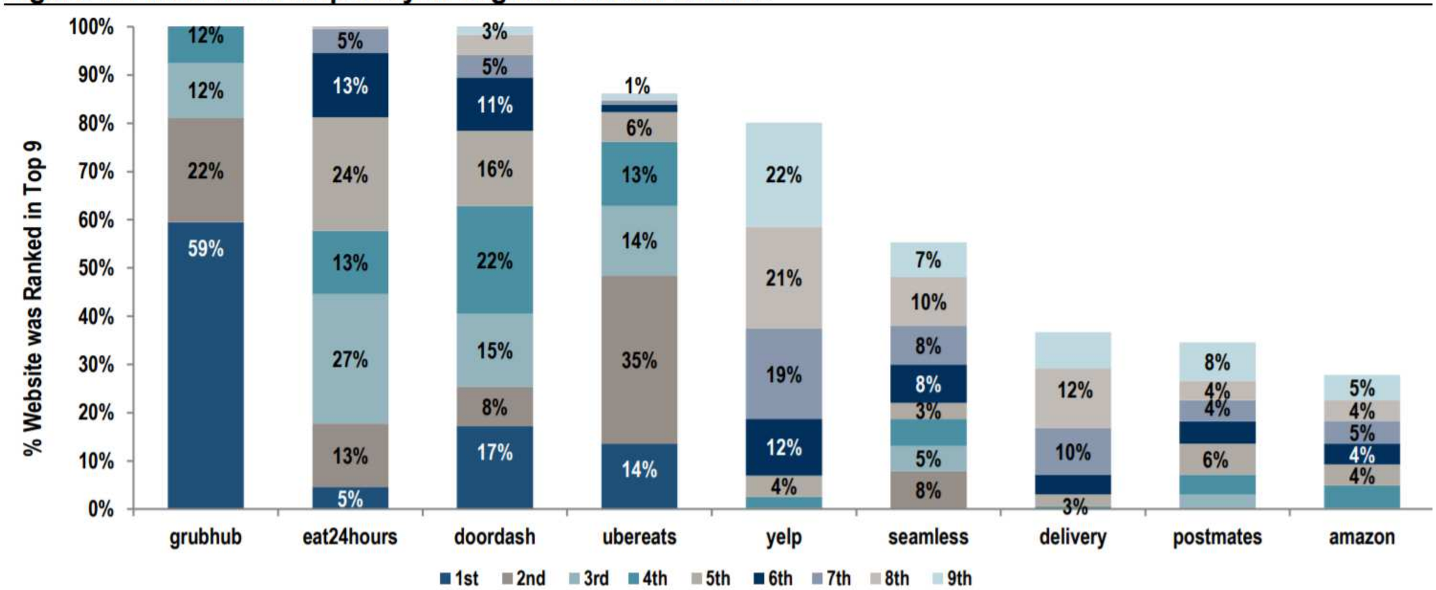
Netease (NTES) is another China internet play with a $48B market cap trading 22.85X Earning sand 31.5X FCF with a 40% ROIC and 23% FCF margin. NTES forecasts 28% revenue growth next year after 46% in 2017. Its main business segments are PC & Mobile Gaming, EMAIL, Internet Media and E-Commerce. NTES announced on 11-6 it was expanding e-commerce efforts spending $11B on inventory over the next 3 years for its Kaola business, entering a hot China market expected to reach over $1 Trillion in 2020. NTES has a strong gaming pipeline ready for 2018 and should see better monetization. Mobile games now account for 68% of total revenues. It continues to expand outside its core gaming focus that are posting solid growth but at lower margins. NTES has a large opportunity distributing its games to overseas markets.



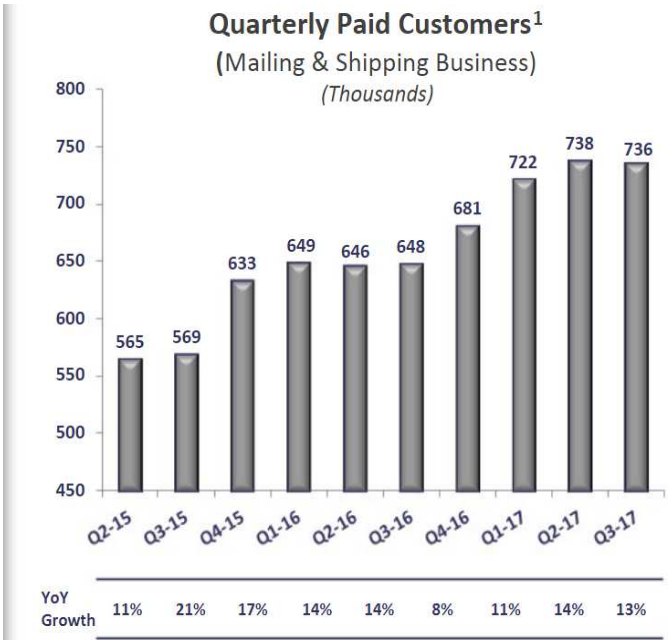
In the $3B to $9B range:

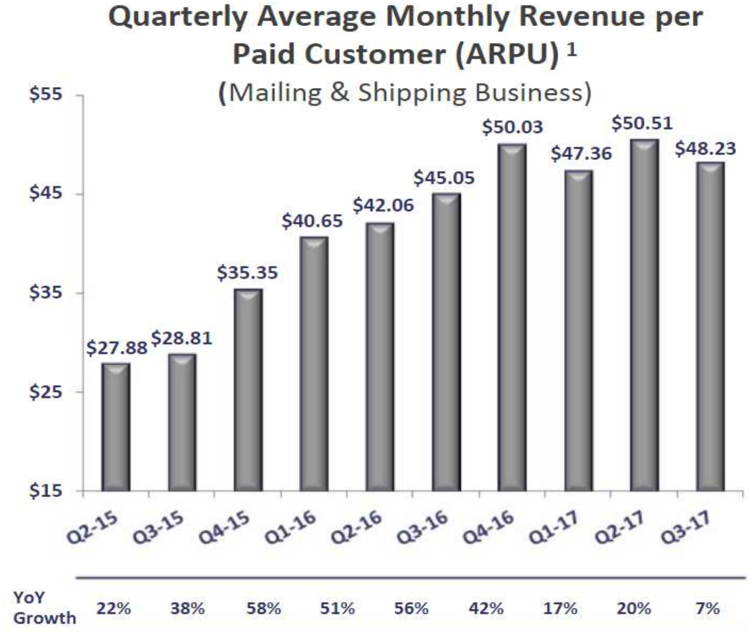
Grub-Hub (GRUB) is a $6.35B leader in food delivery trading 50X Earnings and 49.2X FCF with 37% revenue growth in 2017 and expects 36% growth in 2018. GRUB made a key acquisition of Eat-24 and the food delivery industry is expected to see plenty of more consolidation. GRUB has very attractive margins and coming off a few strong quarters across all metrics. GRUB has a major leadership position in organic search trends while Doordash and Uber-Eats are competitors. It operates in an underpenetrated market and also will benefit greatly from tax reform. As GRUB adds the YELP restaurants to its platform it should continue to see growth acceleration. GRUB operates in a highly competitive industry but has quickly established itself as the leader and can use further consolidation to drive additional upside.

Figure 1: Placement Frequency in Organic Search Results

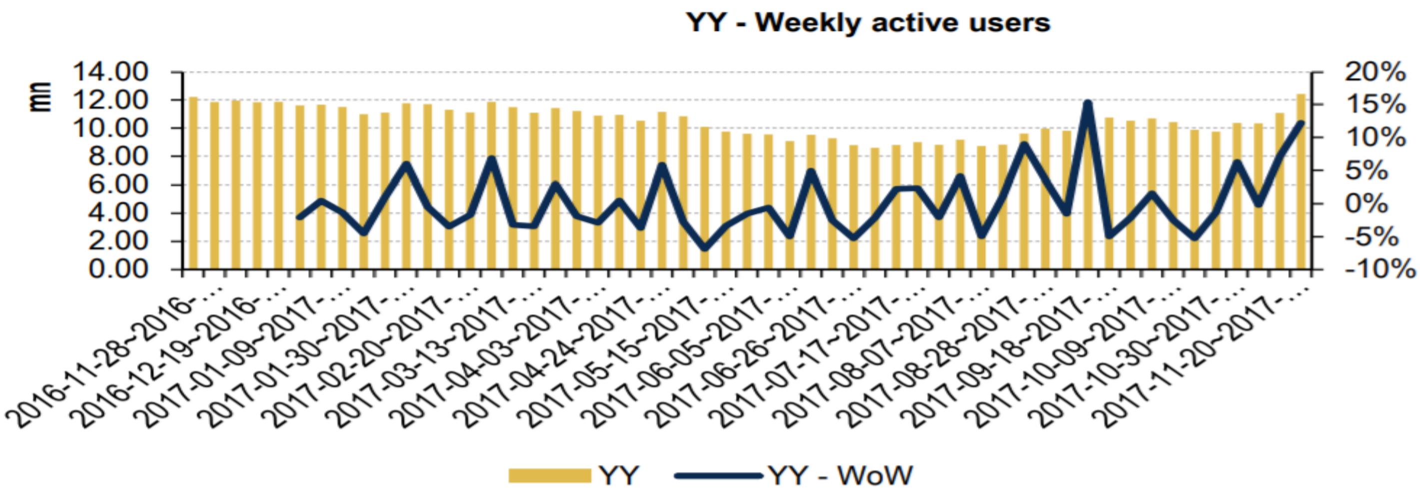


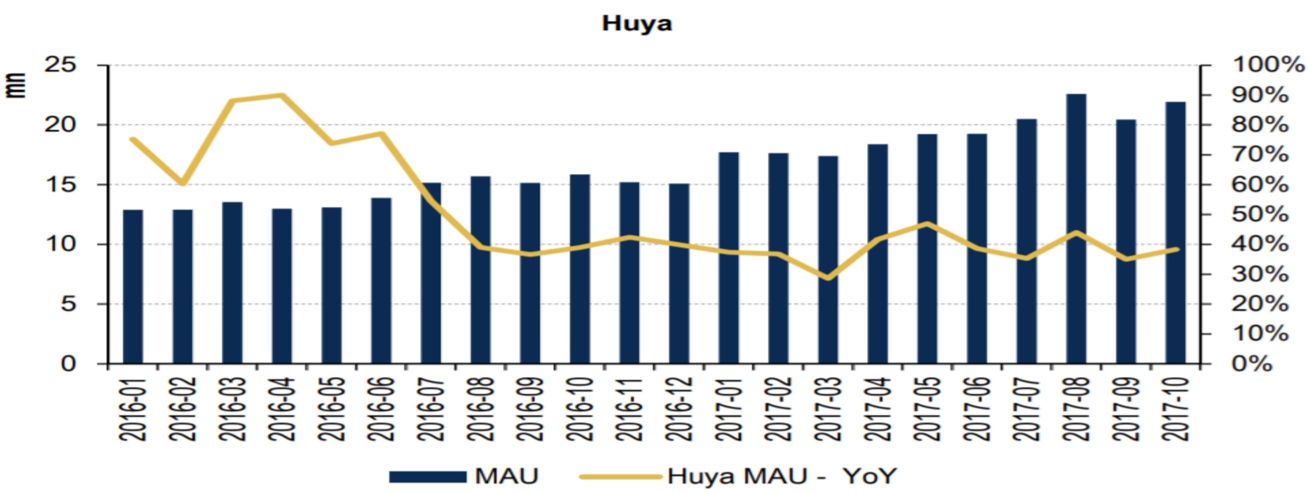
Stamps.com (STMP) is a $3.15B provider of mailing and shipping solutions trading 22.5X Earnings and 17.3X FCF with a 39% ROIC and 41% FCF margin. STMP has matured a bit with 25% revenue growth in 2017 after 70% in 2016 and projecting 15.5% in 2018. The rise of ecommerce as well as small business driven sites like Etsy makes STMP's business model very viable. STMP has 735K customers and sees an available market of 20M customers. It offers a unique value proposition that should allow for continual market share gains. Churn rates have risen in recent quarters back near the 3% historical average and some concerns of growth peaking as well as ARPU falling. In STMP I do see some red flags with Q/Q declines in certain metrics but I also see a large market opportunity for a value added service with recurring revenues, strong cash flows and high margins while trading at valuation levels as if it had very low growth.





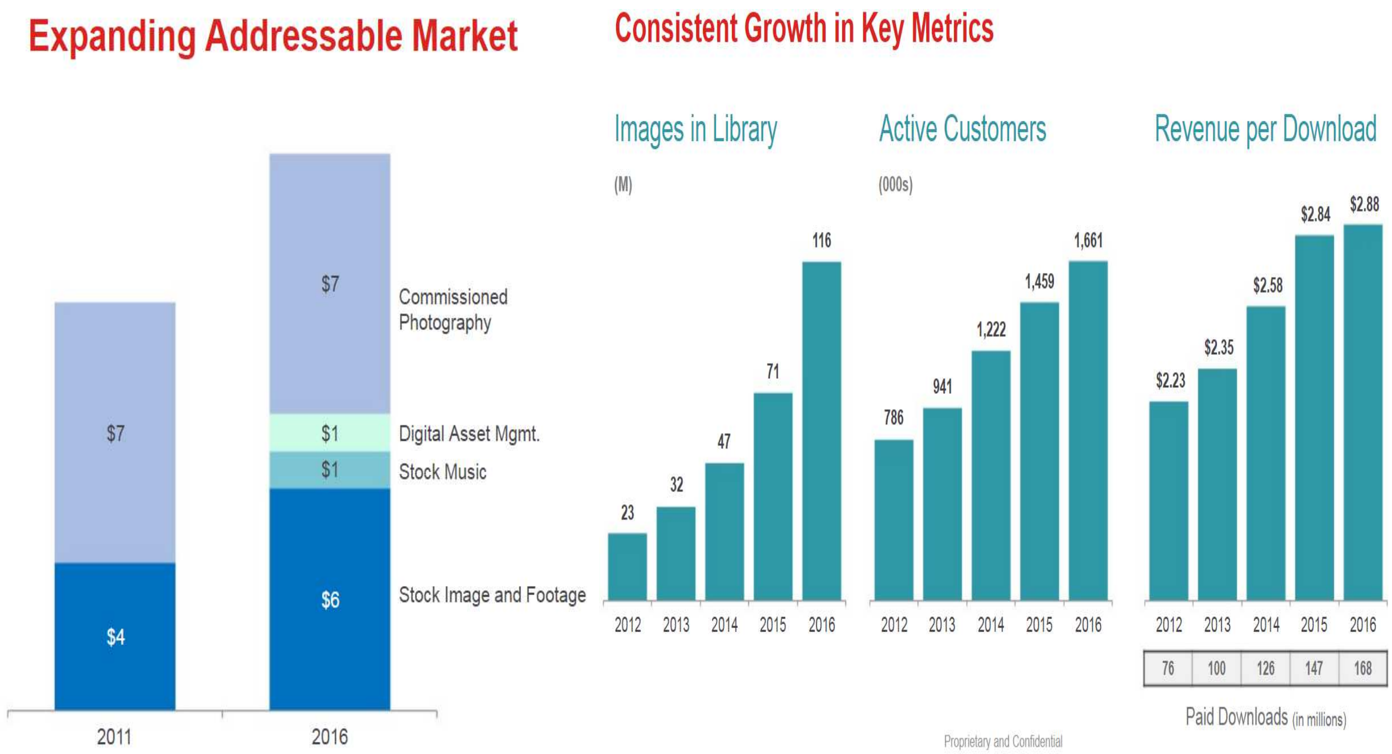
YY Inc. (YY) is a $7.1B online media company in China trading 14.8X Earnings, 4.5X Sales and grew revenues 47.5% in 2017 with 27.5% expected growth for 2018. YY offers the number 1 live streaming social media platform in China and offers strong margins with expenses shown to be under control. YY has strong product innovation and been diversifying its strategies supporting better monetization, seeing strong user traffic for YY Live and Huya. 2018 sets up for a strong year of improved usage and better monetization driving strong results at YY. YY trades cheap and is an innovator with strong growth, improving margins and ARPU expansion while also having optionality to unlock value of assets like Huya via an IPO.

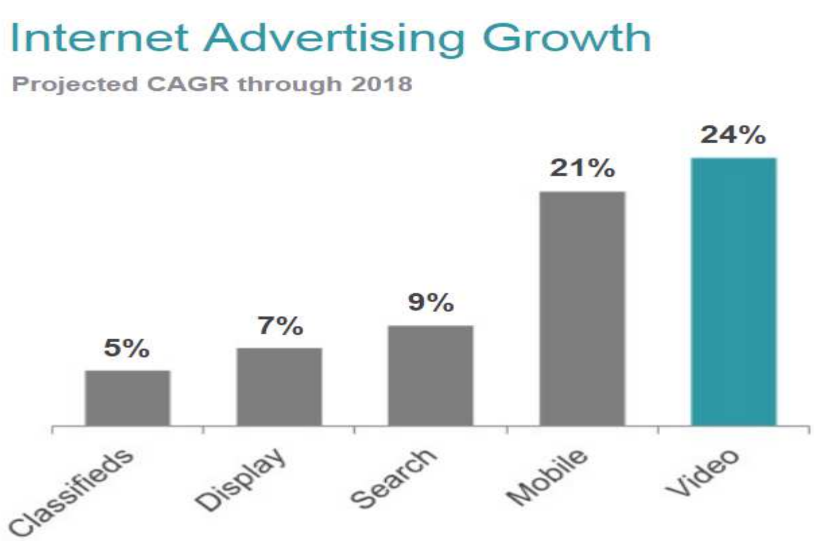




For the sub $3B names:

Shutterstock (SSTK) screened surprisingly well, the $1.5B provider of digital imagery trading 32.65X Earnings and 33X FCF with a 97.7% ROIC and 7.8% FCF margin. SSTK has seen revenue growth decelerate sharply from 2015 with 11% growth expected in 2017 and 2018. SSTK announced a deal with Google in July for API integration. SSTK is benefitting from the growth in websites and the internet ad market. It is seeing consistent growth in library images, active customers and revenue per download. The expanding demand for video content is a newer growth driver. Enterprise now accounts for more than 30% of total revenues, seeing customers at that level spend 10X the annual amount. SSTK also has predictable revenues with 95% retention. At 2.3X EV/Sales I see SSTK as an out of favor name with compelling valuation for double digit revenue growth.

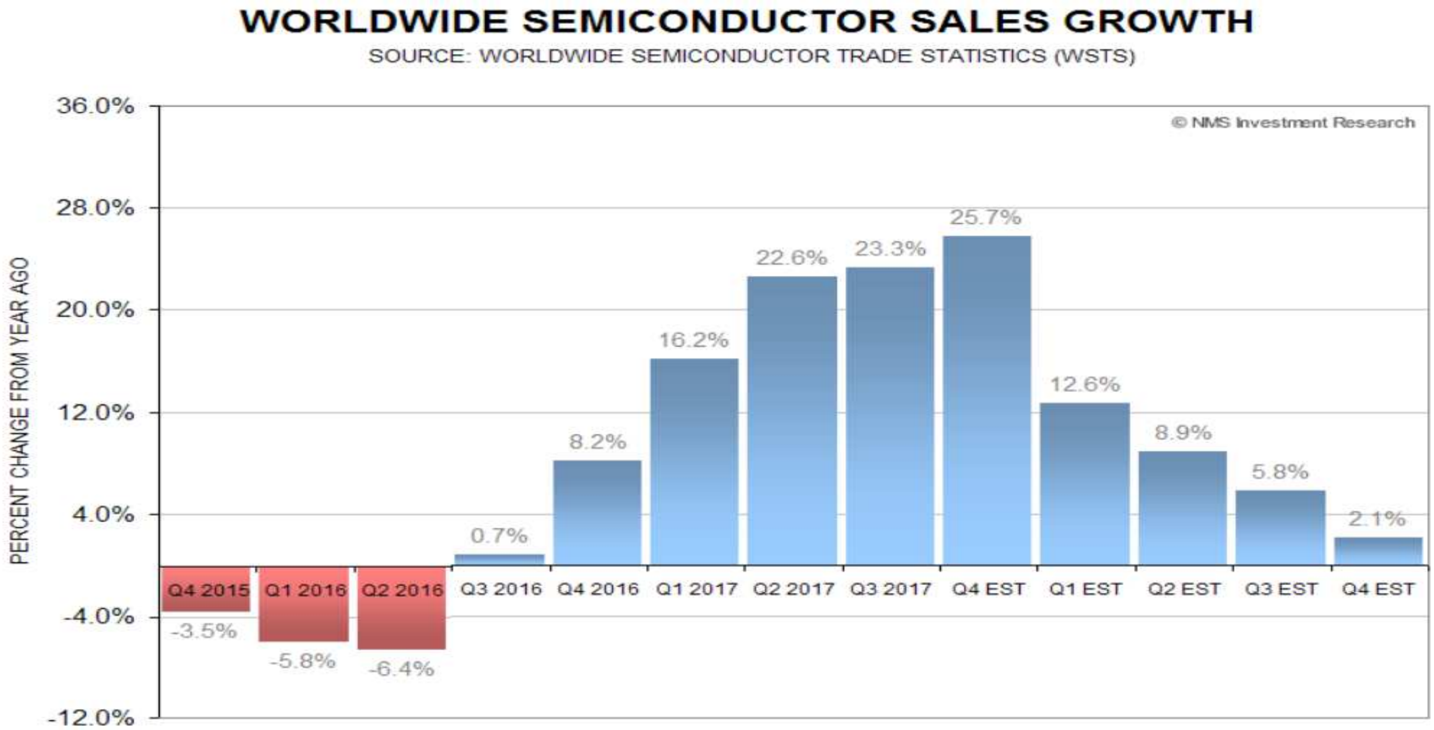


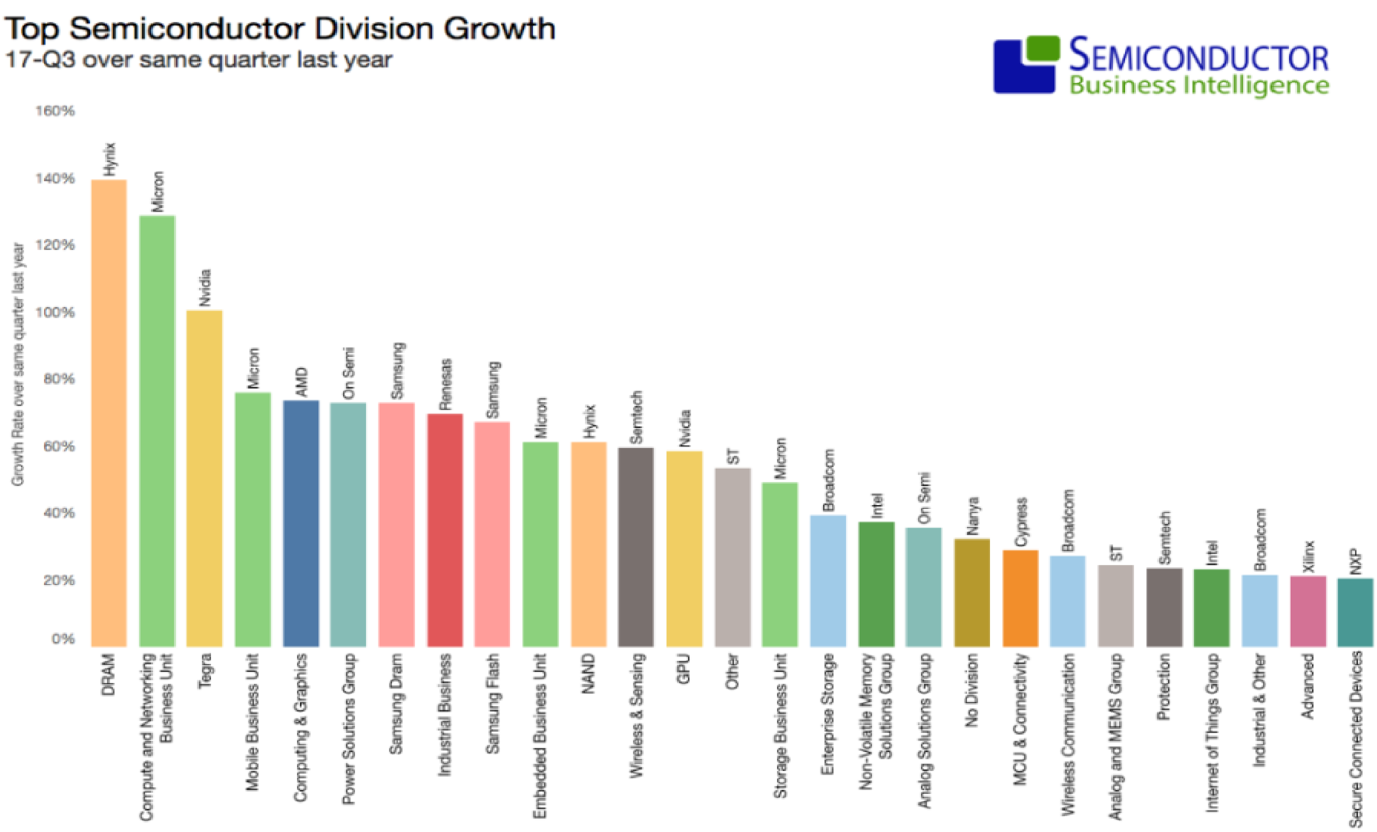


Semiconductors:

Components:*ADI,AEIS,AMAT,AMD,AOSL,BRKS,AMBA,AMKR,ASML,AVGO,CDNS,CRUS,CY,DIOD,IDTI,INTC,INVN,IPHI,KLAC,LRCX,MBLY,MCHP,MLNX,MPWR,MSCC,MTSI,MU,MXIM,NVDA,NXPI,ON,POWI,QCOM,QRVO,SIMO,SLAB,SMTC,SNPS,SWKS,SYNA,TER,TSM,TSRA,TXN,VSH,XLNX,STM,MLNX,FORM,MRVL,TSEM,CCMP,AMKR,MXL,CEVA,IXYS,UCTT,RMBS,ENTG,KLIC,XPER,ACLS,NVMI,ICHR,COHU,NANO,DQ,SGH*

The Semiconductor group has been a leader for Tech in 2017 with the industry up more than 40% YTD, driven by the strong growth of chips in nearly every industry with Automotive, IoT, Data Center, and Industrial being some of the stronger areas. The group has pulled back in November and December, though not due to any fundamental reason, more of a rotation and limited benefits from tax reform, but the outlook or 2018 remains very bright with increased spending across the end-markets. Consolidation was a major theme in 2016 and slowed a bit in 2017 after **Intel's (INTC)** deal for **Mobileye (MBLY)** early in the year, but did see M&A pick up later in the year with **Cavium (CAVM)** acquired by **Marvell (MRVL)** and then the massive proposal by **Broadcom (AVGO)** to acquire **Qualcomm (QCOM)**. **Maxim (MXIM)** and **Xilinx (XLNX)** remain highly attractive larger M&A targets in the Semiconductor group. There is still ample room for M&A with larger cap names wanting exposure to some of the areas the smaller cap names are focused and excel enable to diversify away from legacy areas struggling for growth. The industry is seeing better margins and FCF from years of consolidation and also indications of newfound pricing power. Growth is unlikely to be able to match 2017 levels so there could be some multiple compression in 2018.





With 63 names in the group I will once again break them into market cap tiers.

The $20B+ names include INTC, TSM, QCOM, TXN, AVGO, NVDA, ASML, AMAT, MU, NXPI, LRCX, MCJP, STM and ADI. The group trades on average 17.8X Earnings and 4.8X EV/Sales with 6.5% forward revenue growth, and 55% gross margins.

Micron (MU) has a $51B market cap as a memory leader and trading just 6.5X Earnings, 2.5X Sales and 15X FCF. MU is a name that is more of a commodity driven name by the supply/demand balance of NAND and DRAM, so valuation can fool people and it trades so cheap due to fears it is near the peak of its cycle. MU posted 63% revenue growth in 2017 and EPS jumping to $4.96/share from $0.06/share. The fears that it is peaking feel premature as the supply/demand outlook remains favorable into much of 2018. MU surprised to the upside on margins this latest quarter despite declining ASPs as it has better managed costs. Investors remain fearful of the cycle but increasing capital intensity, new applications and more memory-intensive applications support this cycle having further longevity. Even with a normalized downturn in ASPs MU can earn around $4/share putting $35-$40 as a fairly good floor while upside potential is closer to $75. With supply growth likely constrained in 2018 and demand continuing to rise I see another good year coming for MU.

Figure 4: DRAM OpM by Company

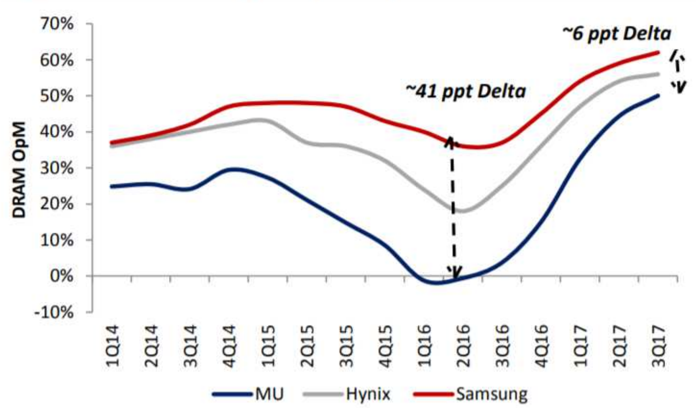
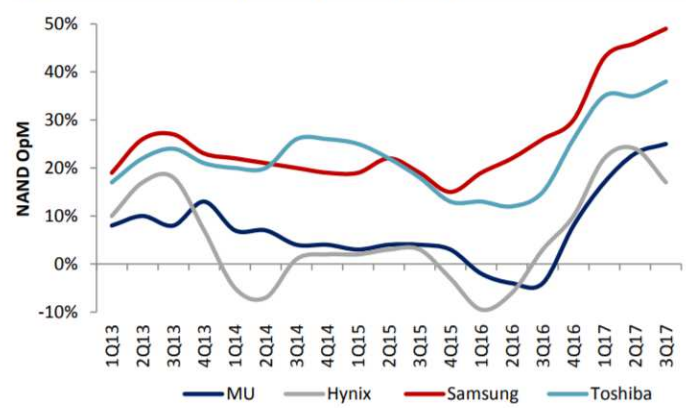
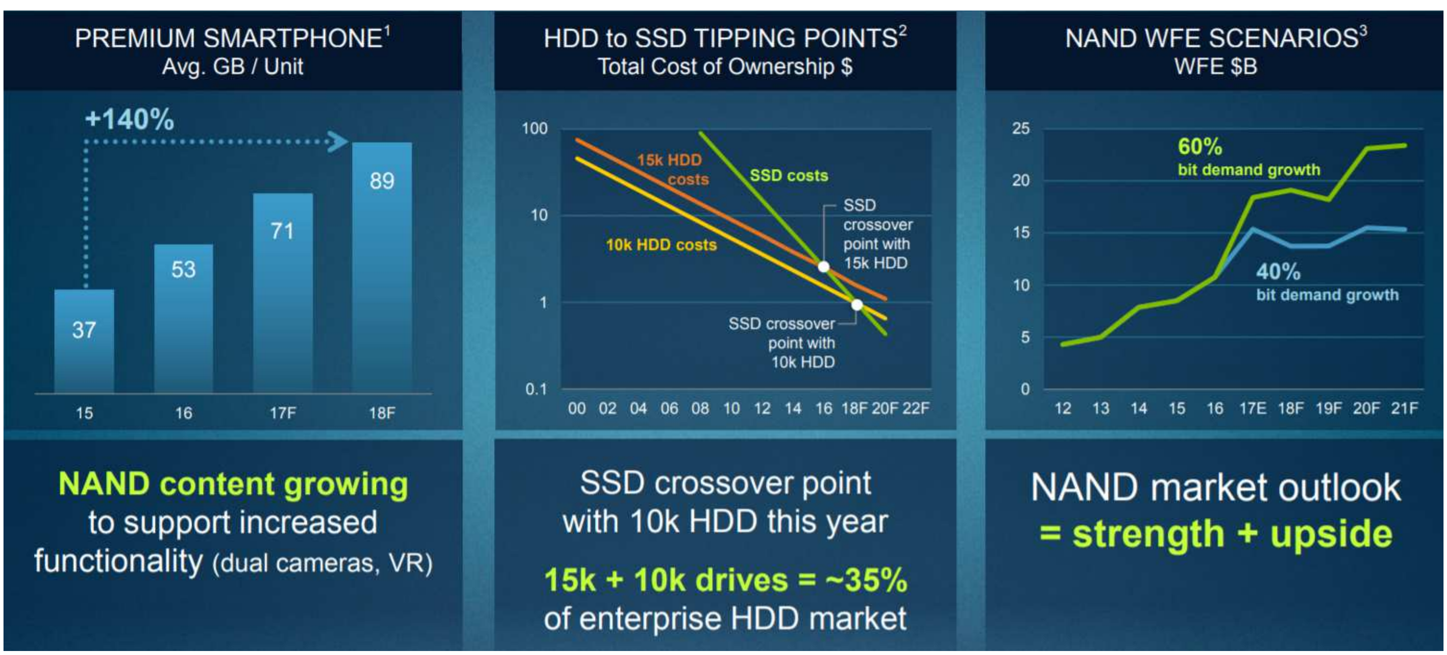


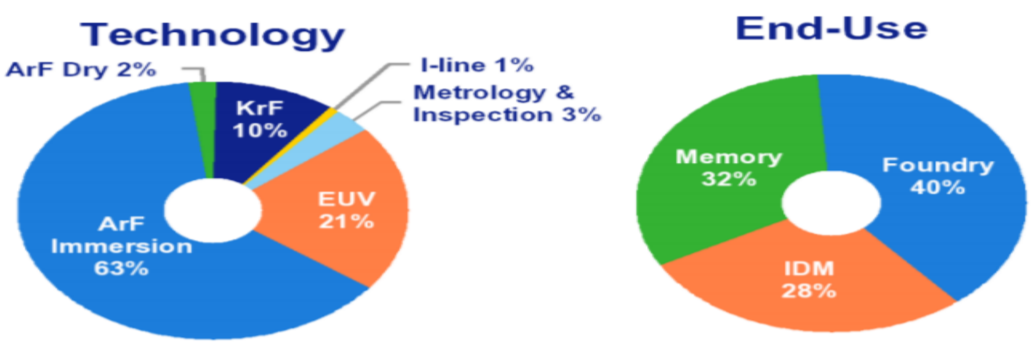
Figure 5: NAND OpM by Company



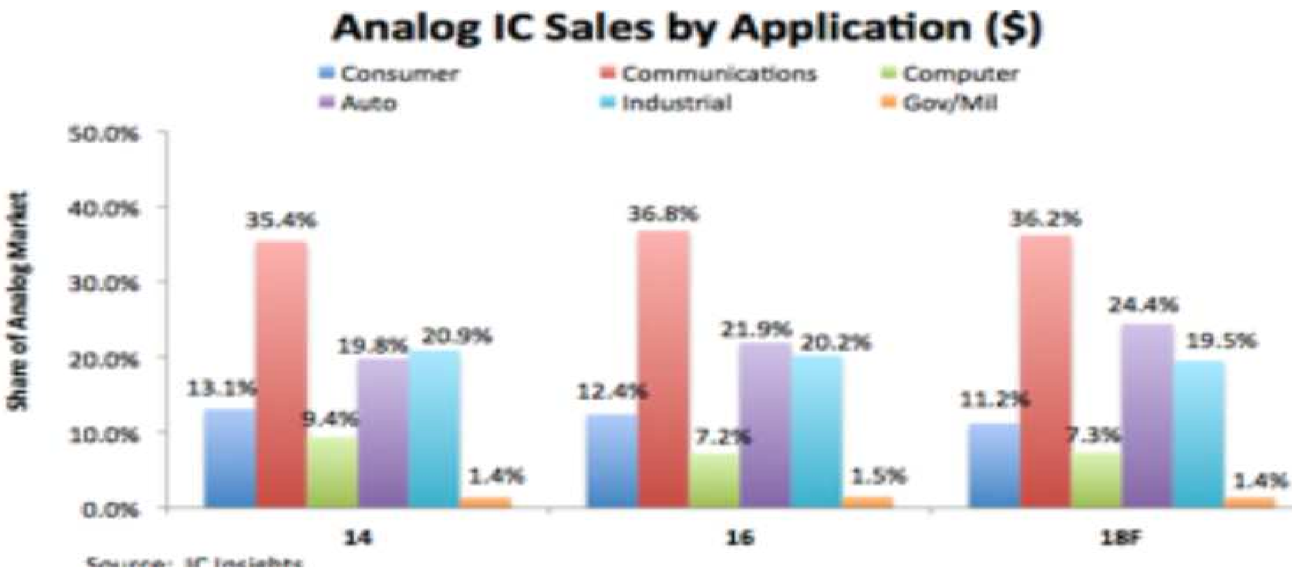
Applied Materials (AMAT) with a $55B market cap trades 11.8X Earnings, 3.8X Sales and 19.5X FCF with a 0.77% yield. AMAT is coming off a 34% revenue growth year with 85% EPS growth and for 2018 sees 16%/24%. AMAT is seeing strong demand and benefits from increased capital intensity. 3D NAND, China Investments, 7nm auto cycle and OLED are all positive growth drivers into 2018 with Semi's in a multi-year cycle. AMAT operates in a $150B market with $90B WFE, $36B Display, and $22B Services. The WFE market is driven by end market growth and capital intensity, both which are rising. AMAT is targeting $5/share in earnings for 2020 and sees gaining market share and expanded margins. IoT, Big Data, AI, and VR/AR are driving higher semi and display investments. Similar to MU, AMAT trades with a low multiple due to fears of a cycle peak, which again look premature.



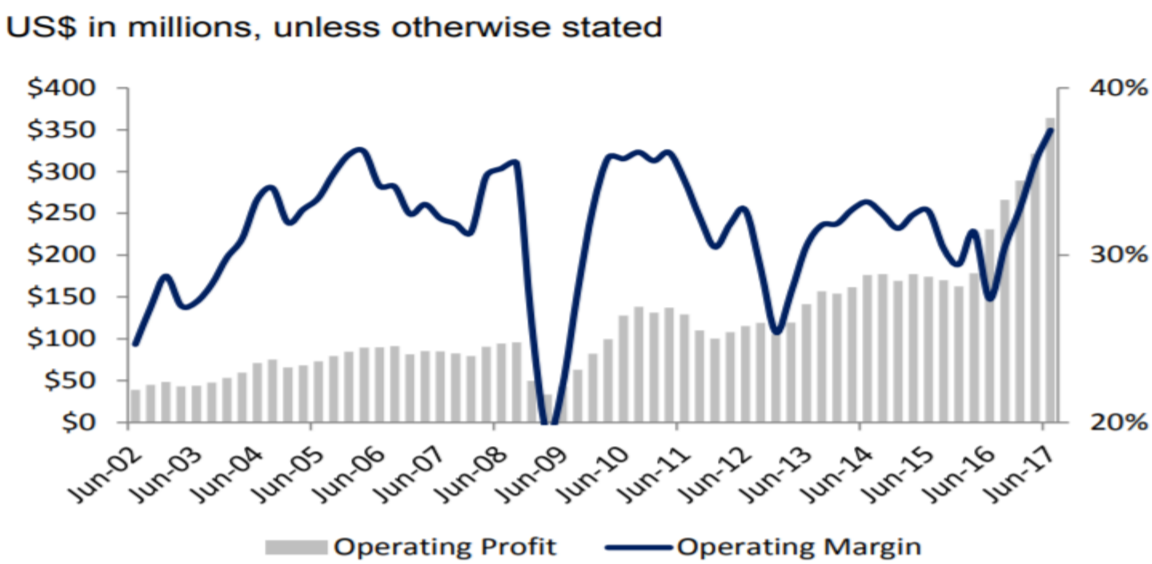
ASML Corp (ASML) has a $75B market cap trading 28.35X Earnings, 7.6X Sales and 32.75X FCF with a 0.73% dividend yield. ASML is set for 41% revenue growth this year and targets 13-15% growth each of the next two years. ASML is a lithography play that enable affordable shrink, a key industry driver for innovation. ASML is targeting $9/share EPS and $11B in revenues for 2020. ASML is ramping its next generation EUV technology and China demand for lithography is a major upside driver for shares. The demand for leading edge chip for AR/VR, AI and autonomous vehicles puts ASML in a great position.



Analog Devices (ADI) is a $32.6B Semi trading 15.85X Earnings, 6.4X Sales and yields a 2% dividend. ADI saw revenue growth of 49% in 2017 driven by its transformational deal for Linear Tech, and sees 2018 with 10% EPS growth and 15% revenue growth. ADI is the high performance analog leader Industrial Automation and Auto are two major growth themes powering ADI, while Consumer and Communications are also contributors. ADI has sharply grown operating and FCF margins over the past 10 years, and the LLTC deal provides great synergies, up to $1B in revenue synergies starting in 2019. ADI is an industry margin leader and trades very cheap on valuation, one of the safer investments in this group. ADI has recovered from losing some content to Apple in its consumer segment and has tailwinds ahead such as MIMO share and content gains, 5G, synergies from LLTC & HITT deals, and a reacceleration in China EV. ADI is also under-owned in the hedge fund industry, and see potential for this to be a $150 stock.

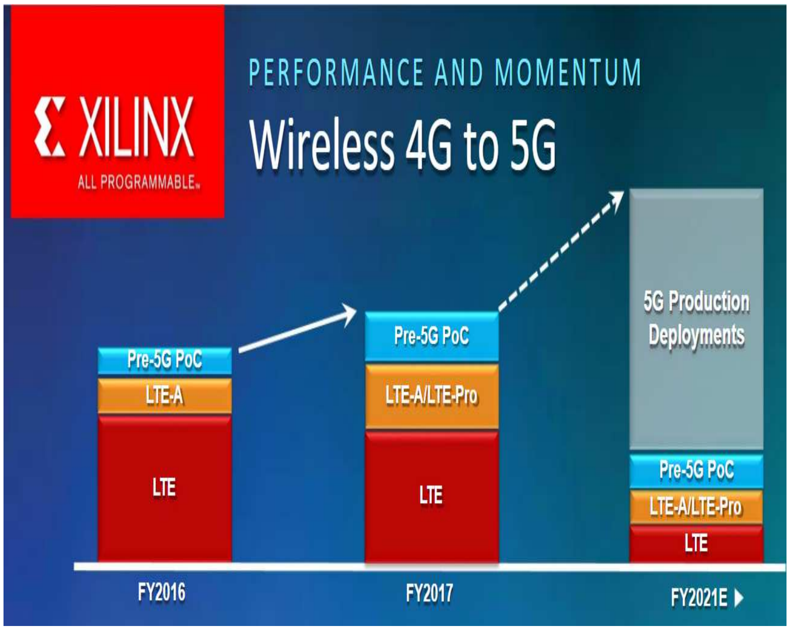


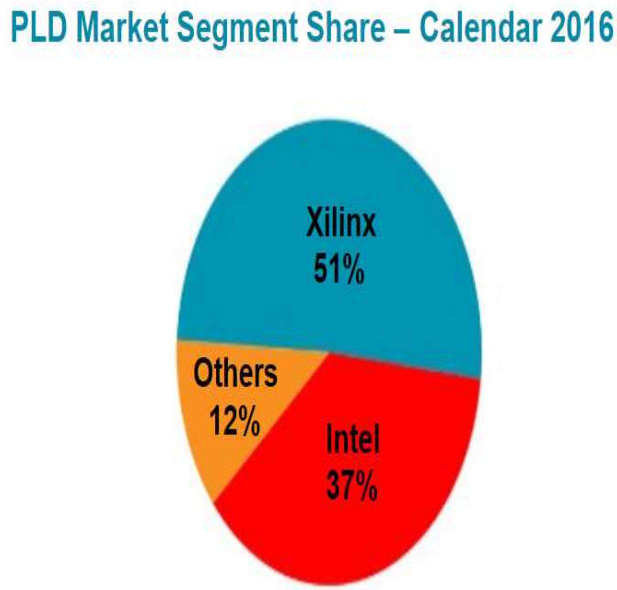
Microchip Tech (MCHP) is a $20.5B Semi trading 15.4X Earnings, 5.5X Sales and 23.85X FCF with a 1.62% dividend yield. MCHP grew revenues 56.8% in 2017 and EPS 49% and sees 16.9%/36% growth in 2018. MCHP recently raised its FY18 CAPEX outlook on stronger demand and lower costs. MCHP has been outgrowing peers and has opportunity to expand margins. MCHP has well diversified markets with exposure to strong trends in industrial, auto and IoT. With its leverage ratio back to 1X, MCHP could turn to M&A as an additional upside driver in 2018. Book to Bill and Inventory metrics did weaken a bit in the most recent quarter, and needs to be monitored. MCHP's analog attach strategy appears to be in the early innings and the margin expansion potential remains the prime reason to own the name along with M&A optionality.



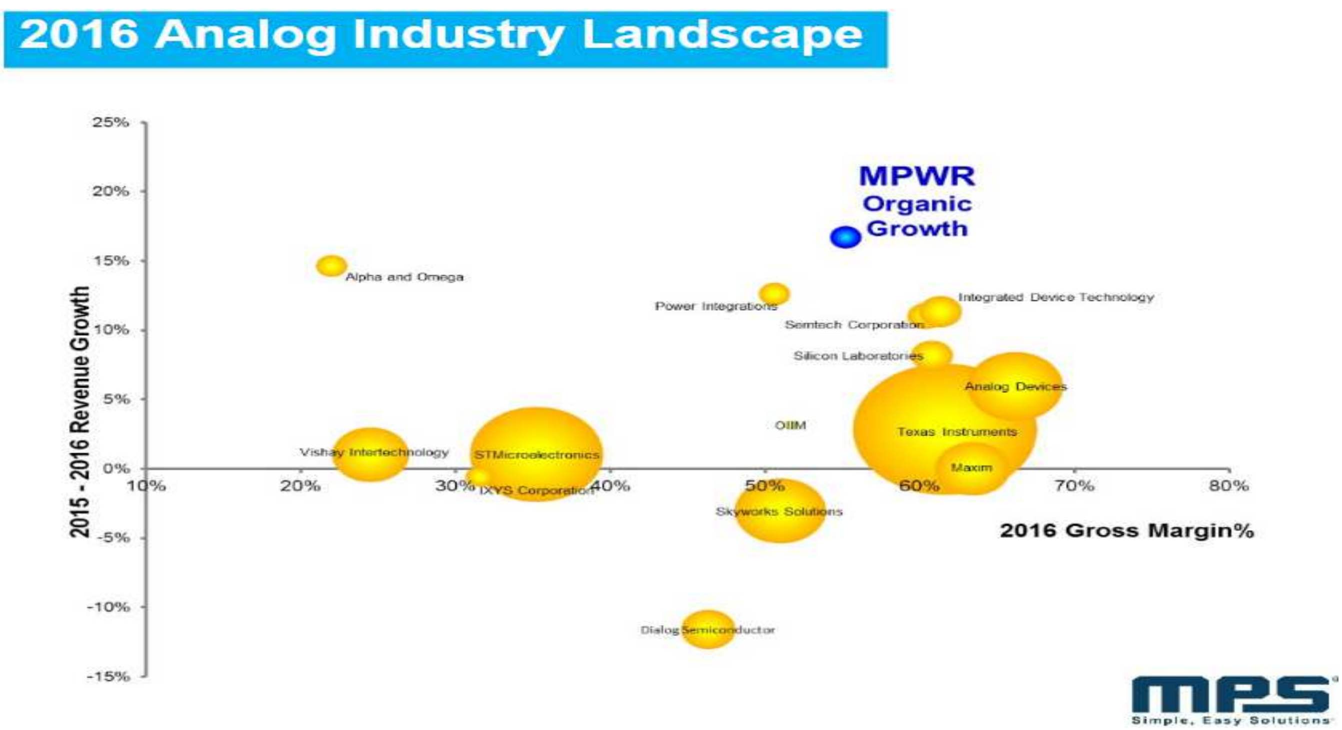
The $4B to $20B group includes SWKS, KLAC, XLNX, MXIM, SNPS, CDNS, MRVL, AMD, ON, QRVO, TER, MSCC, CY, MPWR, ENTG, and IDTI. On average the group trades 18.5X Earnings and 4.2X EV/Sales with 59% gross margins and 7% forward revenue growth.

Xilinx (XLNX) is a $17.2B Semi trading 24.25X Earnings, 7.1X Sales and 42.6X FCF with a 2% dividend yield. Its 69.7% gross margins and strength from growth of new products makes it attractive. XLNX key end-market include Communications, Consumer & Auto, and Industrial, the latter being 45% exposure. Machine Learning is a major theme that can be a boost to XLNX. XLNX has a growing position in 5G and a $1B TAM to target for FPGA accelerating in Data Centers. XLNX has a dominant and growing market position and IoT and Automotive along with China Fab buildout are additional upside drivers. Factory Automation and Autonomous Driving are two of a number of themes XLNX captures. XLNX should enter 2018 seeing growth reaccelerate and margins trend higher.





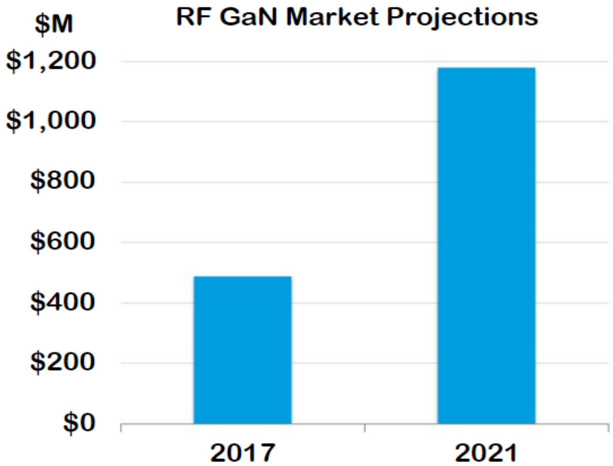
Monolithic Power (MPWR) is a $4.63B maker of power solutions in the semiconductor market trading 31.3X Earnings, 10.4X Sales and 105X FCF. MPWR has been a consistent 15%+ revenue growth name and looking at 20-25% annual EPS growth the next three years. MPWR has seen strong growth from Auto, Industrial, Server, and Communication and ecommerce is its next target. MPWR is seeing an expanding TAM to $12B with Cloud, Automotive and Motion Control large contributors. The opportunity in Motion Control is interesting making it a player on automation and robotics. MPWR's portfolio is transforming to a mix with higher value and dollar content and MPWR continues to gain market share and outgrow the rest of the industry.



Qorvo (QRVO) is an $8.6B Semi with RF solutions trading 10.45X Earnings, 2.9X Sales and 29X FCF. QRVO had big growth years in 2015 and 2016 and 2018 a slower growth year before ramping in 2019. QRVO is positioned for IoT, 5G and GaN growth trends. QRVO is generating solid FCF and margin expansion and while often closely tied to Apple/Samsung cycles with mobile exposure, its Infrastructure and Defense Products segment is doing very well. QRVO is closing the year weak but with some products pushed out it should start to see stronger numbers in 2018.

GaN Adoption Accelerating

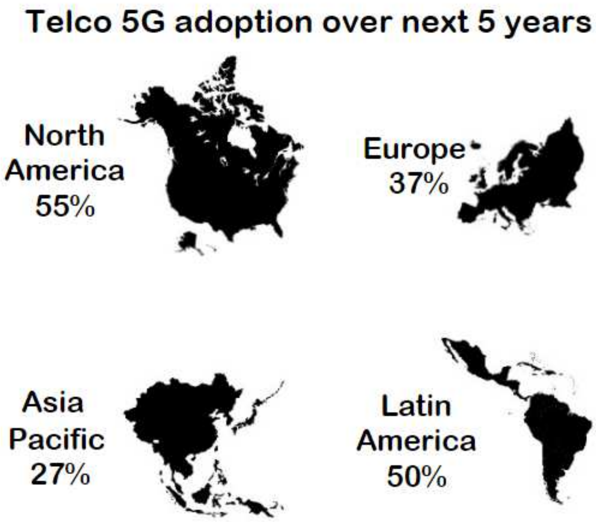
25% market CAGR



Driven by data traffic and advanced defense systems

Top 3 market segments experiencing rapid adoption

Performance and scale requirements favor established suppliers with technology maturity



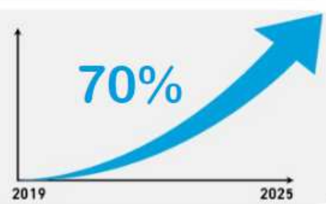
Field Trials Underway

ERICSSON
HUAWEI
NOKIA
SAMSUNG
ZTE中兴

Disruptive Technologies

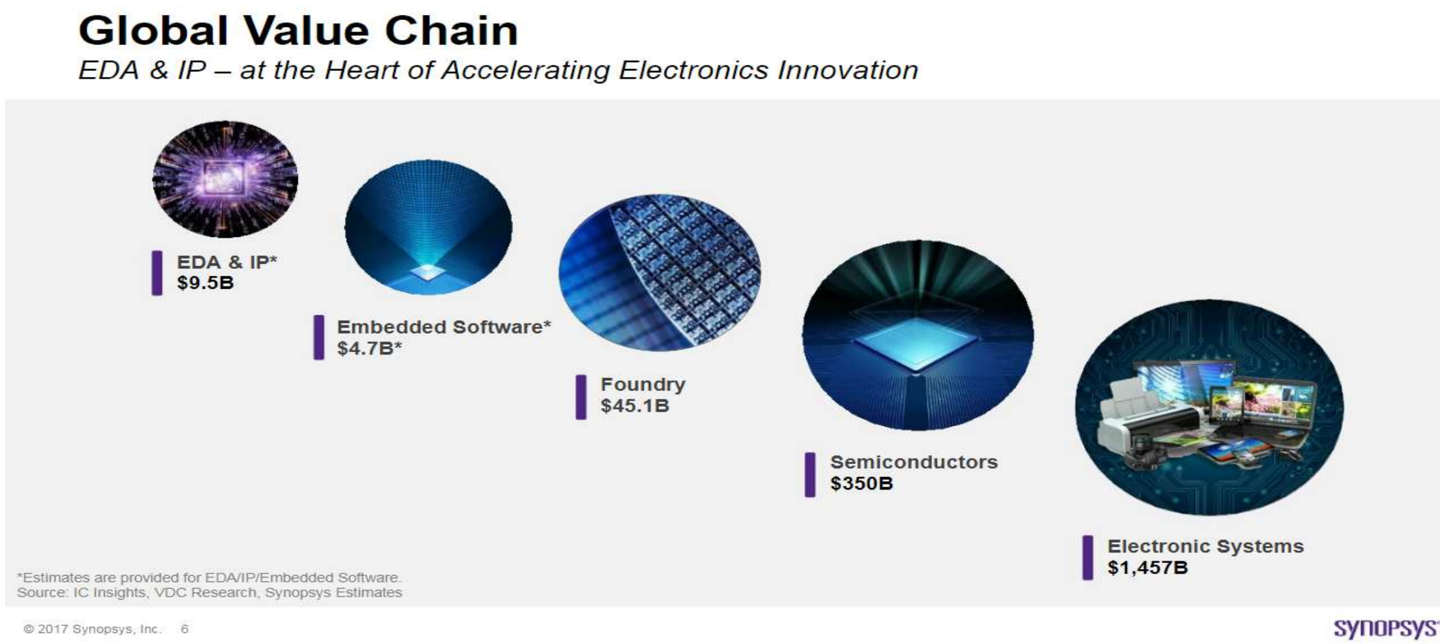
- mmW system architectures
- Massive MIMO
- Integrated backhaul & cloud-based RAN

5G Network Infrastructure Market CAGR

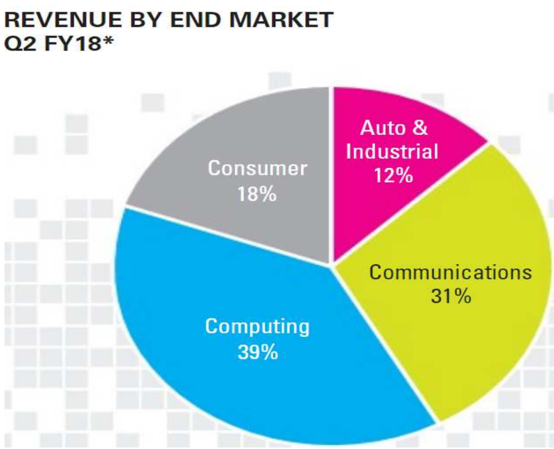


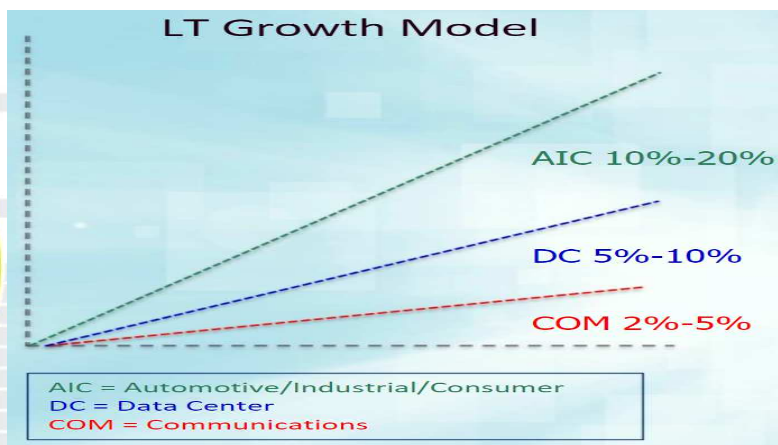
Source: Ericsson

Synopsys (SNPS) is a $13B electronic design automation company trading 22.1X Earnings, 4.75X Sales and 20.6X FCF. SNPS grew revenues 12.5% in 2017, best year since 2012 and sees 6% annual growth ahead. SNPS is a leader in EDA, #2 in market share for IP and seeing emerging growth from SW Security & Quality. Automotive and IoT are two mega-trends driving growth for SNPS. SNPS looks like a real value compared to closest peer CDNS. With chip design growing more important every year SNPS is positioned for long term growth while the Security Software business offers free upside optionality. Rising chip complexity due to trends in AI and Big Data benefit SNPS greatly.



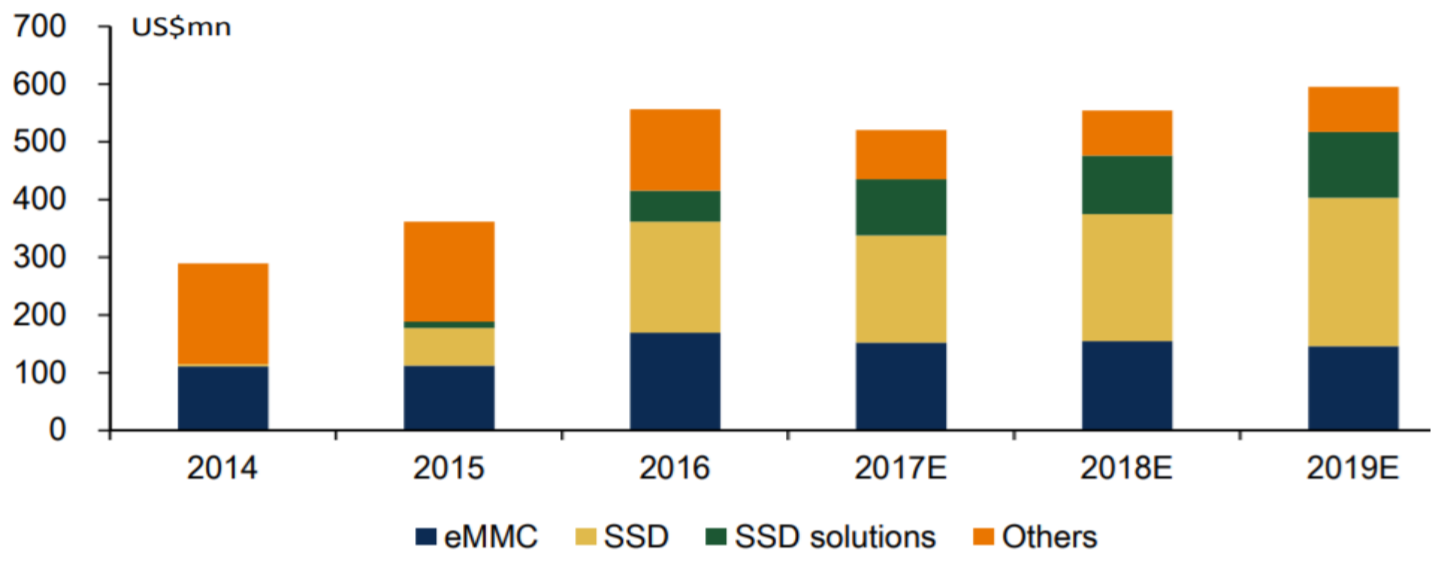
Integrated Devices (IDTI) is a $4B maker of various solutions for the Semi industry, often closely tied to wireless charging, and trades 16.8X Earnings, 5.3X Sales, and 22.35X FCF. IDTI is set to growth revenues 15% in 2018 with EPS growth seen accelerating to 19% next year. IDTI's new generation of memory interface chips is seeing strong momentum and seeing volume and ASP gains from adoption of Intel Skylake and Purley servers. IDTI also will benefit from wireless charging inclusion in the latest iPhone as other OEMs likely follow suit. IDTI is a rare accelerating growth name in the group as all businesses are seeing strong market share gains. New products in expanding markets set it up for a strong 2H18.





The $1.5B to $4B group includes SLAB, CRUS, MLNX, VSH, TSEM, AEIS, AMKR, CCMP, SMTC, POWI, MTSI, AMBA, SIMO, BRKS, KLIC, MXL, IPHI and RMBS. The group trades 17.7X Earnings and 2.9X EV/Sales with 52% gross margins and 9.6% forward revenue growth outlook.

Silicon Motion Tech (SIMO) is a $1.85B maker of mobile storage products trading 16.15X Earnings, 3.5X Sales and yielding a 2.27% dividend. SIMO grew revenues 53.5% in 2016 and in 2017 a 6.5% decline while expecting double digit growth the next two years and 20%+ EPS growth. In its latest quarter SSD solutions saw sales jump 50% Q/Q. SIMO is a name that will actually benefit from more competitive NAND pricing environment. SIMO appears well positioned for a rebound in SSD controller sales into 2018.



Silicon Labs (SLAB) is a $3.8B Semi trading 25.4X Earnings, 5.1X Sales and 25.33X FCF. SLAB has seen revenue growth accelerate each of the last three years and posting strong double digit EPS growth. SLAB recently acquired Sigma Designs for $282M. IoT has now surpassed more than 50% of total revenues and is making SLAB a company reborn as its legacy broadcasting segment struggles for growth. It is also seeing margin growth along with the increased revenue growth opportunity. The SIGM acquisition will further diversify SLAB making it an even more compelling story.

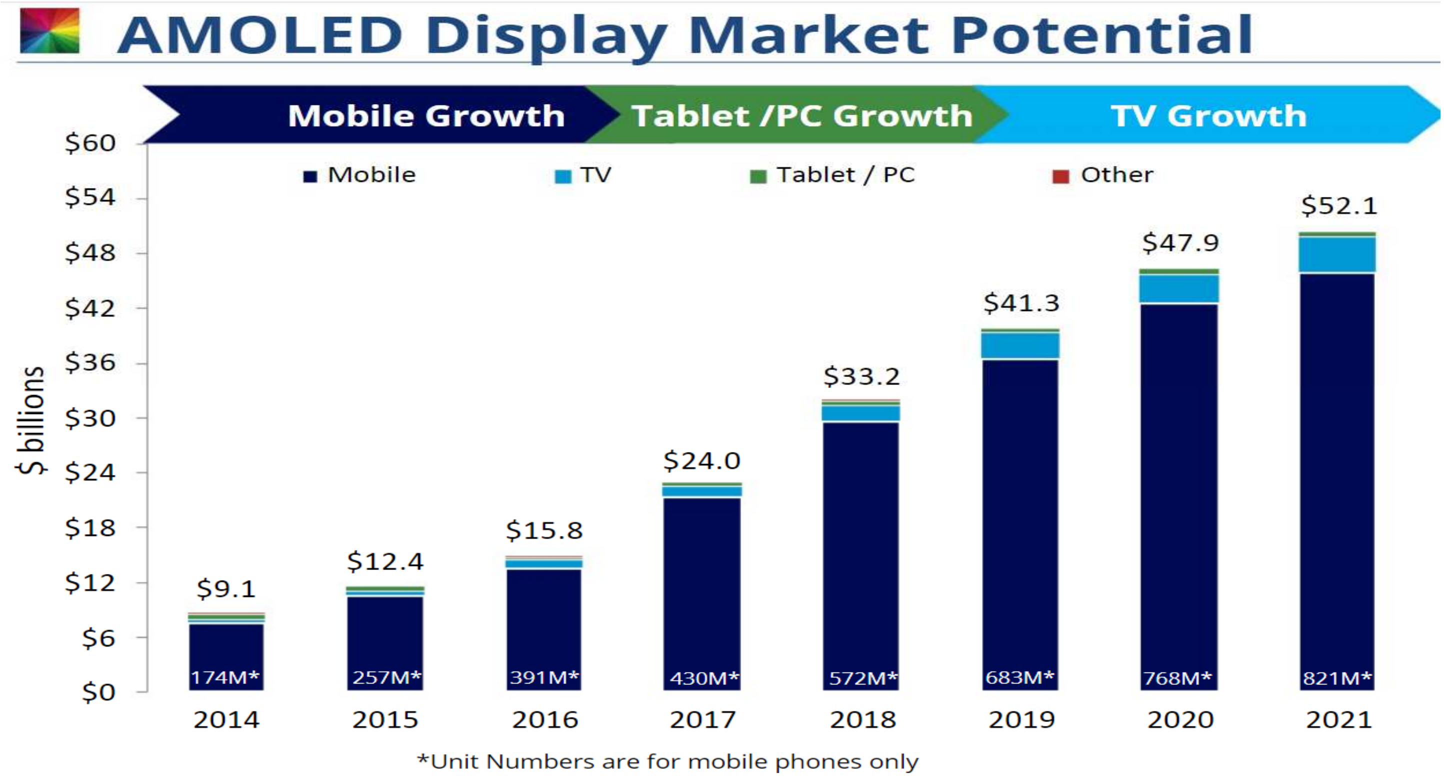
The sub $1.5B names are DIOD, XPER, SYNA, FORM, CEVA, ACLS, IXYS, NVMI, UCTT, ICHR, COHU, NANO, DQ and AOSL. They trade on average 14.7X Earnings and 2.3X EV/Sales with 45.8% gross margins. The four names that really stand out as favorites are **CEVA (CEVA), Nova Measuring (NVMI), Cohu (COHU), and Axcelis (ACLS).**

<u>Electronics and Technical Instruments:</u>

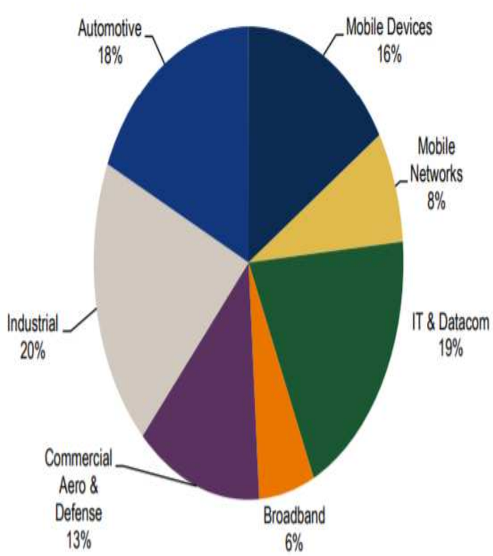
Components:*APH,ARW,AVT,AVX,AXE,BHE,CGNX,CLS,COHR,FLEX,GLW,HUBB,LFUS,LPL,MEI,MKSI,NATI,OLED,ORBK,PLXS,TEL,IPGP,CTRL,ROG,ITRN,TTMI,JBL,RTEC*

This is basically a group of misfits that did not fall into other groupings, a collection of some display Tech names, provider of electronic components, automation, and etc. It does have some great names though with the machine vision and laser names that have climbed sharply in 2017 (CGNX, COHR, and IPGP).

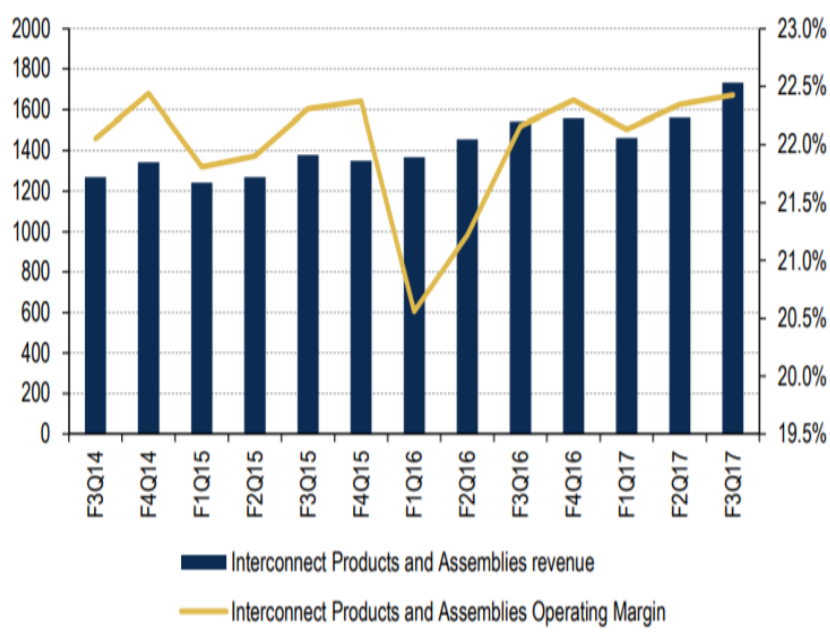
Universal Display (OLED) is an $8.3B leader in OLED display technologies, trading 55.5X Earnings with 60% revenue growth in 2017 set to be followed by 25% in 2018 and EPS potential to hit $5/share in 2020 from $1.10/share in 2016. OLED has better performance, more efficient, thinner, and more vivid colors and contras ratios than LED and there is a major shift underway to it in both Mobile and TV markets. OLED has a ton of intellectual property and continues to make strategic partnerships. It operates at high margins and has $380M in cash with no debt. OLED recently announced a supply agreement with BOE that can serve as a catalyst for more growth in the China market. OLED clearly trades at rich valuation but has a ton of market potential with relatively untapped markets and emerging ones such as Automotive and OLED Lighting. Its patent portfolio allows it to keep a dominant market position and a low cot operator through its royalty/licensing model.



Amphenol (APH) is a $27B maker of connectivity products and solutions trading 25.6X Earnings, 4X Sales and 40.7X FCF. APH's revenue growth is set to slow a bit in 2018 after two very strong years but continues to be an excellent operator in a growing industry. APH appears to be winning more market share with the Apple iPhone for LCP antennas. Mobile revenues came in +67% Q/Q last quarter driven by this new Apple cycle, while trends in Industrial and Military also remain positive. APH has a conservative outlook and offers solid organic growth and strong FCF while having potential upside on M&A as it has made 13 acquisitions in the past two years. Consolidation is a top theme in the Connector industry and APH is targeting deals to enable incremental growth and higher margins, allowing it to maintain it's relatively high trading multiple. Shares do trade at a large premium to **TE Connect (TEL)**, another name I like, but APH is a better growth/margin story.

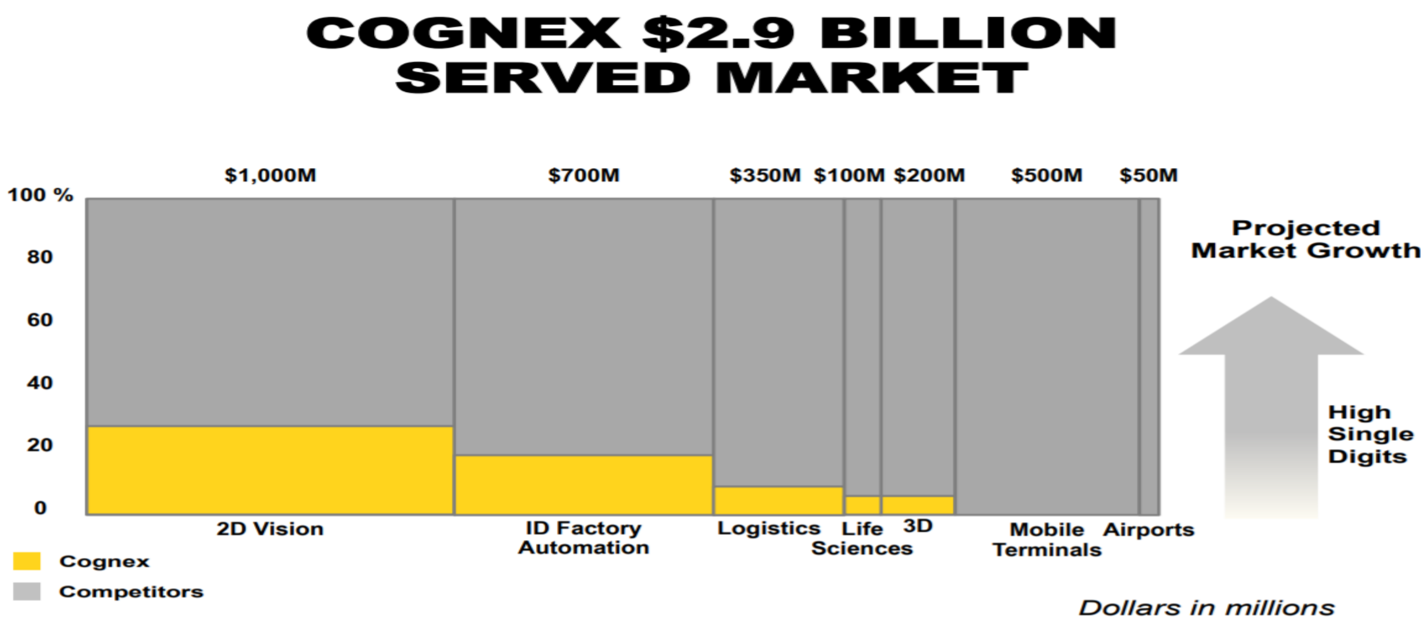


Source: Company reports



Coherent (COHR) is a $7.25B maker of laser-based technologies trading 16.45X Earnings, 4.2X Sales and 22.6X FCF. COHR has a 33.6% ROIC and 15% FCF margin, growing revenues 100% in 2017 and EPS 165% with 2018 seen at 15%/21%, still strong numbers deserving of a much higher multiple. COHR is a photonics leader and 83% of sales come from outside the US. Growth catalysts include OLED adoption, mobile, auto, laser adoption for Industrial applications, and Medical trends such as vision correction, dental, and gene sequencing. COHR received more than $2B in orders in 2017 and the Microelectronics segment is seeing a lot of strength. COHR is a combination of strong growth and margins. COHR has a major growth driver with ELA equipment servicing which is seeing very strong order demand. I also like its close peer **MKS Instruments (MKSI)**, but prefer COHR.

Cognex (CGNX) is a $10.7B machine vision company trading 43X Earnings and 63.85X FCF with 42% revenue growth in 2017 expected to be followed by 13% in 2018 which likely proves conservative. It operates with 78% gross margins and 15% of revenue invested into R&D with over 1,000 patents. Machine vision is used to guide equipment and robotics and there is a long runway for growth in robotics and automation in industrials and other markets. Logistics is 10% of total revenues but growing 50%/year with many new applications for Vision and ID. The 3D Vision market is growing even faster. CGNX has posted extremely strong quarters all year and all the trends in its market points to continued momentum, a name to ignore the valuation at this stage of its market cycle.



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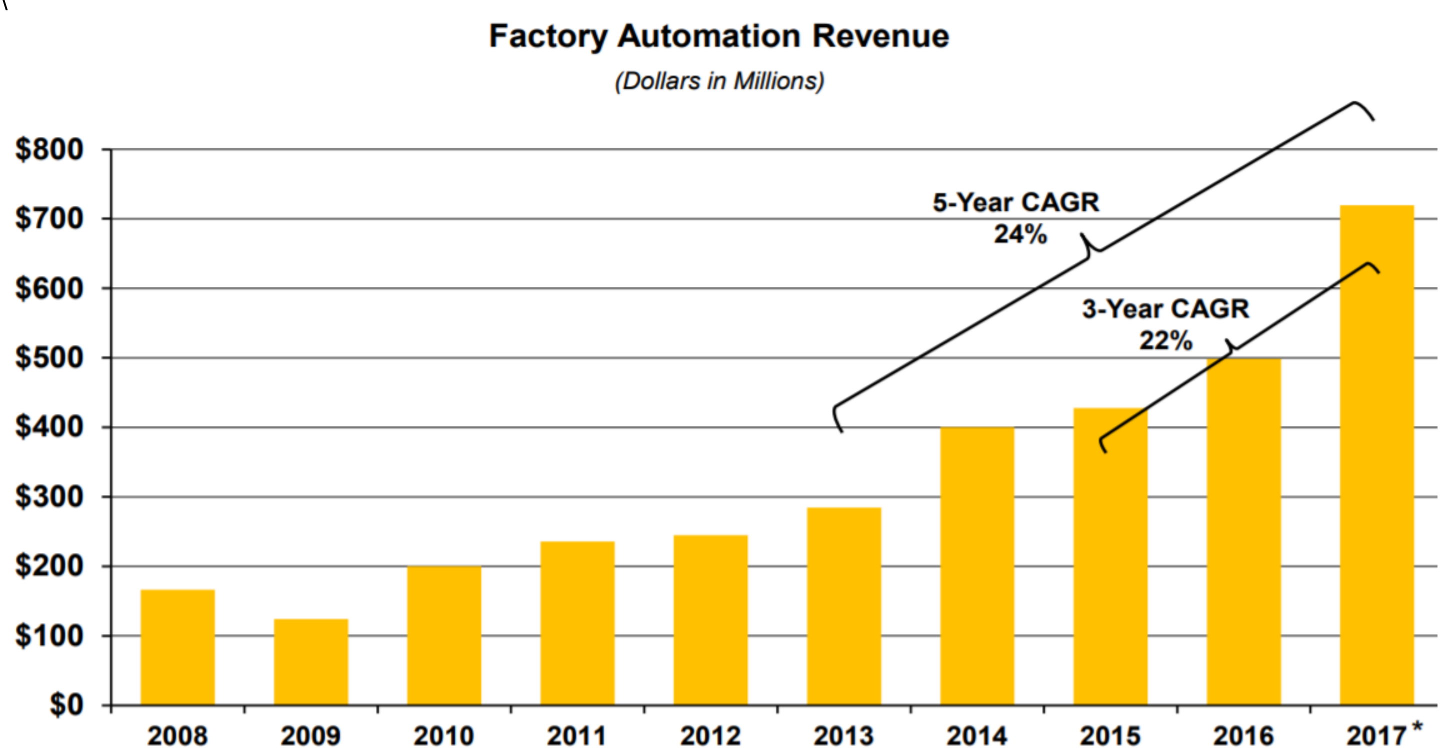
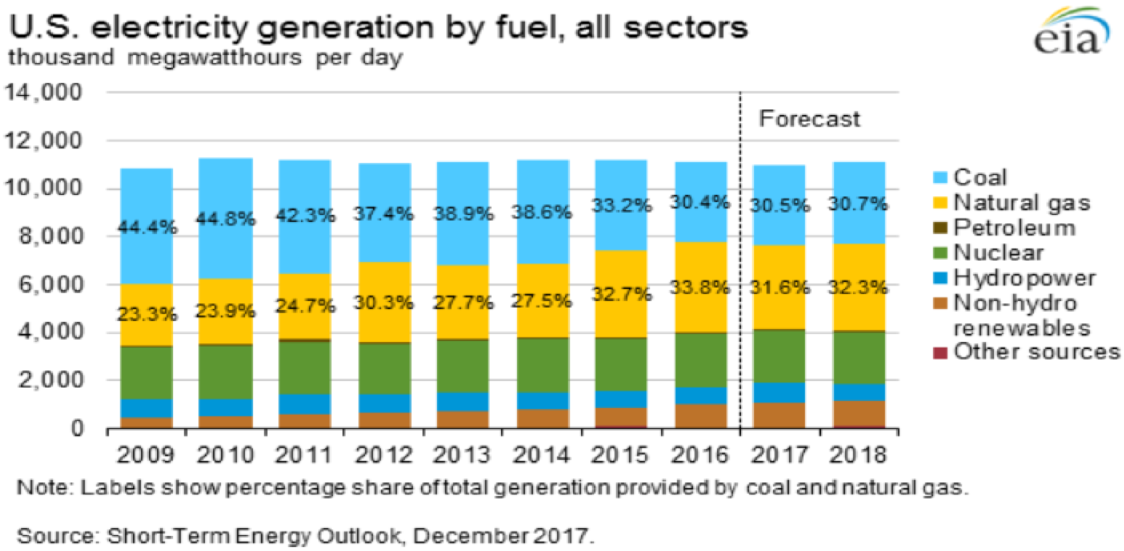
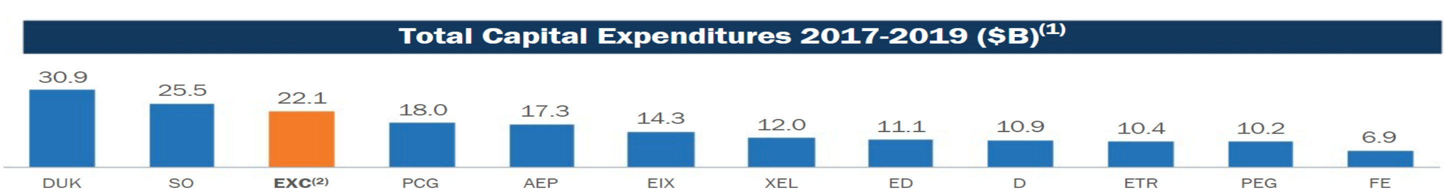


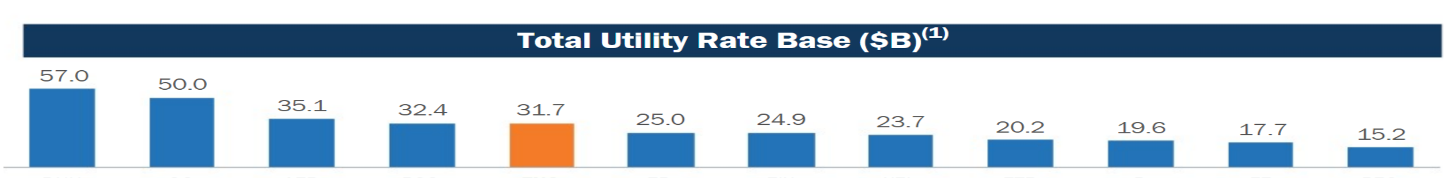
Utilities: *The Utility group is only up 10% YTD lagging broader markets as was expected in a rising rate environment and Q4 performance has been especially weak. The main challenge for the group into 2018 is the rising interest rate environment and with bond yields rising, the group's allure as being a safety/yield focused investment area loses some allure. It's is not an overly exciting group for stock selection. It is a group where we pay more attention to the balance sheet as they often carry a lot of debt for the significant infrastructure requirements. Location is also important due to the regulatory environment for allowing customer rates to be raised, notably Florida, Texas and California are utility-friendly states. Rising inflationary and 10-year yield expectations will contract multiples across the group. Expectations for higher growth is likely to lead to underperformance for the group as a bond proxy, and it is a sector with a negative correlation to rates while fundamentals are fairly weak with no earnings growth and a compressed spread between dividend yields and 10 year Treasury yields.*

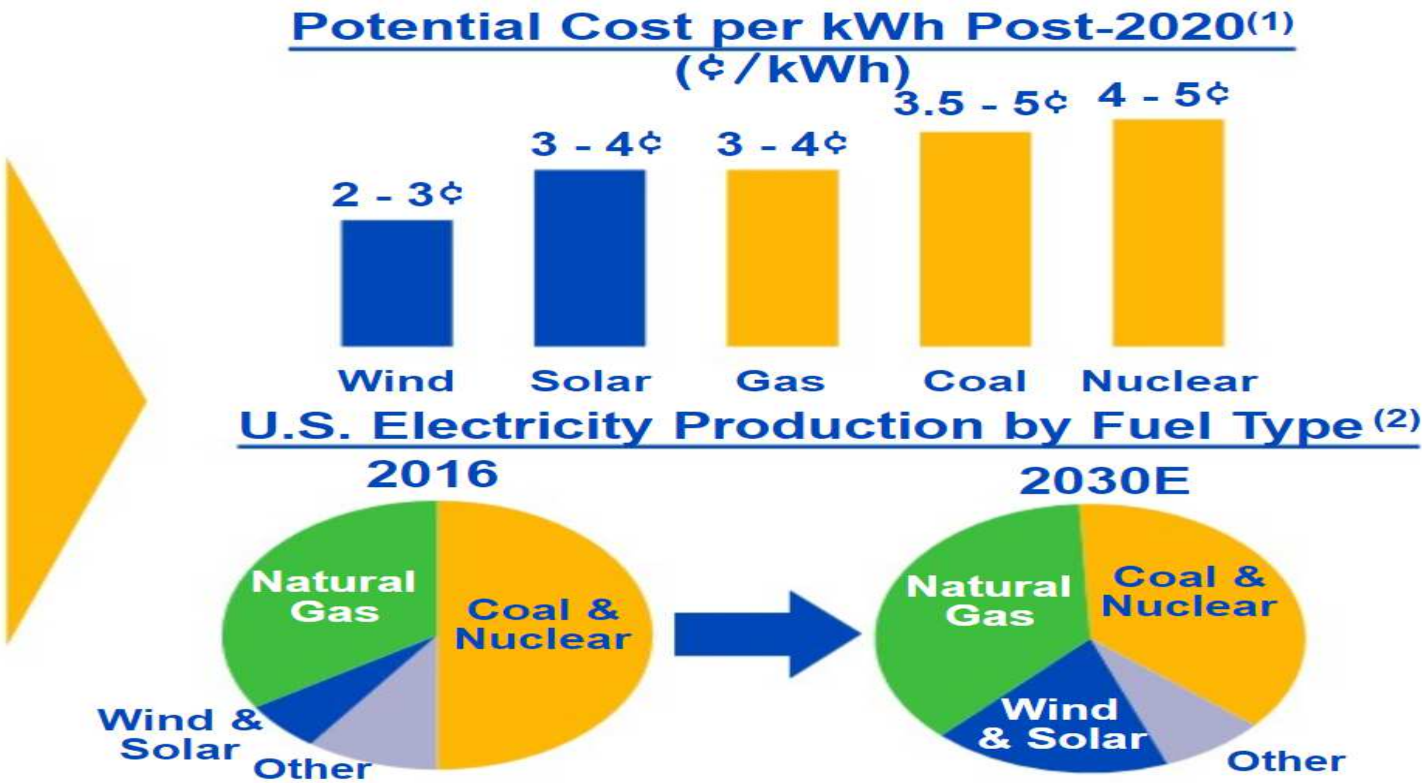


The stable Utility stocks still offering 4%+ dividend yields are APU, CAFD, NYLD, BEP, AES, KEP, SO, ETR, AQN, DUK, and BIP. Water Utilities were standout performers with **California Water (CWT), Aqua America (WTR), American Water Works (AWK), and American States Water (AWR)** all 20% gainers in an otherwise weak group. Along with Water, Renewables is the other area of growth and both can benefit from increased infrastructure spending.

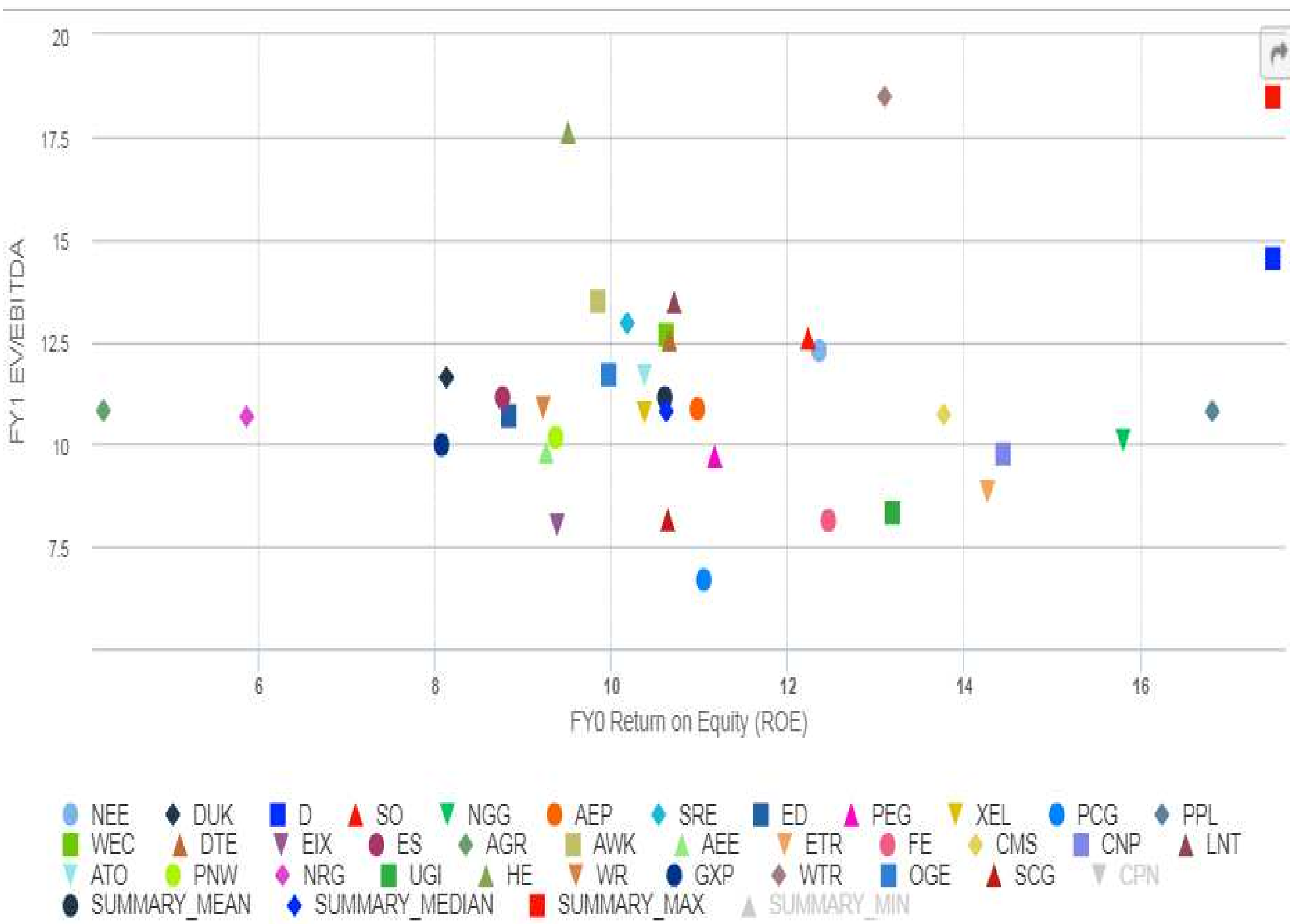
Without going into too much detail in this rather boring group, after running screens for various metrics and focusing on less debt levered names, the top quality names for Utility exposure are **Next-Era Energy (NEE)** for renewable exposure**, Ormat (ORA)** as a dominant geothermal leader, **Aqua America (WTR)** in water, **Duke Energy (DUK)** for yield/stability, **NRG Energy (NRG)** for asset optionality, **Public Enterprise (PEG)** for its strong ROE/growth profile, **Atmos (ATO)** as a growth play in Natural Gas, **Xcel Energy (XEL)**, and **CenterPoint (CNP)** on valuation/yield.



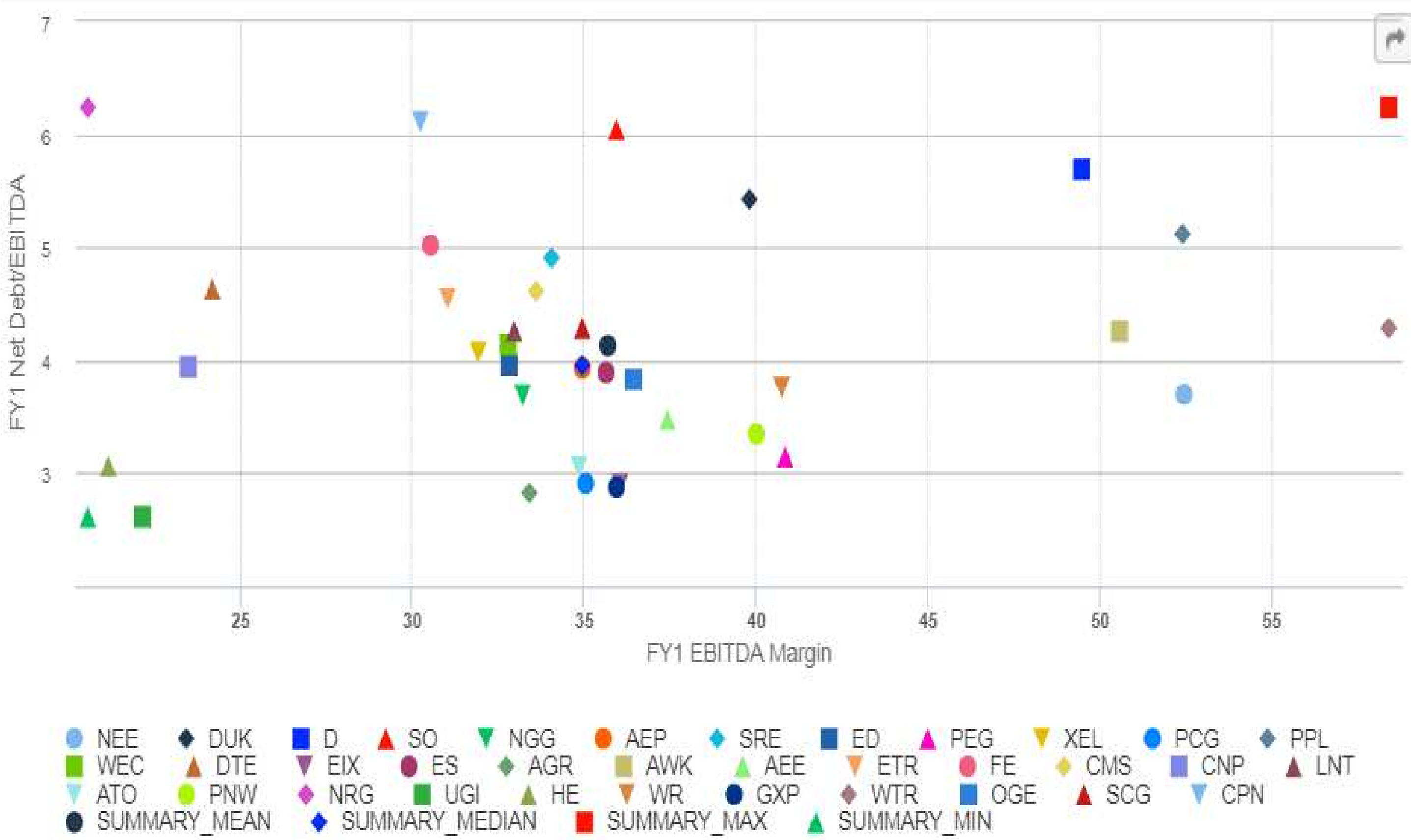




ROE vs. EV/EBITDA



EBITDA Margin vs. Net Debt / EBITDA



Insider Trading

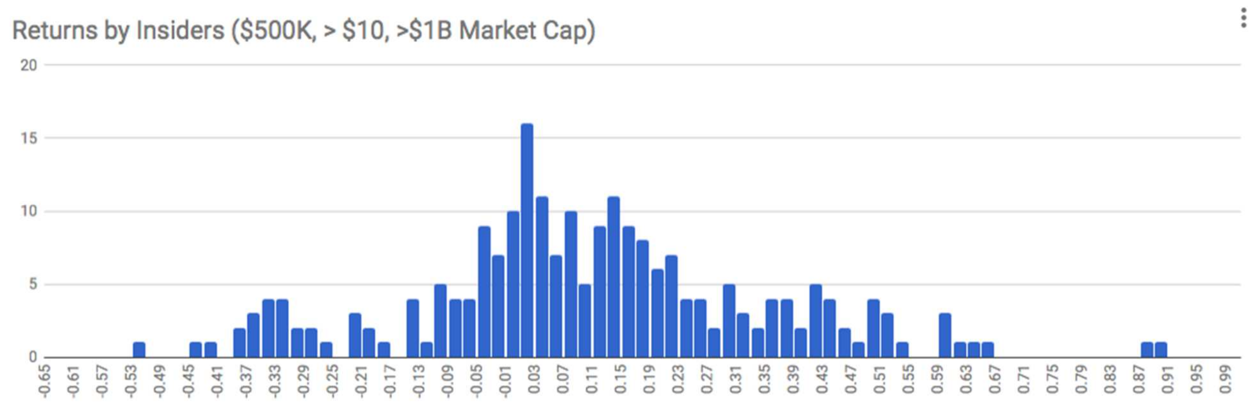
Insider buying can be an incredibly useful tool in the trading playbook whether it's identifying inflection points in longer-term turnarounds or simply when a stock gets punished following a seemingly one-time earnings event. Hundreds of Form-4 filings come in every day but looking at very specific subset we can see where smart executives, directors, and others with knowledge of the company are putting their money. Insiders most often have a better understanding of the company's production processes, their underlying markets and trends, and more recent information than any analyst or earnings call can give so when they begin putting up sizable amounts of their own money into a stock, you should take notice.

When we look at insider buying, we avoid filings which are based in option compensation, preferred convertibles, and even those buying which are on behalf of a family trust. We also tend to avoid buys which are based on a 10b5-1 purchase plan because it has less to do with where the stock is trading at the time and more on the insider's desire to accumulate shares.

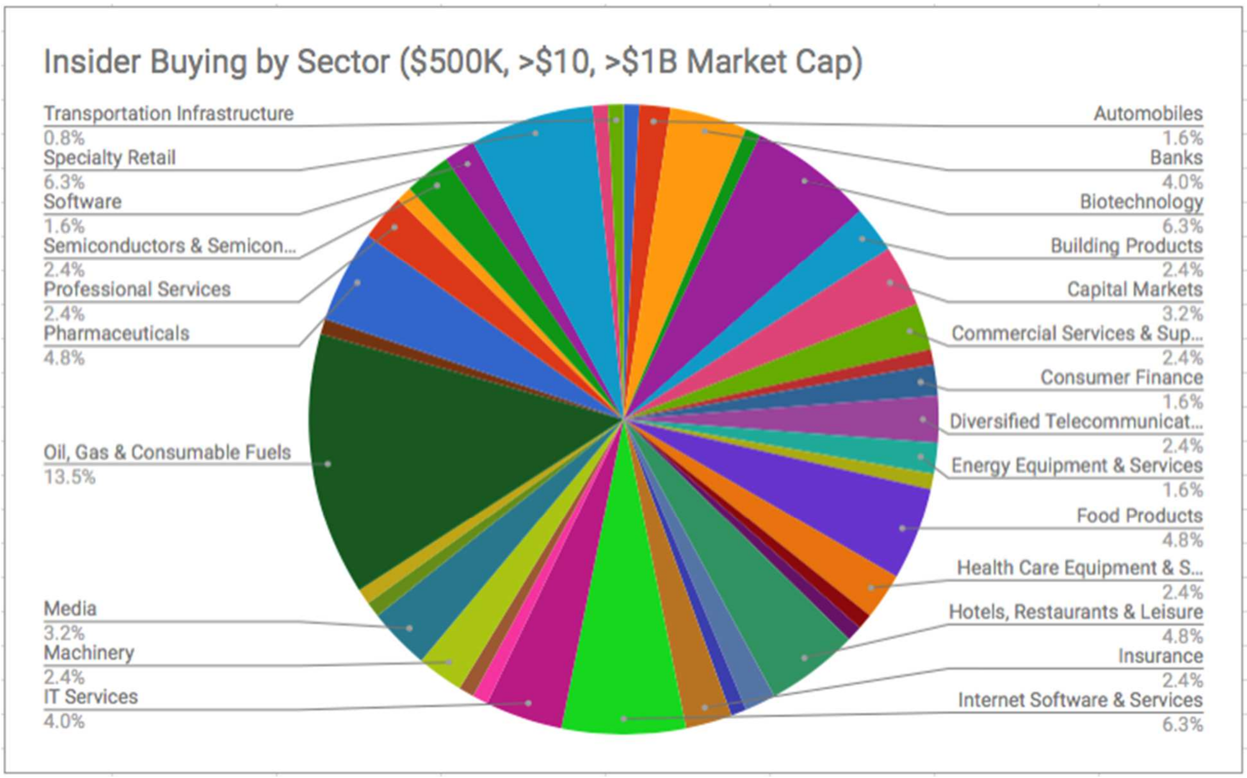
So, how did insiders do in 2017? Let's look at a quick scan of every insider buy in 2017 but filtered to only look at purchases above $500,000. We end up with 885 trades. The first thing we'll take out is trades that weren't just simple buys from an insider (taking of those noted above). Then, we'll limit it more by filtering out anything sub $10, anything that trades less than 300,000 shares on average per day, and anything with a market cap under $1B to get a much more manageable list of 233 stocks.

- 70.8% were profitable
- 31.3% beat the S&P
- The average return was 13.54%
- The biggest win was 217% (NKTR) and then 160% (KITE)
- The biggest loss was 51.5% (AMC)

Here's a histogram of returns with the three highest (160%+ excluded).

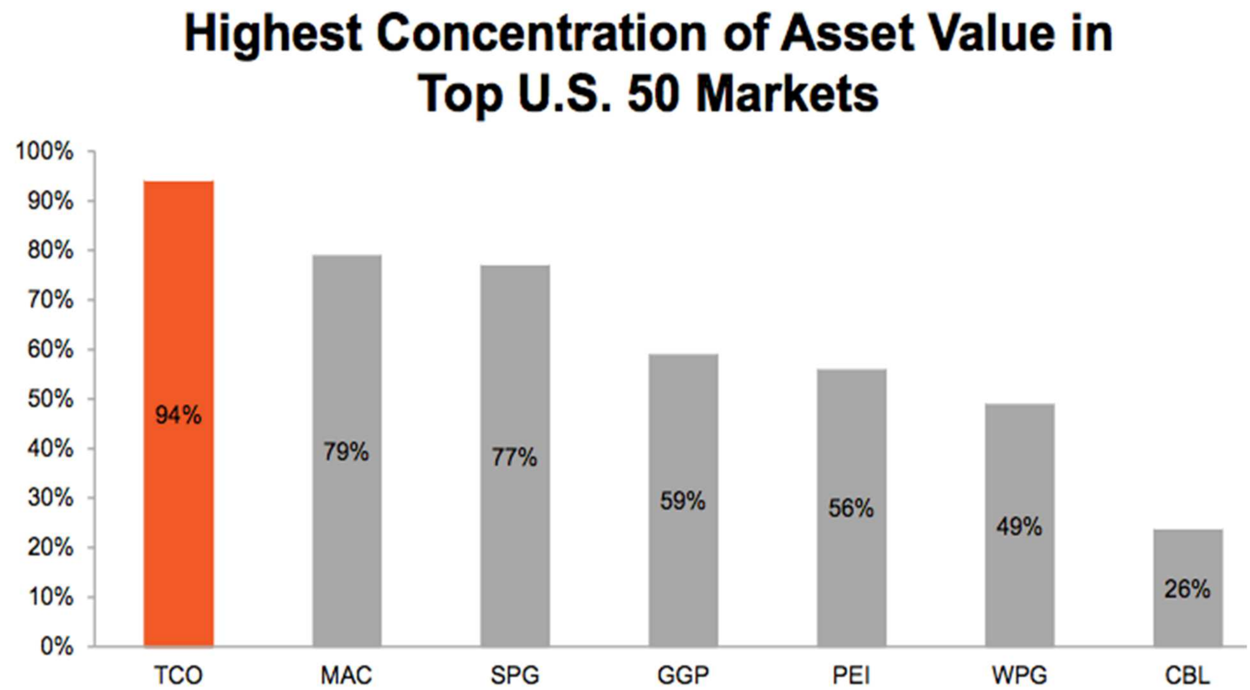


And here's a look at how the buying was spread out by sector.

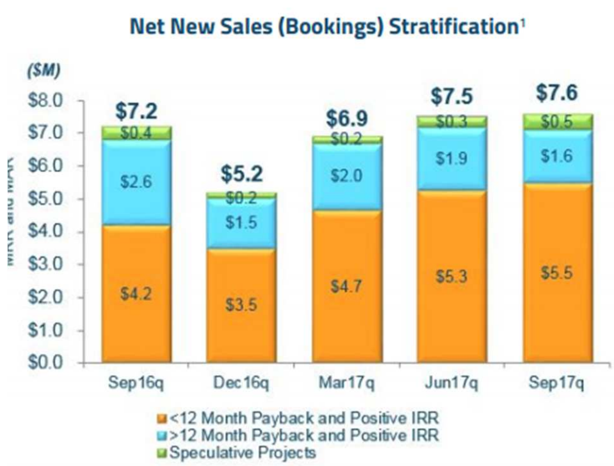


<u>Notable Late Year Buys</u>

Taubman (TCO) saw a big insider buy from Director Cornelia Marakovits on 12/18, 4,000 shares at $63.35 which was $253,000. TCO had a $700K buy in August around $57. TCO is a $3.9B mall REIT which trades 21X FFO and 6.38X sales with a 3.84% yield. TCO owns a collection of retail assets across the Eastern US, mostly Florida, while also having some exposure to the West in Arizona, Utah, and California. The company has a solid portfolio of tenants with exposure to fashion anchors like Neiman Marcus, Saks, Bloomingdales, and Barney's. Tenant sales per square foot have risen 4.1% CAGR since 2006. TCO's EBITDA margins were nearly 8% below their Class A peers. TCO has seen a resurgence in recent months with Elliott management buying a stake and reportedly looking to push for changes. They join L&B as activists in the name, the latter seeing $100/share value. On 12/13, TCO filed an 8-K which disclosed a severance plan for senior management in the event of a change of control.

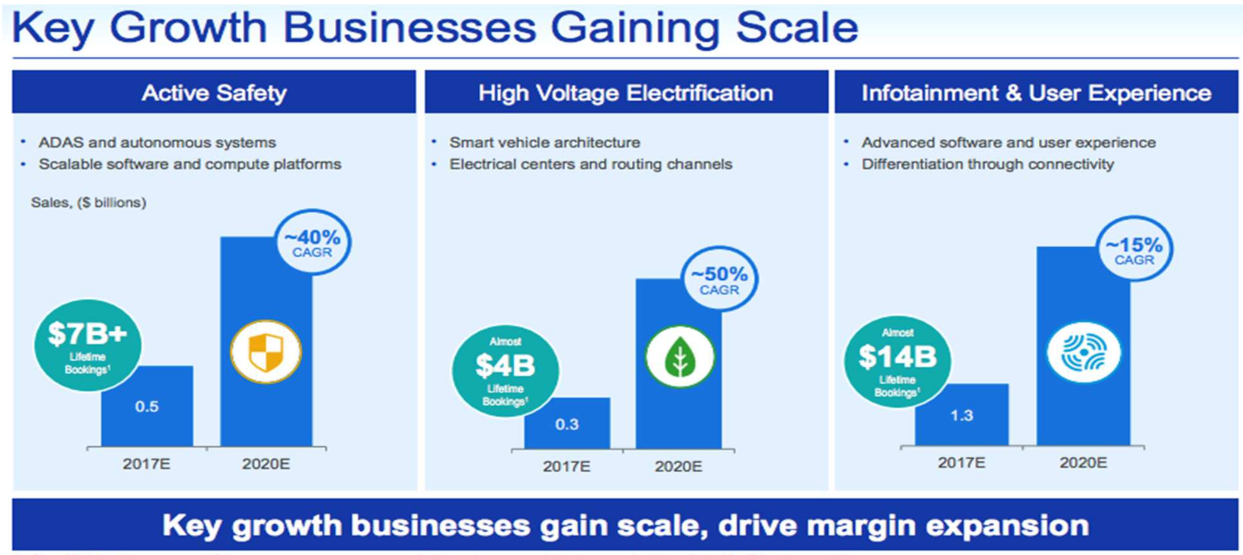


Zayo Group (ZAYO) saw a big insider buy on 12/12 from Director Emily White of $1.5M, over 43,000 shares at $34.99. ZAYO is an $8.93B communications company which trades 61X earnings, 3.8X sales, and 30.65X cash and nearing 2017 highs. The company reported 27% revenue growth in Q1 with bookings and gross installs at record levels. In June, the company outlined a long-term plan to hit 6-8% growth limited churn and seeing long-term tailwinds from fiber and colocation while transport and enterprise look to turn around. Tailwinds include growth in streaming video, cloud and big data analytics as a provider of bandwidth infrastructure. In August, peer Lightower was acquired by Crown Castle (CCI) and ZAYO announced it would look at options to become a REIT to unlock value. Wells Fargo positive on the potential move noting it would open it up to a new investor base and lower cost of capital to invest in new projects.



Aptiv (APTV) saw a big insider buy on 12/6 from President and CEO Kevin Clark of 22,500 shares at $87.88, a more than $1.97M buy. APTV also had an insider buy from Director Frank Dellaquilla of 1,000 shares on 12/15. APTV was the result of the move to spin out Delphi's powertrain business, Delphi Technologies. APTV is split between Electrical/Electronic Architecture and Electronics and Safety. The former is expected to see 3-4% growth through 2020 and focus on cable management, connection systems, and data power and distribution. E&S is a smaller part of the mix and expected to see 10% growth with a focus on Connected Services ($20B market), active safety, body and security, and infotainment ($25B market). Overall, APTV has long-term targets of $17B in sales with operating margins higher by 60-100 basis points through 2022 as they capitalize on the growing need for software and systems in vehicles. They also are positioned well for new addressable markets like Autonomous Driving, Connected Cars, and adjacent markets like aerospace. Deutsche Bank was out with a $86 PT for shares on 12/6 noting that APTV is a 6-8%+ grower (4-6% growth over market), with EBIT growth of ~9% per year. There may be upside to estimates as well due to accelerated buybacks.

Baird made APTV a top pick on 11/22 noting that multiple secular growth opportunities support their multi-year view that Aptiv's stock could reach $120-130 over several years. In their opinion, Aptiv is well positioned to commercialize/monetize ADAS/self-driving technologies, next generation power/signal distribution, in-vehicle user experience and rapidly emerging mobility solutions. They view Aptiv as an enabler, the bridge between Silicon Valley, automakers and technology users bringing these technologies to market.



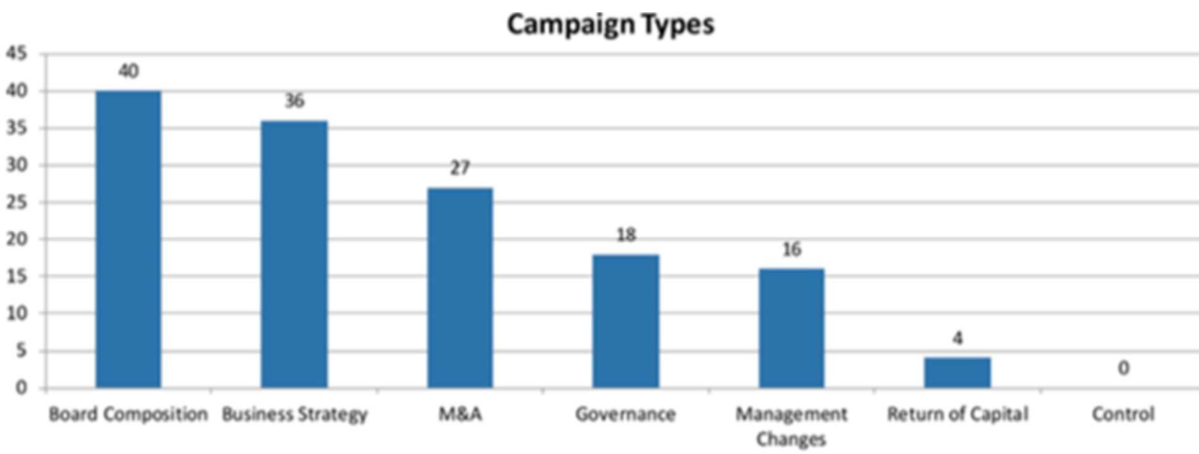
2017 Notable 2H Insider Buys

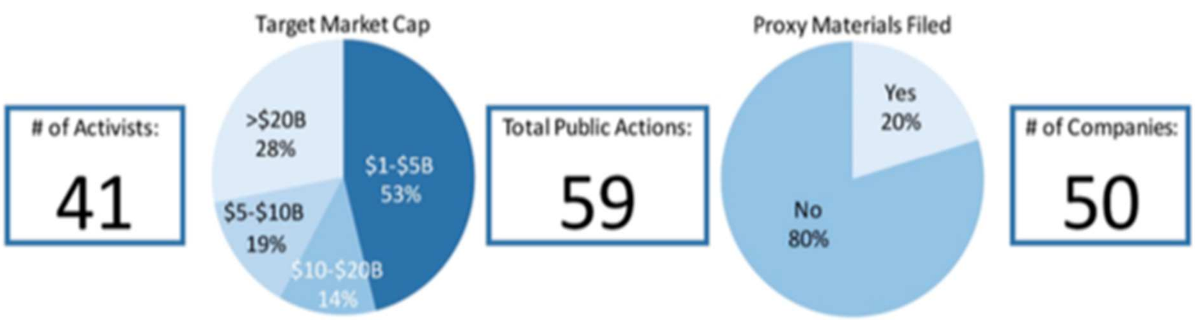
Stoc	Date	Purchaser	Purchase Pr	$ Value	rrent Price	Change
NBL	12-19-2017	Director David Stover	$26.31	$499,890	$27.23	3.50%
TCO	12-15-2017	Director Cornelia Marakovits	$63.35	$253,400	$65.15	2.84%
AKAM	12-15-2017	CEO Thomson Leighton	$57.01	$999,784	$66.82	17.21%
DISCA	12-15-2017	Director David Wargo	$18.55	$1,855,000	$22.01	18.65%
MELI	12-14-2017	Director Alejandro Aguzin	$274.47	$2,744,700	$329.28	19.97%
APRN	12-13-2017	CEO Brad Dickerson	$3.93	$707,400	$4.45	13.23%
RH	12-13-2017	CEO Gary Friedman	$97.09	$1,000,027	$101.86	4.91%
ZAYO	12-11-2017	Director Emily White	$34.99	$1,507,894	$36.29	3.72%
TWOU	12-11-2017	Director Paul Maeder	$61.45	$4,168,154	$66.75	8.62%
PYPL	12-11-2017	Director Rodney Atkins	$74.04	$499,770	$74.50	0.62%
FNGN	12-07-2017	Director Blake Grossman	$28.71	$516,780	$29.45	2.58%
CZR	12-07-2017	Director John Bushy	$12.64	$252,800	$12.70	0.47%
APTV	12-06-2017	Pres/CEO Kevin Clark	$87.88	$1,977,300	$85.62	-2.57%
AGN	12-06-2017	CEO Brent Saunders	$164.74	$757,804	$169.57	2.93%
KIM	12-05-2017	Exec. COB Milton Cooper	$19.20	$960,000	$18.31	-4.64%
KW	11-30-2017	Director Stanley Zax	$19.18	$959,000	$17.40	-9.28%
NBL	11-30-2017	EVP Operations Gary Willingham	$26.00	$780,000	$27.23	4.73%
MDCO	11-30-2017	Director Alexander Denner	$30.03	$5,105,100	$26.22	-12.69%
MELI	11-29-2017	Director Nicolas Aguzin	$274.47	$2,744,700	$329.28	19.97%
HII	11-28-2017	Director Philip Bilden	$234.11	$515,042	$238.00	1.66%
JCI	11-24-2017	VP/Pres of Products William Jackson	$36.00	$720,000	$37.46	4.06%
ARMK	11-20-2017	Director Sanjeev Mehra	$40.75	$800,330	$42.90	5.28%
GE	11-17-2017	CEO John Flannery	$18.27	$1,096,200	$17.59	-3.72%
T	11-15-2017	Director Geoffrey Yang	$33.52	$999,399	$38.05	13.51%
PEGA	11-15-2017	Director Sharon Rowlands	$52.13	$260,650	$47.90	-8.11%
XRAY	11-14-2017	Interim CEO Mark Thierer	$66.04	$5,085,080	$66.60	0.85%
AAOI	11-14-2017	Director Alan Moore	$44.60	$999,040	$42.07	-5.67%
PZZA	11-09-2017	Director Kent Taylor	$57.53	$509,716	$60.10	4.47%
DXCM	11-06-2017	Director Steve Altman	$49.61	$496,100	$58.14	17.19%
GOGO	11-06-2017	President/CEO Michael Small	$8.79	$879,000	$11.15	26.85%
TPX	11-07-2017	President/CEO Scott Thompson	$51.19	$1,001,532	$64.40	25.81%
CAKE	11-06-2017	Director Herbert Simon	$43.50	$1,087,500	$49.01	12.67%
BNFT	11-06-2017	CEO Shawn Jenkins	$25.27	$934,990	$27.00	6.85%
VRSK	11-06-2017	President Scott Stephenson	$91.16	$2,023,752	$96.00	5.31%
K	11-02-2017	President/CEO Steven Cahillane	$62.70	$998,811	$65.47	4.42%
CHTR	10-31-2017	CFO Christopher Winfrey	$323.61	$1,003,191	$316.97	-2.05%
WBA	10-26-2017	Director John Lederer	$67.00	$1,340,000	$72.19	7.75%
LMT	10-25-2017	Director Daniel Akerson	$312.02	$780,050	$319.97	2.55%
ITW	10-25-2017	SVP, GC Norman Finch	$156.34	$779,511	$167.46	7.11%
T	10-25-2017	Director Matthew Rose	$33.75	$999,000	$38.05	12.74%

TACO	10-25-2017	Director Eileen Aptman	$12.56	$355,071	$12.14	-3.34%
PCH	10-25-2017	Director John Moody	$50.68	$760,200	$50.80	0.24%
PAG	10-20-2017	COB Roger Penske	$45.29	$49,999,979	$48.55	7.20%
SWCH	10-11-2017	GC, Pres. Thomas Morton	$17.00	$5,100,000	$17.01	0.06%
TIF	09-28-2017	Director Francesco Trapani	$89.34	$2,233,500	$100.42	12.40%
LB	09-25-2017	Director Allan Tessler	$37.00	$740,000	$60.34	63.08%
UAL	09-19-2017	Director Ed Sharpiro	$59.87	$898,050	$64.43	7.62%
SFM	09-18-2017	CIO Daniel Bruni	$19.00	$285,000	$24.12	26.95%
LXRX	09-18-2017	CEO Lonnel Coats	$12.54	$376,200	$10.06	-19.78%
RH	09-15-2017	CEO Gary Friedman	$70.94	$993,160	$101.86	43.59%
CY	09-14-2017	Director Daniel McCranie	$14.37	$431,100	$15.76	9.67%
SN	09-13-2017	CEO Antonio Sanchez	$4.45	$445,000	$4.92	10.56%
COTY	09-12-2017	SVP Group Controller Ayesha Zafar	$17.11	$369,063	$19.38	13.27%
AMC	09-14-2017	CEO/Pres. Adam Aron	$15.79	$552,650	$15.25	-3.42%
LNG	09-12-2017	Pres/CEO Jack Fusco	$42.32	$1,005,100	$49.28	16.45%
BANC	09-11-2017	CEO/Pres. Doug Bowers	$17.56	$1,000,920	$21.25	21.01%
X	09-08-2017	EVP/CFO Kevin Bradley	$27.23	$1,001,029	$33.84	24.27%
BLDR	09-08-2017	Director Paul Levy	$16.17	$12,936,000	$20.16	24.68%
CY	09-08-2017	Director Catherine Lego	$13.69	$273,800	$15.76	15.12%
GCO	09-05-2017	COB Robert Dennis	$23.81	$595,250	$31.05	30.41%
EAT	09-06-2017	Director Michael George	$30.31	$498,600	$39.41	30.02%
PCG	09-05-2017	Director Roger Kimmel	$69.68	$278,720	$52.05	-25.30%
TREE	09-01-2017	Director Kennedy Thompson	$230.91	$1,154,550	$337.45	46.14%
PAH	08-31-2017	Director Ian Ashken	$10.98	$494,100	$10.13	-7.74%
FDC	08-29-2017	EVP Jeff Shanahan	$18.21	$1,319,606	$16.40	-9.94%
CRZO	08-30-2017	Director Steven Webster	$12.13	$909,750	$19.68	62.24%
SJM	08-30-2017	COB Richard Smucker	$105.40	$1,713,959	$121.47	15.25%
ULTA	08-30-2017	Director Michael McDonalds	$208.37	$416,740	$227.47	9.17%
RSPP	08-30-2017	CEO Steven Gray	$29.99	$299,900	$37.04	23.51%
RGC	08-29-2017	Director Thomas Bell	$14.76	$369,000	$22.87	54.95%
RARE	08-28-2017	Pres./CEO Emil Kakkis	$52.52	$393,900	$46.61	-11.25%
COTY	08-29-2017	Pres of Luxury Edgar Huber	$16.40	$1,314,400	$19.38	18.17%
PII	08-29-2017	Director George Bilici	$95.18	$269,645	$123.65	29.91%
KMT	08-22-2017	Pres/CEO Christopher Rossi	$33.47	$1,000,084	$48.38	44.55%
KSU	08-18-2017	Director Henry Maier	$106.19	$318,570	$112.07	5.54%
NUVA	08-18-2017	CEO Gregory Lucier	$66.22	$331,100	$59.50	-10.15%
SND	08-18-2017	CEO Charles Young	$5.18	$518,000	$8.82	70.27%
JCP	08-18-2017	CEO Marvin Ellison	$3.48	$348,000	$3.04	-12.64%
AMC	08-18-2017	Director Jack Gao	$12.50	$250,000	$15.25	22.00%
KKR	08-17-2017	Director Robert Scully	$18.21	$1,001,550	$20.77	14.06%
FDC	08-17-2017	EVP Jeff Shanahan	$17.81	$2,103,984	$16.40	-7.92%
CSRA	08-17-2017	Director Craig Martin	$32.31	$646,200	$30.39	-5.94%
OXY	08-15-2017	Director Eugene Batchelder	$61.77	$617,700	$70.90	14.78%
DISCA	08-15-2017	CFO Gunnar Wiedenfels	$21.70	$325,500	$22.01	1.43%
APO	08-15-2017	Director Robert Kraft	$29.38	$293,800	$32.50	10.62%
ARNC	08-15-2017	Director Patricia Russo	$24.57	$368,550	$25.63	4.31%
TWNK	08-15-2017	CEO Douglas Toler	$13.86	$1,039,500	$15.00	8.23%
BAH	08-15-2017	Director Peter Clare	$32.30	$323,000	$38.96	20.62%
SLB	08-14-2017	Director Michael Marks	$64.20	$513,600	$64.39	0.30%
SUP	08-14-2017	CEO Don Stebbins	$15.77	$253,739	$15.85	0.51%
FOSL	08-14-2017	EVP Gregory McKelvey	$8.51	$279,111	$7.23	-15.04%
HRTG	08-14-2017	President Richard Widdicombe	$11.53	$297,474	$16.98	47.27%
NKTR	08-14-2017	Director Roy Whitfield	$17.95	$628,250	$57.05	217.83%
XON	08-14-2017	CEO Randall Kirk	$18.85	$2,499,981	$11.96	-36.55%
EGRX	08-11-2017	Director Douglas Braunstein	$49.07	$1,001,028	$56.11	14.35%
APLE	08-11-2017	COB Glade Knight	$17.62	$458,120	$19.61	11.29%
SSNC	08-11-2017	Director Michael Zamkow	$36.62	$522,751	$40.84	11.52%
TCO	08-11-2017	Director Myron Ullman	$56.90	$701,293	$65.15	14.50%
ETSY	08-10-2017	CEO Josh Silverman	$15.67	$1,002,880	$20.31	29.61%
CLF	08-10-2017	CEO Lourenco Goncalves	$7.19	$719,000	$6.71	-6.68%
IDXX	08-03-2017	Director Lawrence Kingsley	$151.73	$303,520	$157.39	3.73%
QSR	08-04-2017	Director Ali Hedayat	$61.32	$306,600	$60.92	-0.65%
GM	08-03-2017	Director Patricia Russo	$34.73	$347,300	$42.49	22.34%
BMY	08-03-2017	Director Theodore Samuels	$55.94	$335,640	$61.56	10.05%
MAT	08-03-2017	CEO margaret Georgiadis	$19.61	$248,263	$15.10	-23.00%
SF	08-03-2017	Director David Peacock	$50.03	$225,135	$60.31	20.55%
PSA	08-03-2017	Director Ron Spogli	$200.59	$401,180	$208.21	3.80%
IART	08-02-2017	Director Barbara Hill	$49.33	$249,117	$49.76	0.87%
ABBV	08-02-2017	Director Ed Rapp	$70.45	$281,800	$97.92	38.99%
BYD	08-01-2017	Director John bailey	$25.33	$253,300	$35.09	38.53%
DISCA	08-01-2017	CFO Gunnar Widenfels	$23.01	$460,200	$22.01	-4.35%
GNC	08-01-2017	EVP Chief of Merchandising Mantel	$8.34	$278,556	$4.71	-43.53%

Year in Review - Activists

According to Gibson Dunn, 2017 saw a broad rise in activism over 2016 with 59 actions vs 45 in the prior year, 41 investors going activist vs 35, and 50 companies' targeted vs 38. The most popular campaign continues to be Board composition with over two thirds of campaigns targeting such a move while changes to business strategy is also popular. Just under half of all activist campaigns in 2017 pushed for M&A including potential spin-offs. Most activist campaigns (45%) were in small-cap companies which is normal but we saw a major spike in mega-cap activism this year with 20 campaigns over $20B market cap. Activist Shorts became much more common in 2017 with many publicly taking their battle to the public airwaves with a white paper or report on material issues through Twitter or television. In 2017, 22 different short-sellers publicized positions in 30 companies.





Notable Campaigns in 2017: ARNC, ALSN, AVP, TEVA, ETSY, ISBC, NRG, ABB, ERIC, CTL, EGN, DGI, ABCO, CTSH, GIMO, NXPI, HAIN, MYCC, ILG, LEN, DD, GM, SSD, BMY, TIF, WFM, TCO, BANC, CSX, BWLD, DECK, TEX, VRX, ADSK, BOBE, INVA, SWX, PRXL, PRGO, TRCO, DOW, HON, SPB, GE, PG, ADS, AIRM, CPPL

Notable Activist Funds (Top Positions)

Icahn Capital: AIG, CVI, HLF, LNG, FCX, XRX, NAV, HTZ, PYPL, ARII

Pershing Square (Bill Ackman): MDLZ, QSR, ADP, CMG, HHC, PAH, NOMD

Third Point (Dan Loeb): BAX, BABA, DWDP, BLK, FB, STZ, BAC, BID, GOOGL, NXPI

Starboard Value: PRGO, AABA, MRVL, AAP, MLNX, FTNT, SCOR, EVHC, BCO, STC

Jana Partners: EQT, ZBH, TIF, LBRDK, HDS, UHS, DWDP, FDC, DXC, CAG

Elliot Management: NXPI, ARNC, HES, BTU, CTXS, CDK, ECA, ORIG, DVMT, AA

Clinton Group: MCD, BA, DGX, HUM, ADBE, TPR, WCG, BBY, RL, HAS

Engaged Capital: HAIN, RCII, STKL, TIVO, MED, BHE, JMBA, MX, BSFT, THC

Soroban Capital: NXPI, BUD, UNP, LBRDK, AVGO, GOOG, PX, MAR, WBA, STZ

Southeastern Management: LVLT, FDX, CNX, WYNN, GOOG, UTX, MAT, TROW

Trian Fund: PG, SYY, MDLZ, GE, BK, PNR, DWDP, WEN

Value Act Capital: FOX, ADS, BHI, CBG, KKR, MS, STX, MSFT, TRN, AWI

Taconic Capital: DVMT, AABA, TSG, ESV, VER, CL, ALLY, VZ, CHTR, GNW, PF

Sandell Asset Mgmt.: AABA, ALR, MGI, TWX, RICE, NXPI, BCR, NDRM, ABCO, BRCD

Marcato Capital: DECK, BWLD, TEX, IAC, GT, DXC, AIR, SFLY, BID, ITRI

Greenlight Capital: GM, AER, BHF, CNX, AAPL, MYL, AABA, TPX, PRGO, VOYA

Notable Hedge Funds Top Holdings

Consensus 50 Long Positions for Top Funds (In Order from Most Owned to Least Owned): FB, AMZN, BABA, GOOGL, MSFT, TWX, AAPL, BAC, NXPI, C, V, PYPL, CHTR, MON, DVMT, BCR, NFLX, STZ, AVGO, CMCSA, CRM, DWDP, WFC, IAC, NXST, ALLY, EXPE, JPM, MU, TTWO, FLT, MGM, BIDU, ADSK, BRK.B, DAL, XPO, CTSH, DXC, SBAC, EQIX, IQV, LVNTA, TDG, GDDY, ANTM, NRG, MPC, ADNT, LBRDK;

Consensus 50 Short Positions for Top Funds (In Order from Most Owned to Least Owned): T, INTC, WMT, PCLN, TGT, BDX, XOM, NVDA, CVX, IBM, LRCX, PG, SPG, DIS, COST, GE, PSA, ESRX, HD, JNJ, NKE, PFE, VZ, CAT, BA, CVS, CSCO, UNH, MMM, GM, ISRG, KMB, KR, VLO, GIS, ORCL, MAR, GILD, DE, F, WBA, AGN, UTX, AMGN, AIG, SLB, COP, AXP, ACN, KO;

Best Performing YTD: EXAS, ALNY, YY, ALGN, ANET, TTWO, EDU, TWOU, BABA, SRPT, WYNN, SINA, ATVI, LYV, ADBE, BOBE, HUN, KRA, MVRL, CPRT

Worst Performing YTD: TISI, P, AVP, FMSA, TEVA, VRTV, WLL, CHK, SLCA, GPRE, PDCE, AAP, PAGP, FL, THS, APA, PI, WFT, APC, RDUS

Fund Type	2017 Return
Emerging Markets	15.68%
Equity Long Only	12.69%
Average Return	9.35%
European Equities	8.12%
Equity Long/Short	8.05%
Event Driven	6.42%
Fund of Funds	6.08%
Multi-Strategy	4.77%
Global Macro	4.32%
Fixed Income Arbitrage	4.31%
Distressed Securities	2.53%
Equity Neutral	2.40%

Hedge Fund Performance by Type in 2017

20 Stocks Gaining in Popularity in Q3 2017: FDC, ADP, CBS, IAC, ADBE, BA, INSM, KBH, GWRE, SNI, CPN, CSGP, ITCI, INCY, KNX, JBL, PKG, VRTX, COL, SPR

20 Stocks Falling in Popularity in Q3 2017: UNP, VVV, CSCO, ALB, CLVS, BBY, GILD, PNC, COMM, MMC, FLS, WIX, RRD, KMI, HAL, CFG, JAZZ, SGEN, BAH, FOSL;

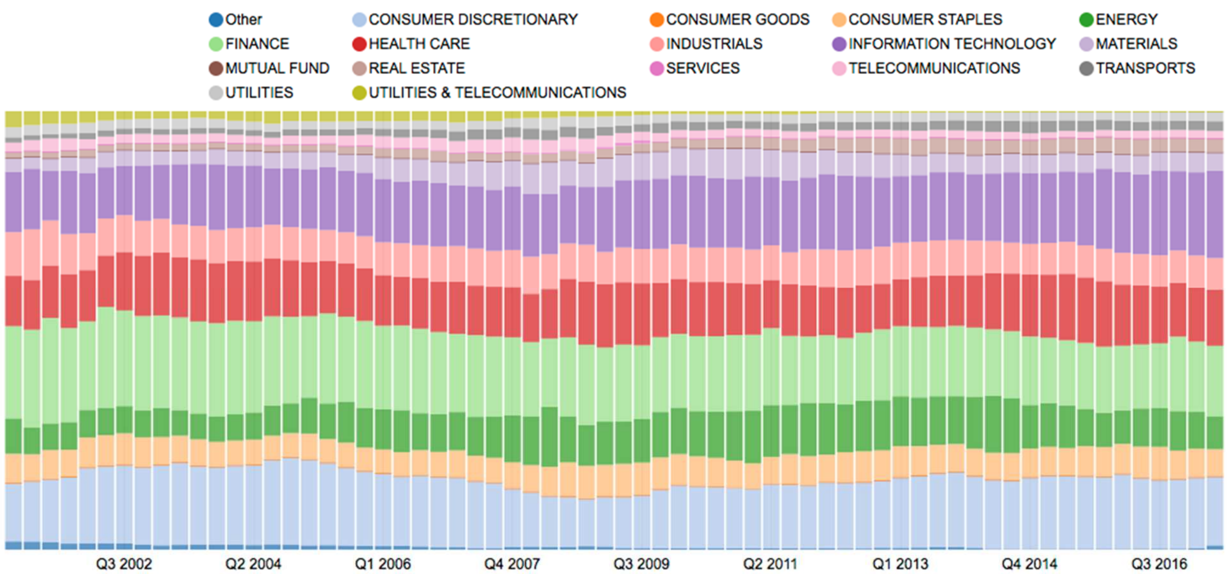
Largest % Increases: BHF, BTI, SBRA, KNX, FDC, CTLT, RACE, IAC, SPR, XPO, KBH, ASML, STMP, SHOP, PWR, TAL, BIDU, SQ, NCLH

Largest # of New Filers: DWDP, BHF, BTI, JBGS, OKE, BA, BABA, NVDA, C, AMAT, CAT, AMZN, FB, V, RTN, BMY, NFLX, CELG, BIDU, MU

Largest % Decreases: RAI, SPLS, DD, DOW, HPE, MET, TEVA, ECA, WBA, KGC

Largest # of Filers Sold Out: SWFT, TEVA, EFX, FTR, FL, SBUX, BHI, SNI, GE, GILD, ULTA, WFC, KR, MO, DIS, CMG

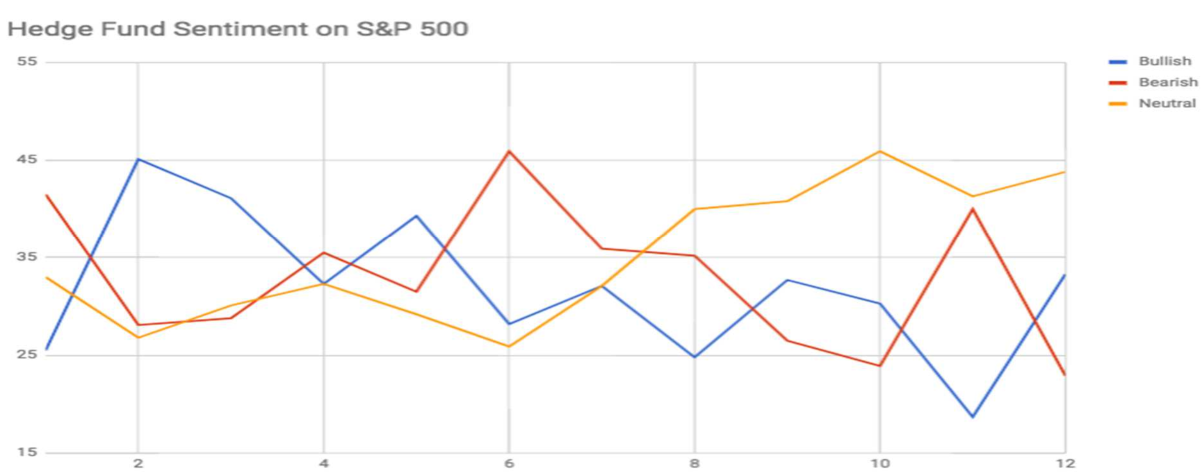
Sector Allocation (By Quarter)

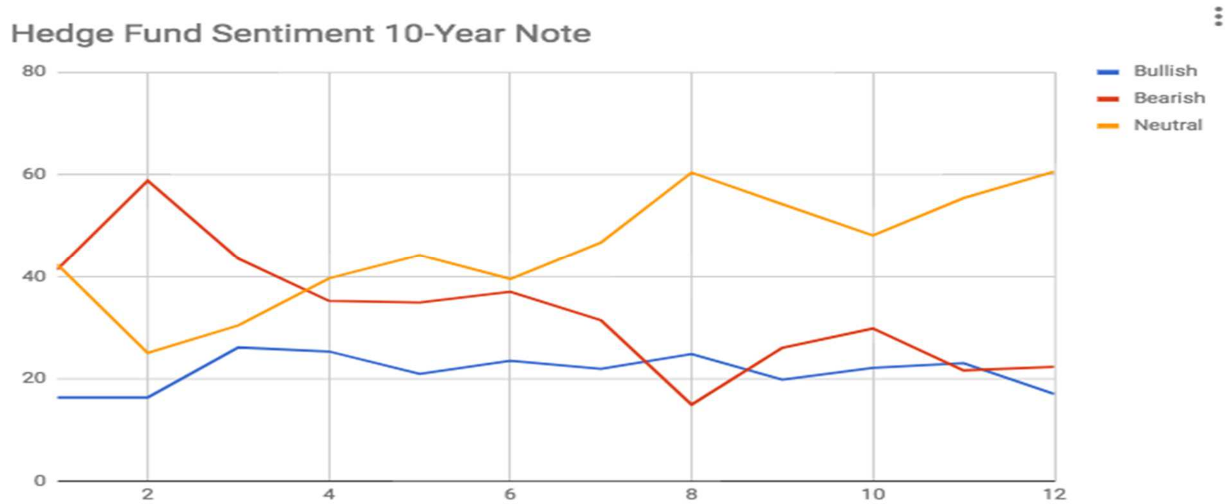


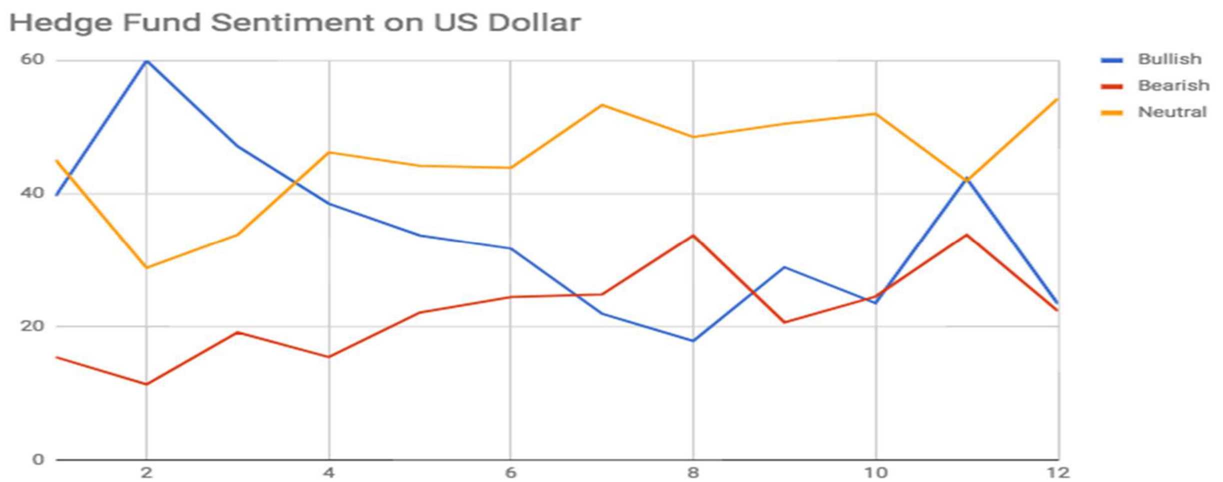
As of Q3 - Finance – 16.03%; Information Tech 19.88%; Industrials 7.28%; Healthcare – 12.82%; Energy 7.52%; Consumer Staples 6.11%; Consumer Discretionary 15.81%;

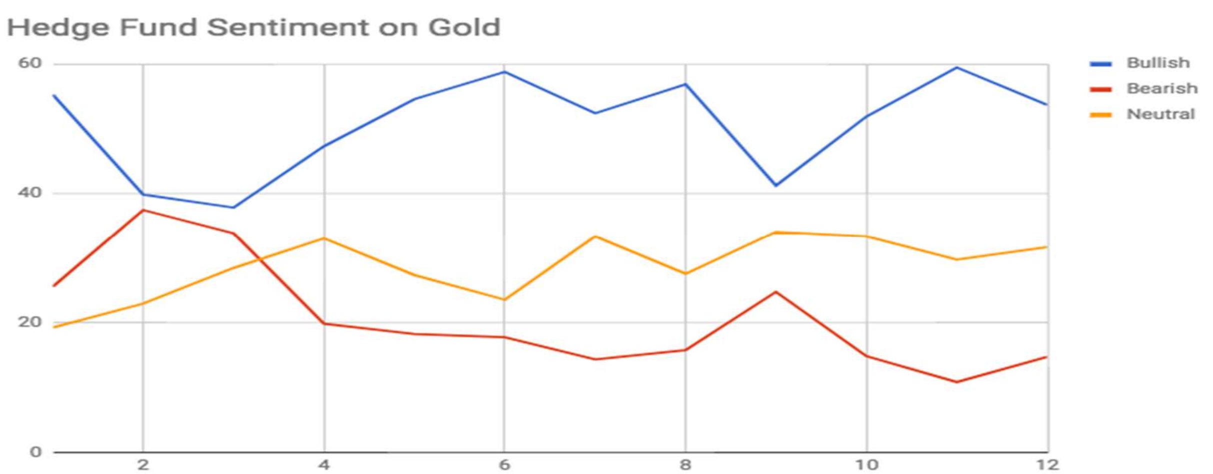
Hedge Fund Sentiment

Data via TrimTabs Monthly Surveys









<u>The Big Ones</u> (Top 10 Holdings)

Berkshire (Warren Buffett): WFC, KHC, AAPL, KO, BAC, AXP, PSX, IBM, USB, MCO

Soros Fund Management (George Soros): LBRDK, AABA, CACQ, TWX, TIVO, OSTK, EQT, MDLZ, KHC

BP Capital (T Boone Pickens): EPD, PSXP, WPZ, MPLX, ETP, BPL, TRGP, WES, FANG, RSPP

Renaissance Technology (Jim Simons): HUM, GILD, AMGN, NVDA, NTES, CL, NVO, BMY, DPZ, VRSN

Omega Advisors (Leon Cooperman): FDC, GOOGL, AMCX, AER, UAL, SHPG, DWDP, MSFT, TIME, FNF, LORL

Paulson & Co (John Paulson): GLD, SHPG, MYL, AGN, TMUS, VRX, CACQ, DISH, AABA, TWX

Appaloosa Management (David Tepper): MU, BABA, FB, GOOGL, AGN, AABA, WPZ, WDC, ETP

Tudor Investment Corp (Paul Tudor Jones): TWX, NXPI, COL, BCR, TSN, VZ, SNI, AABA, AAPL

Duquesne Capital (Stanley Druckenmiller): GOOGL, MSFT, FB, CRM, AMZN, PCLN, BABA, EA, JD, WDAY, C, CTRP, PYPL, EXPE, ATVI

Tiger Management (Julian Robertson): FB, ADBE, GOOG, BX, MSFT, BABA, CELG, RCL, BSX, Q

Bridgewater Associates (Ray Dalio): KR, ESRX, M, BBBY, ADS, GME, SWN, RY, KORS, DISCA, DVA, TD, DVN

Fisher Asset Management (Ken Fisher): BABA, AMZN, V, AAPL, JNJ, TSM, PFE, MSFT, AXP, GOOGL, HD, INTC, PG, SFTBY

Millennium Management (Israel Englander): AABA, MU, CMA, V, BAC, AMAT, ZION, CL, COP, LRCX, FB, KHC, CAG, VRTX, PEG, LOW

Oaktree Capital (Howard Marks): VST, TRCO, ALLY, AABA, TSM, ITUB, BABA, VALE, DYN, NMIH, IBN, PBR, PCLN

Baupost Group (Seth Klarman): LNG, SYF, QRVO, AGN, CLNS, FOXA, AR, PBF, TBPH, DVMT, FOX, KERX, CAH, ESRX, VRTV

D.E. Shaw: AAPL, NXPI, CMCSA, TJX, DVMT, TWX, GOOGL, MRK, JNJ, V, SPGI, NFLX, VRSN

Farallon Capital (Thomas Steyer): NXPI, TWX, AABA, BCR, GOOG, WAB, DVMT, FB, V, CTXS, HDS, MSFT, KITE, RDUS, BIIB, FIS, INFO

Maverick Capital (Lee Ainslie): UHS, FB, GOOG, WCN, V, EVHC, DWDP, SHPG, DXC, NWL, STZ, ANDV, PFE, SABR, QCOM, MGM

Viking Global (Andreas Halvorsen): GOOGL, ECA, V, FB, MSFT, NFLX, CP, TD, AVGO, LEN, UTX, PE, FWONK, UNH, DE, AMZN, CRM

Adage Capital (Phil Gross and Robert Atchinson): AAPL, MSFT, AMZN, FB, BRK/B, JNJ, NBL, GOOGL, BAC, GOOG, C, JPM, DLTR, T

Lone Pine Capital (Stephen Mandel): BABA, STZ, CHTR, ATVI, CMCSA, AVGO, Q, UNH, FB, MSFT, PCLN, EXPE, MA, NOW, ICE

Two Sigma Advisors (John Overdeck and David Siegel): HD, LOW, MCD, MU, BA, MDLZ, CAT, KR, TGT, APD, OXY, UNP, PM

Highfields Capital (Jonathon Jacobson): FDX, MAR, MON, HLT, TWX, BEN, TV, TEVA, PXD, HDS, BHI, FOXA, MIK, TGT

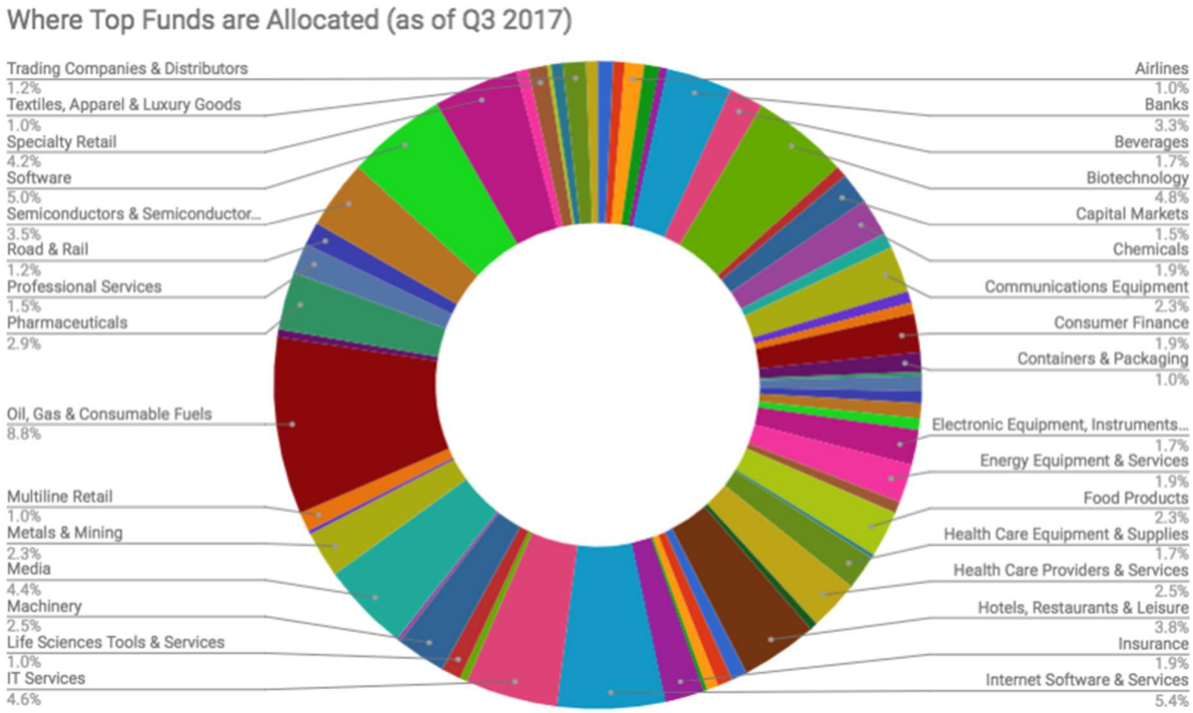
AQR Capital (Cliff Asness): AAPL, MSFT, GILD, WMT, PFE, INTC, MRK, EBAY, LYB, FB, BABA, JPM, MU, GOOGL, ALL, GM, JNJ, BA

Discovery Capital (Rob Citrone - Tiger Cub): AMD, BTU, CHTR, S, AMZN, XLNX, AVGO, MU, PBR, STZ, YNDX, TTWO, SLM

Coatue Mgmt. (Philippe Laffont - Tiger Cub): FB, AAPL, BABA, LBRDK, ATVI, SHOP, NVDA, AVGO, NFLX, EA, JD, GOOG, AMZN, BAC, SNAP

Hoplite Capital (John Lykouretzos - Tiger Cub): A, MSFT, STZ, ADSK, FB, HLT, GOOG, MGM, BUD, AVGO, BAC, NOW, VNTV, Q, TMO

Point72 (Steven Cohen): TWX, AABA, AMZN, DHR, FB, SHW, ANDV, EA, BABA, DWDP, STZ, WPX, IGT, GOOGL, BIIB, PE, V, TTWO



Hawk's Smart Funds (Top Adds in Q3)

Abrams Capital: TEVA, ABG, ORLY, SPH, GPI

Akre Capital: ORLY

Alkeon Capital: AMRN, EBAY, CTRP, BA, EXEL, SINA, YUM, ADI, MELI, ALXN, AGIO, WDAY, ZAYO

Altimeter Capital: YELP, TRVG, MULE, UAL, BABA, GOOGL

Alyeska Investment Group: F, MRO, ZNGA, BP, PTEN, EBAY, FDC, LOW, TXN, RIG, TDC, MRK, AEL

Anchor Bolt Capital: GFI, HK, EGO, AXL, DAL, VALE, DAN, DWDP, ATI, HAL, EQT, LNG, KNX, AA, TSN

Ariel Investments: MAT, MSGN, SLCA, TGNA, P, NLSN, SJM, A LOT, VICL

Aristotle Capital: DWDP, COF, ACHC, DHR, PPG, USB, CCE, ADUS

Artal Group SA: PRQR, ACHN, ARRY, AAL, FOLD, INTC, GBT, AGN

Bloom Tree: APRN, SNAP, CDK, IGT, HD, UBNT, STMP, LXFT, FB, WLTW, CLDR, GOOG

Blue Ridge Capital: GNC, V, ULTA, ORLY, W, PXD, BABA, PCLN

Brave Warrior: ADS, JPM, LBTYK

Cantillon Capital: VRSN, TSM, AVGO, EFX, BITA, IBKR, AGN

Canyon Capital: VICI, ORIG, KR, RAD, MGM, BAC, EQT, PAGP, AABA, BERY

Criterion Capital: AMD, CMCSA, FLT, WDAY, KEYS, CREE, MELI, NOW, PANW, AMAT, NFLX, MA, AAPL, SYMC, APTV, CRM, OLED, ATUS, PHG, AMZN, V, SPLK, PCLN

Diamond Hill: DFS, BHF, PM, JNPR, ACC, JCI, VRSK, MDT, SBUX, KEX, UAL, F, AVT, TAP, GT, ALGT, TMO, BGS, FAST, AXTA, KMB, UTX, COTY, ENDP, FOX

Edgepoint: FLS, MSCC, WAB, CSX, DTEA, GIL, WFC, BSM, TEL, GNRC, DIN, BRK/A, BNS, EXFO, OR, DGII, SAND, FNV, MFC, SATS

Findlay Park: APD, ORCL, DHR, SLB, SCHW, FIS, BKFS, MMC, FLIR, KO, ADSK, AON, AXP, CMCSA, SNA, UNP, MLM, SHW

Gardner Russo: MO, MLM, BF/B, CMCSA, WFC, DWDP, FULT, OUT, BRK/B, V, HRL, DANOY

Gilder Gagnon and Howe: CHGG, EROS, ALSK, TAL, WMT, MDB, JD, SFIX, TDOC, LPSN, ENPH, FRPT, LC, SSTI, FND, ZLAB, BIOS, ROKU, GGAL

Hitchwood Capital: AA, MNST, AMD, TMUS, QSR, COG, GWRE, FWONK, PLNT, NOW, ADNT, ALRM, ILMN, W, OLED, JD, ADSK, WDAY, CRM, TEAM, PVH, MELI

Hound Partners: TRU, FTNT, EFX, MHK, LBRDK, RDFN, ATUS, FB, HLT, EXPE, SPSC, CMPR, AAOI, GOOG, CHTR, ACIA, CACC, CENX, QSR

Kensico Capital: SYMC, OLN, LW, LNG, WDC, DATA, FLT

Lakewood Capital: ON, CMCSA, ALLY, VER, CIT, CJ, WRK, HCA, ARD, SLV, RLGY

Lateef Mgmt.: ALK, DXC

Locust Wood: SRUN, NRG, LILAK, MSFT, C, AABA, FWONK, VNTV, BAC, CSCO, APTV, DOV, SU, DHR, ABT, HHC, PX, APC, LVNTA, CMCSA, AAPL, LDOS

Lyrical Asset Mgmt.: FLEX, WU, QVCA, SU, GLW, HTZ, JCI, GT, NOV, AER, OI, ETN, LNC, AFL, ARRS, TEL, EOG, WDC, CAR, ACM

Melvin Capital: FDC, PYPL, WEN, ADSK, JCP, QSR, LAUR, HLT, YNDX, TTWO, VMC, MNST, HDS, EA, DLTR, FB, FLT, CVNA, BABA, SHW, BC, RCL, RH, WYN

New South Capital: TGNA, MSM, HHC, IWS, SCI, LKQ, TMO, XTL, FMC, AZO, IBM, BMY, KMI

Oak Ridge: HOMB, TRNO, LJPC, ACIA, SRPT, WIX, DLTH, SUPN, YUM, ADSW, ASGN, CRM, FIS, TRU, HLT, CDW, CAVM

Passport Capital: TAHO, BSTI, QEP, HSNI, APC, AABA, V, AMZN, AVGO, BABA, UNH, AMG, CRM

Pennant Capital: UPL, NRG, CNDT, AKS, PTC, CDK, ACHC, GT, CIEN, TWNK, KN, NXPI, HD, APA

Polen Capital: MSFT, ORCL, ORLY, NKE, SBUX, ADBE, DG, ADP, CELG, FB, ACN, IT, RELX, MA, UL, GOOG, SAP, ICLR, CHKP, BABA, PCLN

Sachem Head: VNTV, CARS, ZAYO, CMCSA, NXPI, CDK, MSFT, SHPG, GOOG

Sailingstone Capital: RRC, AR, NBL, CXO, LPI, KOS

Samlyn Capital: AMNL, OSPR, SC, QSR, SNAP, TWX, TPR, LPLA, DHR, HLT, NOMD, SEE, GPS, PHG, CMA, STT, ADP, PCRX

Southern Sun: DBD, STAY, KN, DY, FLS, NFX, EVHC, AEGN, CLH, CR, ATU, PNR, MUSA, DFS

Stockbridge Partners: LBTYK, FWONK, LBTYA, WMS, MPLX, AMZN

Sustainable Growth Advisors: TJX, INFY, ULTA, INFO, MDLZ, CLB, NLSN, LOW, CMG, HDB, CRM, UNH, MELI, SLB, SAP, FLT, ADS, NKE, REGN

Three Bays Capital: RRR, HAWK, SUM, ADSW, APC, FWONK, PXD, MDCO, HCA

Tourbillion Capital: DISCA, FOLD, VNTV, FG, EBAY, ITCI, SPB, EFX, DISH, INCY, GE, ALXN, SRPT, XRAY

Triple Frond: SCHW, CHTR

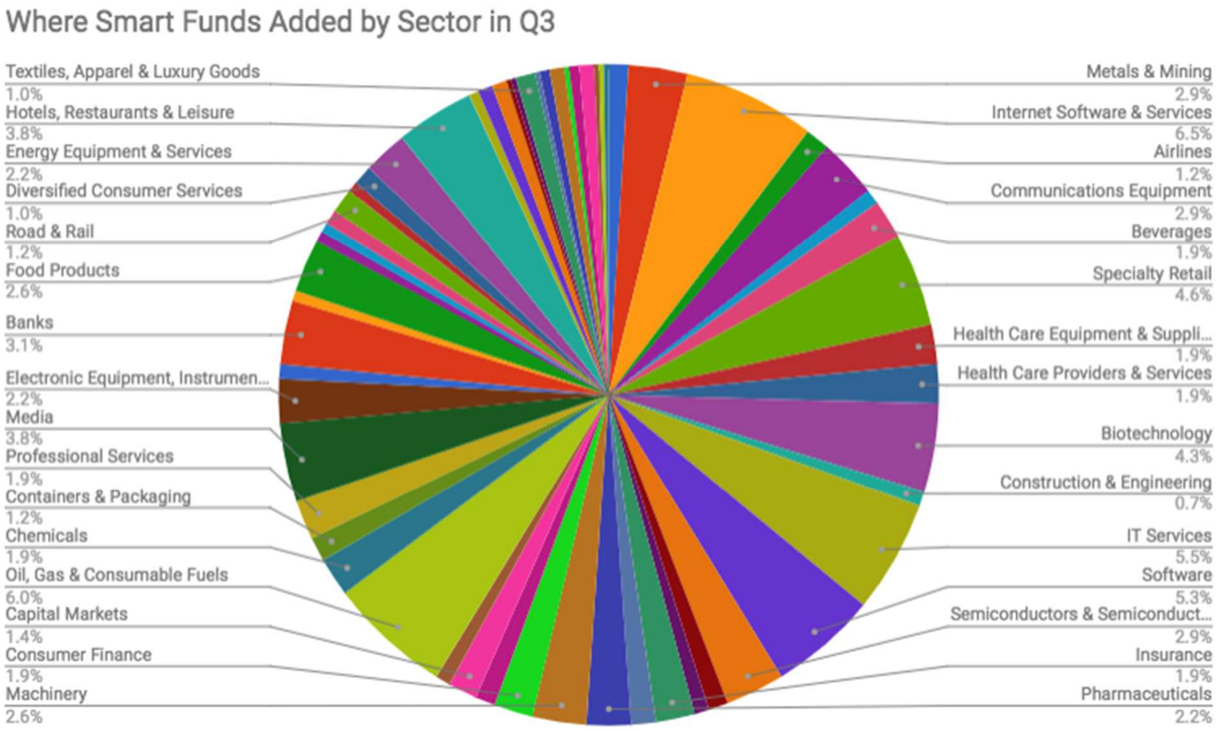
Turtle Creek: NTCT, PRAA, FAST, SCI, TSCO, ADS, OTEX, TJX, MIDD, HDS, WAB, CLH, KEX, CERN, AOS

Valinor Mgmt.: MGM, UNVR, DWDP, PX, EVHC, FDC, CNDT, BABA, AMZN, STZ, FB, GOOGL, MTN, TDG

Vontobel Mgmt.: LVS, DIS, BTI, ABEV, BSX, SBUX, CHKP, NTES, TSM, TJX, MDT, FMX, HD, VIPS, MLM, KO, NKE, HDB, KHC, ORLY

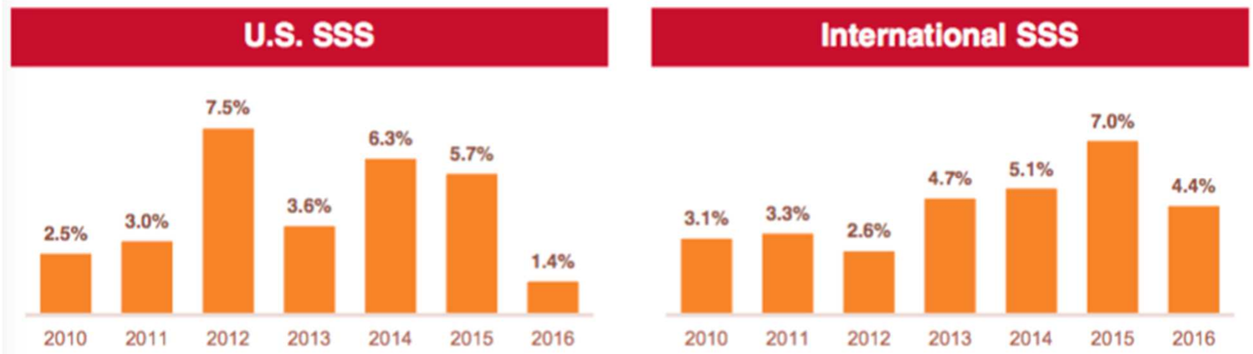
Wasatch Advisors: TRUE, HLNE, SNHY, B, JOBS, ARGS, INXN, AIMC, MFA, CMD, ENPH, HCKT, ITCI, MNRO, RLGT, NETS, GWRE, PETQ, HCSG, SNBR, STBZ, SBRA, TRHC

Wedgewood Partners: EW, FAST, TSCO, ROST, BP, XOM, VZ, T



Hedge Fund Spotlight Trade Ideas

QSR Brands (QSR) is a $14.75B operator of multiple restaurant chains through the US and Canada including Tim Hortons and Burger King. The company sees 8% Y/Y revenue growth next year to nearly $5B with the integration of their $1.8B deal for Popeye's. The deal gave QSR a strong in-road to one of the biggest areas casual growth and steady cash flow with 98% of their more than 2,600 restaurants franchised already. Popeye's is a strong business with $1.4M ARS and strong margins. The company has signed a lot of International agreements since 2014 and sees building outside the US in coming years a key initiative to gain market share. SSS dipped in 2016 to 1.4%, the lowest in over five years, and sees a turnaround to more normalized numbers around 3.5% to 5% in 2017/2018. The company had over 2,000 stores in the US at the end of last year, less than half the total number of their largest competitor, so a lot of opportunity to grow. Outside the US, they had just 620 stores which is almost 8,000 fewer than their second largest competitor Burger King.



The core business has been improving as well in 2017. Fast-food outperformed the broader restaurant landscape in Q3 with SSS +1.1% vs -2.4% with menu-innovation helping drive foot traffic. Comps at Burger King rose 3.6% last quarter, a nice jump Y/Y while adding stores at a mid-single digit percentage pace. The company has been paying down debt, looking to lower their leverage ratio, while expanding on their core brands.

Shares trade at 23X earnings and 3.3X sales with a nearly 1.4% yield. RBC Capital raised their PT to $77 on 10/23 to reflect accelerating SSS trends at BK US and Tim Hortons Canada. The firm thinks QSR's premium valuation is deserved given its highly visible unit growth and SSS drivers, which should support long-term rev growth of ~7% and a 15%+ total return after considering their cash flow optionality. Funds which added to QSR last quarter include Hitchwood, Hound Capital, Melvin Capital, and Samlyn Capital.

Vantiv (VNTV) is a $13.6B company which provides electronic payment processing for merchants in the US. VNTV is the largest merchant acquirer in the US by transaction volume and provides services to more than 40,000 locations and 17,000 ATMs. VNTV has reach into verticals like retail, restaurants, supermarkets, drug stores, and more with B2B and consumer-facing services. They also work with regional banks and credit unions. VNTV was spun out of Fifth Third.

Most of their business is tailored towards small to mid-sized companies as well as some select top-tier regional and national retailers. VNTV processed $21B in payment transactions in 2016 and has built their position in the industry significantly since 2010 with exposure to over $920B in annual merchant volume. The company has increased market share 7% since 2011 with deals for Mercury and Moneris in 2016 and seeing 13% CAGR in transactions.

In July, the company announced a $10.4B merger with Worldpay which will help drive down costs and expand their scale and size to over $1.5T in payment volumes across 146 countries. They will have a net revenue of $3B. Their combined technology and services platform will allow them to be more competitive in building out a global business and challenging for top customers amid a growing mobile payments landscape. The synergies for their deal will be fully realized by Q3 and should top $200M.

Stifel was positive on 12/15 highlighting VNTV as one of their top large cap ideas in 2018. The firm thinks the transformative WorldPay acquisition should improve both the growth trajectory and the multiple and have a $93 PT for shares. Top funds which bought VNTV last quarter include Glenview, Long Pine Capital, Third Point, Locust Wood, Sachem Head, and Hoplite.

Vantiv Solutions

MERCHANT

Payment Processing
- In-store
- Card-Not-Present
  - eCommerce
  - Mobile
  - Internet-of-Things
  - Telesales
  - Mail Order
  - B2B Payments

Payment Methods
- Standalone terminals
- POS integrated
- Custom integrated

Fraud & Data Security Protection

Payment Compliance Tools

Reporting & Data Analytics

Gift and Prepaid Payments

Merchant Financing Options

Consulting & Professional Services

FINANCIAL INSTITUTION

VISA & MasterCard Issuing

Card Processing
- Credit
- Debit
- Prepaid

Fraud & Data Security Protection

Secure Wallets

Reporting & Data Analytics

Card Marketing Services

Consulting & Professional Services

DEVELOPER

Payment Processing Integration Tools

Security Integration Tools

Mobile Integration Tools

Fraud Integration Tools

Integration Development

Environments

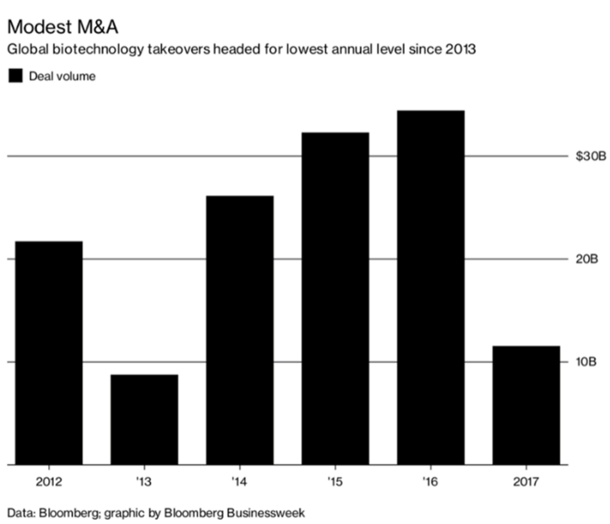
Vantiv O.N.E.

Biotech Preview 2018

2017 was a year of volatility within the biotech indices as it battled headlines out of Washington, payer pressure, and a rebound from 2016's lackluster year for drug approvals and financing. We had some strong data releases and approvals, including two key moves in gene therapy late in the year, but M&A was subdued which put more pressure on large-cap biotech entering 2018 as they face a new wave of generics moving to market. There were also a lot of questions about growth with pipeline values for large-cap insufficient to achieve a strong growth rate. In 2018, we enter with a lot of tailwinds and key themes including attractive valuation, growing access to cash, also a lot of data in lung cancer, heart disease, melanoma, and rare blood disorders. Three over-arching themes which will drive the sector this year include:

M&A

The M&A market remained subdued whether it be from concerns over tax rates, pricing, or political pressure. We saw a lot of late-stage R&D M&A including the biggest deal of the year, Gilead's (GILD) $11.9B deal for Kite Pharmaceuticals, but that's a trend which could shift this year back towards early-stage. The overall market was down however at ~$58B vs $194.6B in 2015.



2018 promises to be an exciting year in biotech with the passage of tax reform and repatriation rules in place, potential to see a lot more deal-making as more big pharma companies move towards patent cliff's and look at late-stage assets. According to JMP, an estimated $17B in annual sales are set to lose their patent protection sometime in the next ten years with more generics on the market. And according to MSCO, the drugs within current large-cap pipelines aren't sufficient to achieve 5% growth rates. There's also fewer key phase 3 read-outs this year among large-cap names which could drive more outside spending and with tax reform opening $85B in offshore cash among big biotech, they have the means to make it happen.

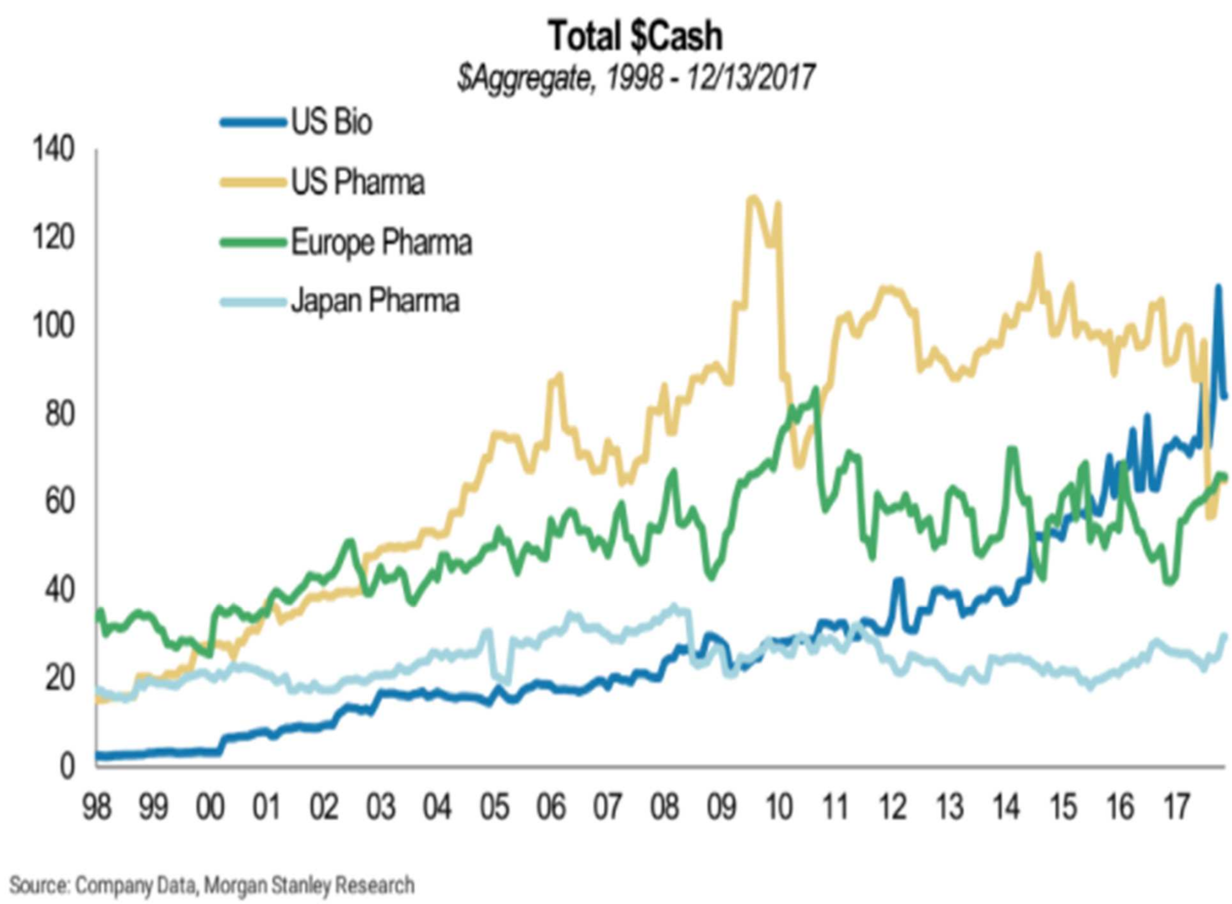
Some name which could go shopping.

1) **Celgene (CELG)** could look at deal-making given their lackluster sales late in 2017 and slowing growth. They also recently pulled the plug on a recent trial in Crohn's. In October, MSCO noted that CELG has over $10B in available cash for M&A which could change the narrative from the recent failures.

2) **Merck (MRK)** is in a similar situation with sluggish sales into year-end and then after the report also disclosed they were withdrawing a marketing application for Keytruda in NSCLC in Europe. MRK's CEO Ken Frazier has said multiple times during 2017 that he is evaluating deals or partnerships to augment their early and mid-stage pipeline. And the company has a lot of firepower on their balance sheet to make a deal happen.

3) **Amgen (AMGN)** stands to benefit from the tax reform bill with over $39B in cash and the vast majority of it overseas. The company is facing stagnation as they hold off generic competitors to Neulasta, aided by the FDA's rejection of Coherus's biosimilar earlier this year and Novartis's setback in 2016. They face patent cliffs for Enbrel however and they have a lot of smaller products like Parsabiv which are not big movers for the company.

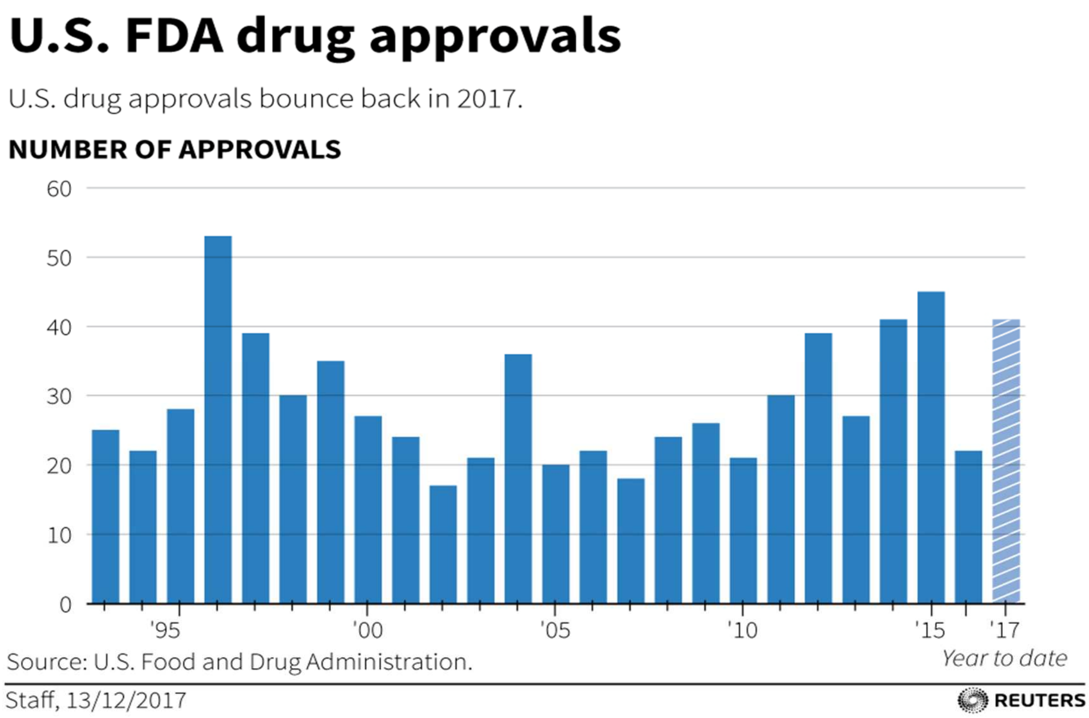
4) **Pfizer (PFE)** has long been looking for a deal in the space after a failed run at AstraZeneca back in 2014, a potential $118B deal. PFE's CEO Ian Read said in August that the company would wait until after tax reform was done to get a better visibility on what the market would look like but nonetheless, they are ready and waiting to deal with investors pressuring the company to reignite growth. PFE is one name which could surprise a lot with a mega-deal in 2018, names like Bristol Myers (BMY) and potentially a run at AZN back on the table.



Generic Pressure

In 2016, the number of FDA approvals for drugs fell to a six-year low with just 22 new medicines on the shelves vs 81 in Europe. This was a significant drop from 2014 and 2015 when approvals spiked higher to a near 20-year high. The FDA said that part of the reason for the lower number was due to timing of certain drugs, some accelerated and some delayed. 2017 saw a rebound with over 40 green-lit as the FDA sped up approvals for branded and generic drugs.

The pace of Biosimilars hitting the market accelerated significantly in the last couple years with seven now available including three approvals last year. The use of generics has also jumped significantly with 90% of filled US scripts. New entries in 2018 could include a challenge to **Amgen's (AMGN)** Neulasta. There are also risks to PFE, MYL, and NVS with Biosimilars filed with the FDA against Humira, Herceptin, and Remicade. And in the pipeline Biosimilars for Avastin and Rituxan are in late development.



We also have a lack of key phase 3 readouts for large-cap bio coming in 2018. MSCO was out noting that they see 8 key readouts in FY18, down from 14 in FY17, and three of them coming from Alexion. The others include migraine data from Biohaven (BHVN), luspatercept data from Celgene and key readouts from GBT, JUNO, REGN, ALNY, and GILD.

Washington

Worries about drug pricing have been around for a while now as an overhang on the sector but likely continue to ramp in 2018. President Trump's new HHS Secretary Nominee brought the debate back to the forefront in November. Alex Azar, a former Eli Lilly executive, is expected to take a more laid back approach to price hikes which is causing concern for patient advocates who have contended that companies have run amok of the system.

There have been several bills introduced to tackle drug pricing including HR 2439, the Fair Accountability and Innovative Research Drug Pricing Act of 2017. We could see congress look to push through more resolutions, especially with the individual mandate repealed through the tax bill, and we could also see a lot of development on the state level after California's Prop 61 was defeated last year. The topic was relatively managed last year as Pharma focused its campaign towards PBMs.

The big catalyst for all of this to resurface is the mid-term elections in November. Healthcare stocks underperformed in 2016 largely due to the election but a repeat is unlikely although volatility is likely to be more present. Republicans face a lot of pressure from Main Street after the unpopularity of their tax bill and attempts to repeal the ACA but they have a limited number of seats up for grabs and those that are contended are considered 'strong' seats. We saw a major political upset in Alabama late in 2017 but that's not as likely to happen across the board. However, the concerns of a Democratic majority will be an issue this year at some point.

Biotech Focuses in 1H 2018

Juno Therapeutics (JUNO) is conducting a Phase 3 trial of JCAR017 in non-Hodgkin lymphoma. Juno's JCAR017 is one of many companies making advances in the CAR-T space with Gilead (GILD) – through their KITE deal -- and Novartis (NVS) also developing therapies to treat adults with non-Hodgkin lymphoma and both of those are likely on the market before Juno. Juno hopes the Transcend trial shows better safety than either of its peers. JUNO has had a big turnaround in 2017 after its JCAR015 trial was halted in development following patient deaths. The company updated their status on the trial at ASH in December noting that "across doses, 80% (16/20) of patients in core group with CR at 3 months stayed in CR at 6 months, and 92% (11/12) of patients in response at 6 months remained in response as of the data cutoff date."

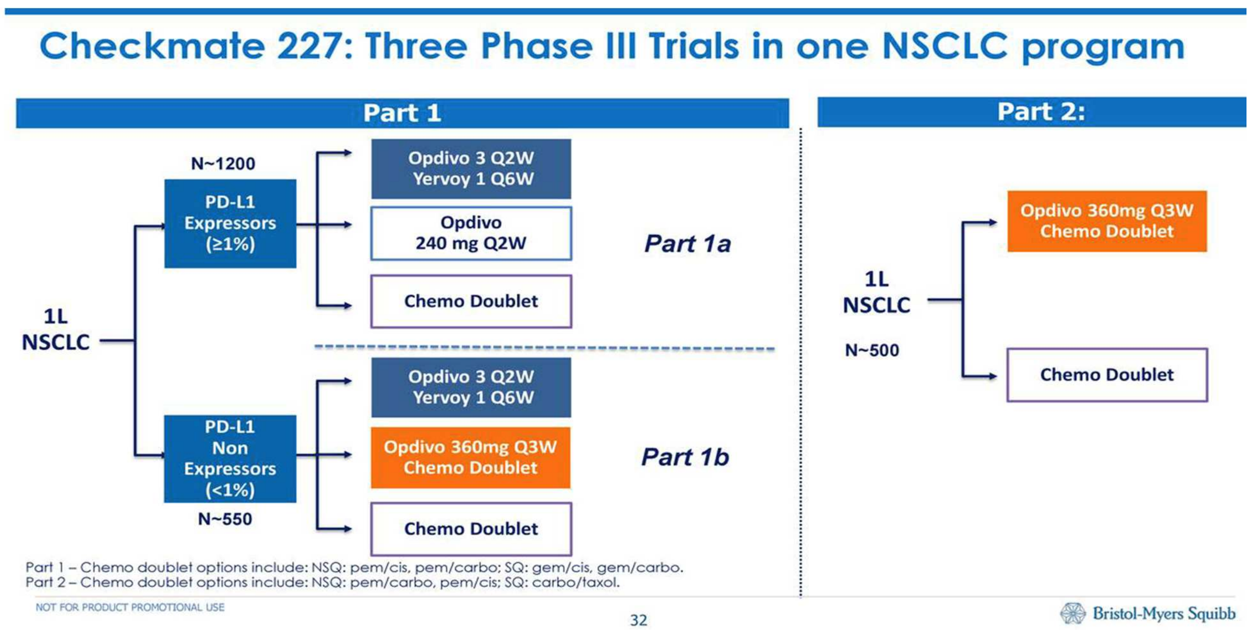
The $4.93B company is not yet profitable and trades 46X sales, 5.3X cash and has limited debt. Short interest is 9% of the float. Maxim was positive on 10/9 raising their PT to $56. The firm thinks CAR-T remains a three-horse race and the market will likely be shared by all three first movers: Kite, Juno and Novartis. The firm thinks JUNO is coming up from behind and could follow a similar path to Kite, both clinically and in valuation. JCAR017's TRANSCEND study will become a registration study and Juno could have its first CAR on the market in 2019. Wells Fargo downgraded in November noting that data for JCAR017 continues to support a potential best-in-class profile in aggressive lymphoma, the current valuation already reflects dominant market positioning over Gilead's Yescarta. Raymond James has a $61 PT for shares as they believe JCAR017 will be well differentiated from Yescarta and Kymriah and could eventually become the overall winner in the market.

Merck (MRK) and Incyte (INCY) are expected to show data from a 700-patient Phase 3 study of Keytruda and Epcadostat in Metastatic Melanoma sometime early in 2018. Melanoma is a growing concern with over 87,000 new cases in 2017 and nearly 10,000 deaths. Keytruda already has approval in melanoma but the combination can boost efficacy. Bristol Myers (BMY) has the only combo approved right now and MRK believes its combination can draw a higher safety profile which would give it a leg up. In August, the company released positive indications that the combination was raising the survival rate. In their Q3 conference call, MRK indicated that their revenue split is 55% from lung cancer, 20% from melanoma, 10% head and neck, and 5% from bladder so big opportunity to expand one of their stronger areas.

The $154B company trades 14X earnings and 3.87X sales with a 3.35% yield and low-single digit earnings growth. William Blair was out in December noting that the trial will be the strongest binary event on Incyte shares. Based on the data to date, the firm remains confident in the duo's ability to meet on the primary endpoint of superiority over Keytruda monotherapy, and continue to assign an 80% probability of success to ECHO-301. Positive results from ECHO-301 would be a critical vote of confidence for the development of epacadostat. They have an Outperform rating for shares.

Bristol Myers (BMY) is expected to show results for their Phase 3 trial which evaluates Opdivo and Yervoy in newly diagnosed NSCLC (lung cancer) sometime in the first half of the year. The trial will look at Opdivo, Opdivo + Yervoy, and Opdivo plus chemotherapy. The trial is hugely important to BMY after the failure of peer AstraZeneca's MYSTIC trial in 2017 and BMY's own failure of CheckMate-026. William Blair noted in December that the trial would also help BMY regain some momentum in both Opdivo and Yervoy after being beaten to the frontline in NSCLC by Merck and Roche. Lung cancer is increasingly more common with 14% of all new cancers lung. The ACS estimates one in four cancer deaths are from lung cancer and the frontline NSCLC market is a $13B opportunity.

The $104B company trades 19.5X earnings and 5X sales with high-single digit EPS growth. Guggenheim was positive in October noting that they believe Bristol-Myers's PD-1 and CTLA-4 inhibitors combo have a high probability of achieving success. Behind their conviction in 227, the firm raised their Opdivo 2020 revenue target to $9B while Yervoy was raised to $2.1B. They believe the combination therapy will be the mainstay of NSCLC therapy. Citi was out on 10/25 raising their odds for success of 227. They anticipate significant benefit for the high tumor mutational burden patients treated with the Opdivo Yervoy combination compared with chemo or Opdivo monotherapy. BMY has seen largely bullish flows with the March $65 calls, Jan. $70 calls, and February $62.50 calls most active.



Esperion Therapeutics (ESPR) will release data from a Phase 3 study of an experimental bempedoic acid in cholesterol sometime mid-year. ESPR is focused on therapies for the treatment of patients with elevated LDL-C and has Phase 2 data due in Q1 2018. ESPR is seeking to become the only orally available drug for LDL cholesterol and would compete against existing treatments like Amgen's (AMGN) Repatha. In August, Phase 2 trials were successful with 90% of treatment group seeing LDL-C levels below 70 MG/dl and safety was well tolerated. ESPR's success could be a major breakthrough in the space as current PCSK9 inhibitors are extremely costly and ESPR's pill could be just as efficient but cheap.

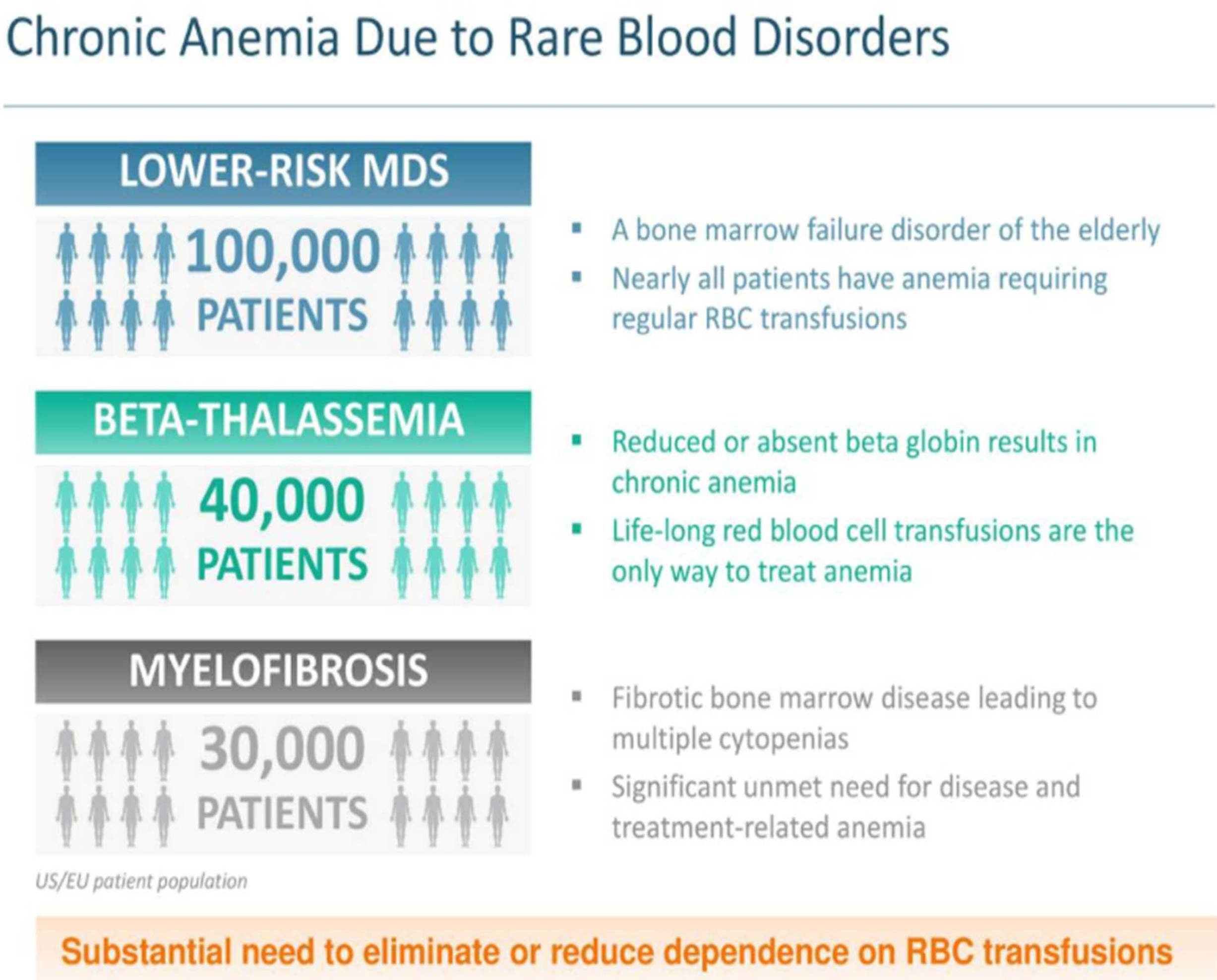
The $1.43B company is not profitable and trades 7X cash. Short interest is high at 17.5%. Cowen initiated shares at Outperform on 9/7 and a $64 PT seeing their opportunity in bempedoic acid is a potential blockbuster and underappreciated. The firm thinks robust efficacy and safety profile are likely from upcoming trials and could position the company to address a significant addressable and unmet need. Northland started shares at Outperform on 8/29, $72 PT, noting they see the company's treatment as cost-effective, breakthrough therapy for LDL-C. Institutional ownership jumped 16.8% last quarter.

Alder Biopharmaceuticals (ALDR) is preparing a phase 3 study looking at eptinezumab in patients with chronic migraine which is characterized as more than 15 per month. The study enrolled more than 1,000 patients and differs from the PROMISE 1 trial which looked at episodic migraines (and reported positive results in 2017). If positive, a filing for approval would likely occur in 2H of the year. ALDR faces a number of competitive threats in the space with Amgen (AMGN), Eli Lilly (LLY), and Teva Pharma (TEVA) all with drugs awaiting FDA approval. ALDR is seeking to differentiate themselves by limiting the number of times you take the drug, quarterly vs. monthly. ALDR hopes with a successful trial they can be first to market.

The $688M company is not yet profitable and trades 2X cash with an 11.5% short float. ALDR traded lower by almost 50% in July after PROMISE 1 data due to higher than expected placebo effect (4.3 less migraine day's vs 3.2 for the placebo). Canaccord started shares at Buy on 10/27, $20 PT. The firm thinks the sell-off on PROMISE 1 data was simply investor confusion. The firm 1) believes absolute reduction in migraine days is potentially more clinically relevant than placebo-adjusted rates as ALDR's product is administered intravenously (IV) vs. subcutaneously (under the skin) for others and 2) expect favorable PROMISE 2 results as the first trial worked in preventing frequent episodic migraine and the CGRP mechanism is already validated.

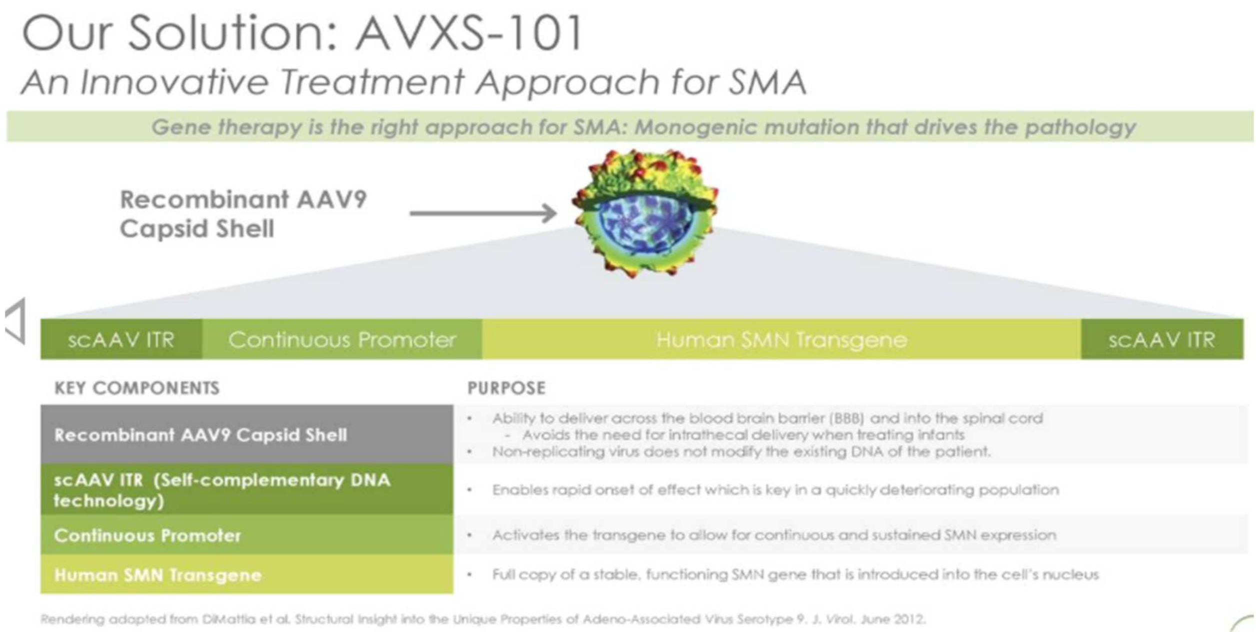
Acceleron (XLRN) is doing two different Phase 3 trials of their potential blockbuster luspatercept. The BELIEVE trial is a Phase 3 study of luspatercept in adults who require regular red blood cell transfusions due to beta thalassemia. MEDALIST is a Phase 3 study of luspatercept to treat anemia. Both trials are expected in the first half of 2018. XLRN is completing the latter study with Celgene (CELG). Luspatercept is seeking to provide a better treatment for anemia than peers Amgen (AMGN)'s Epogen and Pfizer's (PFE) Retacrit. XLRN has said that the US/EU addressable market for those with lower-risk MDS (MEDALIST) is over 40,000 while those with beta-thalassemia (BELIEVE) is over 20,000. They think their total addressable market among all of their anemia drugs is 115,000, a potential multi-billion dollar brand.

The $1.69B company is not yet profitable and trades 5X cash with 8% of the float short. Credit Suisse raised their PT to $51 on 11/14 seeing increasing commercial market opportunity for luspatercept. They also raised their probability of success from 70% to 90%. Their 2025 MDS sales are now modeled for $3.8B vs $1B prior. CSFB sees the stock trading higher by 45-70% if both studies are winners with downside risk to $15-25 on one failure and $9 on two failures. HC Wainright raised their PT to $62 noting they have enough cash after its September offering to fund operations through 2021. The firm thinks luspatercept could be brought to market by 2019 with positive data and would be a blockbuster by 2026.



Avexis (AVXS) is doing a Phase 3 gene replacement study in infants with the most severe forms of spinal muscular atrophy. The survival rate for Type 1 SMA is less than 10% event free by two years of age. The drug could become a big competitor to Biogen's (BIIB) Spinraza which was approved in 2016. Spinraza is an RNA-based therapy done via spinal fusion which looks to slow the progression of SMA but has risen eyebrows given its extreme cost ($750K in the first year). Avexis is looking at a treatment using gene therapy which is a one-time treatment. The drug was very successful in small Phase 1 tests but used just 27 patients. Patients demonstrated ability to stand alone after 24 months and ability to walk alone without assistance as well.

The $2.93B company is not yet profitable and trades 7.83X cash with short interest 15.6%. RBC raised their PT to $97 on 11/1 while BMO has a $130 PT. The firm is moving forward their expectations for the launch of AVXS-101 for Type 1 spinal muscular atrophy by 12 months to the second half of FY18 based on the comparison of event-free survival data suggesting AveXis' product is superior to those of Biogen (BIIB) / Ionis (IONS)'s. Jefferies has a $118 PT noting that AVXS-101 could capture between 60%-80% share in Type 1 once approved. William Blair thinks the most likely outcome will be accelerated approval which could move the launch date to potentially 2019 or 2020.



Fibrogen (FGEN) will have three different Phase 3 studies for the treatment of anemia which come ahead of peer Akebia's (AKBA) vadadustat results in 2019. The three trials look at roxadustat in three different anemia scenarios and test against Epogen from Amgen (AMGN). Epogen has been successful for AMGN since approval but health concerns have arisen including heart problems tied to use. Allied Research put out a study in 2017 which noting the market for EPO drugs has grown at a healthy rate, 9.7% CAGR, and estimated to hit $11.9B by 2020. Rising incidences of cancer, renal disease and HIV are driving the demand in EPO drugs according to the study. In China, the opportunity may be even larger with 20% of 1.3B people having anemia symptoms. Roxa looks to stimulate the production of more red blood cells. FGEN has partnered with AstraZeneca (AZN) and Astellas on the trials.

The $3.41B company is not yet profitable but Jefferies earlier this year noting potential to begin generating revenue by Q3. Shares trade 4.67X cash with a small short float, 3.3%. Mizuho started coverage in October with a $61 PT. The firm notes that with roxadustat in phase III trials and global collaboration deals in place, they think the company is poised for a successful, global commercial launch if NDA applications are approved. There is potential direct competition for roxadustat with Akebia's vadadustat, but they believe HIF-PH inhibitors have the potential to supplement/replace erythropoiesis-stimulating agents as the standard of care in anemia related to chronic kidney disease and the market is large enough for both. Additionally, they also like pamrevlumab for the treatment of idiopathic pulmonary fibrosis.

ROXADUSTAT: ROBUST PHASE 3 PROGRAM TO SUPPORT FILING AND REIMBURSEMENT IN EUROPE AND JAPAN

25

Positive TLR obtained for JP P3 study in peritoneal dialysis (PD) patients.

	Dialysis	Non-dialysis
Global	**HIMALAYAS:** Incident dialysis, vs epoetin alfa (FibroGen)	**DOLOMITES**, vs darbepoetin **Enrollment completed** (astellas)
	SIERRAS: Stable dialysis, vs epoetin alfa (FibroGen)	**ALPS**, vs placebo **Enrollment completed** Data readout planned in 1Q/2018 (astellas)
	PYRENEES: Stable dialysis, vs epoetin alfa or darbepoetin **Enrollment completed** (astellas)	**ANDES**, vs placebo **Enrollment completed** (FibroGen)
Japan (astellas)	**HD:** Conversion, vs darbepoetin **Enrollment completed**	Conversion, vs darbepoetin
	HD: Conversion, long-term **Enrollment completed** Data readout planned in 1Q/2018	
	HD: Correction (ESA-naïve) **Enrollment completed** Data readout planned in 1H/2018	Correction
	PD: **Study completed** **TLR obtained in Oct/2017**	

FIBROGEN astellas

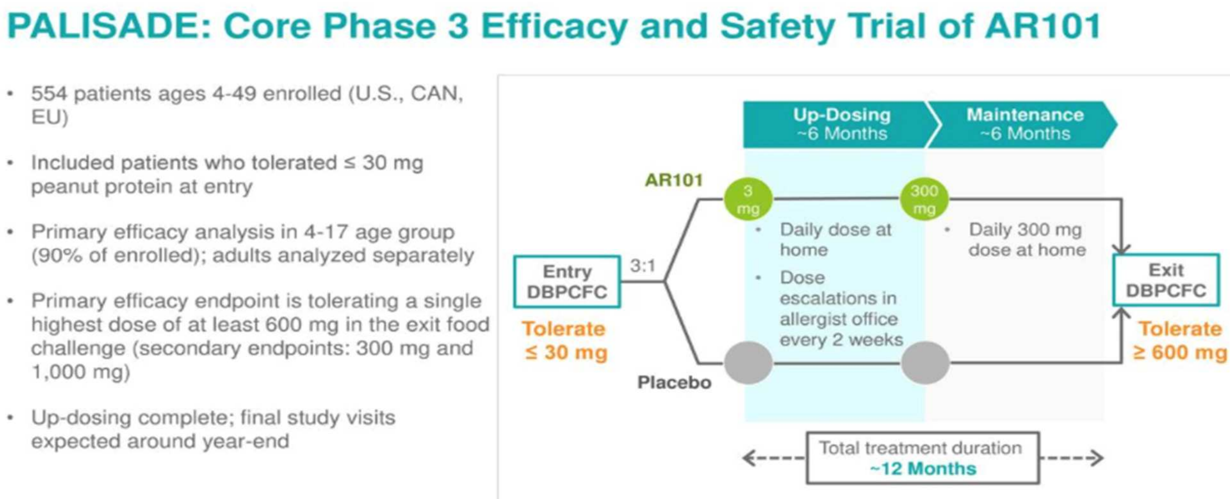
Note: Company logo in the table shows the sponsor of studies
HD: Hemodialysis, PD: Peritoneal dialysis, ESA: Erythropoietin stimulation agents

Gilead (GILD) is expecting two different Phase 2 trials in NASH in 2018, a growing liver disease which has drawn a lot of focus from big pharmaceuticals recently. NASH impacts 2-3% of people in Western countries so a huge market which already has Intercept (ICPT), Allergan (AGN), and Bristol Myers (BMY) involved. GILD's drugs activate the FXR receptor to break down sugar and fat to reduce accumulation. They're testing one alone (the GS-9674 trial) and one in combination (looking at all 3 of their NASH drugs with selonsertib). GILD has shown some promising data in NASH already in October noting, "Patients receiving GS-0976 20 mg demonstrated significant decreases in liver fat content (measured by MRI-PDFF) compared to placebo after 12 weeks of treatment."

The $97.84B company trades 10.8X earnings, 3.5X sales, and 10.75X FCF. GILD has a 2.8% yield and over $21.50 in cash per share. The company has made deals in NASH including buying drugs from Nimbus Therapeutics in 2016 and Phenex Pharmaceuticals in 2015. The company thinks NASH could be a blockbuster opportunity in the same way they built up a big hepatitis c business. Deutsche Bank estimated that the market could be $30-$40B by 2025. Jefferies was positive their program earlier in 2017 noting that their ACC inhibitor is one of the least appreciated assets in their pipeline and continues to demonstrate significant positive effects.

Aimmune Therapeutics (AIMT) is preparing data for a Phase 3 study of their lead drug, AR101, which is a pill meant to desensitize patients with severe peanut allergies. The company's phase 2 trial was successful with 55 patients and just six showing side effects but questions remain in a larger pool of patients. AIMT has a collaboration with Nestle. The company has been developing AR101 against competition from peer DBV Tech (DBVT) which failed in Phase 3 trials in October. The company's PEPITE trial showed just 35% of patients positive responding after a year of treatment. The company's secondary endpoint was met but nonetheless the market shifted favor towards AIMT's potential drug. DBVT is continuing with its FDA application. Peanut allergy is a potentially huge market with up to 150,000 patients per year possible.

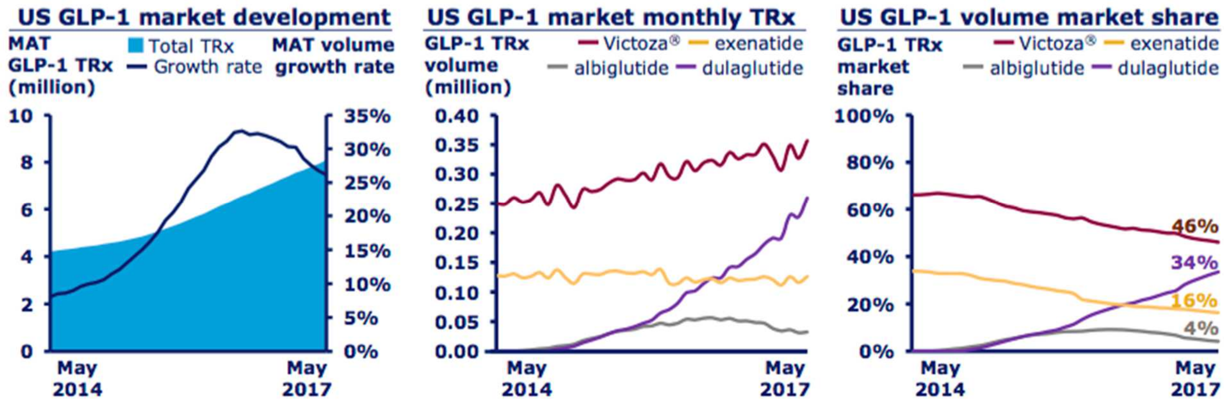
The $1.79B company is not yet profitable and trades 8.4X cash with short interest around 9.4% but falling since August when it was over 15%. Cantor started shares at Overweight with a $55 PT on 12/13. The firm calls AIMT the industry leader in the development of therapies to address important food allergies. They think results from prior clinical studies support AR101's effectiveness in reducing severity of symptoms associated with peanut antigen exposure. Piper was positive on 12/5 raising their PT to $60, continuing to see high probability of success for the Palisade study and believes results may exceed expectations on overall benefit/tolerability profile. They have increased conviction that AR101's ability to not just fit into, but be broadly adopted by benefiting allergist practices in the U.S. Credit Suisse was positive on 12/4 noting that their conversations with doctors who that even if DBVT's drug is approved AIMT's drug is the preferred choice for patients/parents who are looking for clear and consistent efficacy.



Alkermes (ALKS) is conducting a second Phase 3 study of ALKS 3831 which is meant to treat schizophrenia. The trial should be around mid-year 2018. The oral treatment combines the third most common drug for schizophrenia – olanzapine – with an opioid antagonist which is meant to smooth out some of the side-effects of olan. The company presented positive Phase 3 data from the ENLIGHTEN-1 trial in June which showed clear safety and tolerability of the drug. The ENLIGHTEN-1 trial showed side effects of weight gain which the company is looking to mitigate in further testing, a big deal because of the heightened risk of diabetes from the current standard of care. Jefferies noted in June that the ENLIGHTEN-2 trial will help determine the potential market opportunity for 3831 as it likely needs to post a 15% improvement in weight gain for doctors to prescribe it over olan by itself. The firm noted that the study demonstrated a numerically better improvement in PANSS compared to olanzapine and statistical significant improvements versus placebo in PANSS and CIGS.

The $8B biotech trades 129.5X earnings, 9.5X sales, and 17.8X cash with around 6% of the float short. Cowen was positive on the initial trial noting that it cleared the efficacy bar for an NDA filings. More importantly, 3831 also demonstrated similar efficacy to the olanzapine comparator arm. Analyst Chris Shitbutani expects 3831 to show its differentiated profile of reduced weight gain compared to olanzapine in the second pivotal weight study.

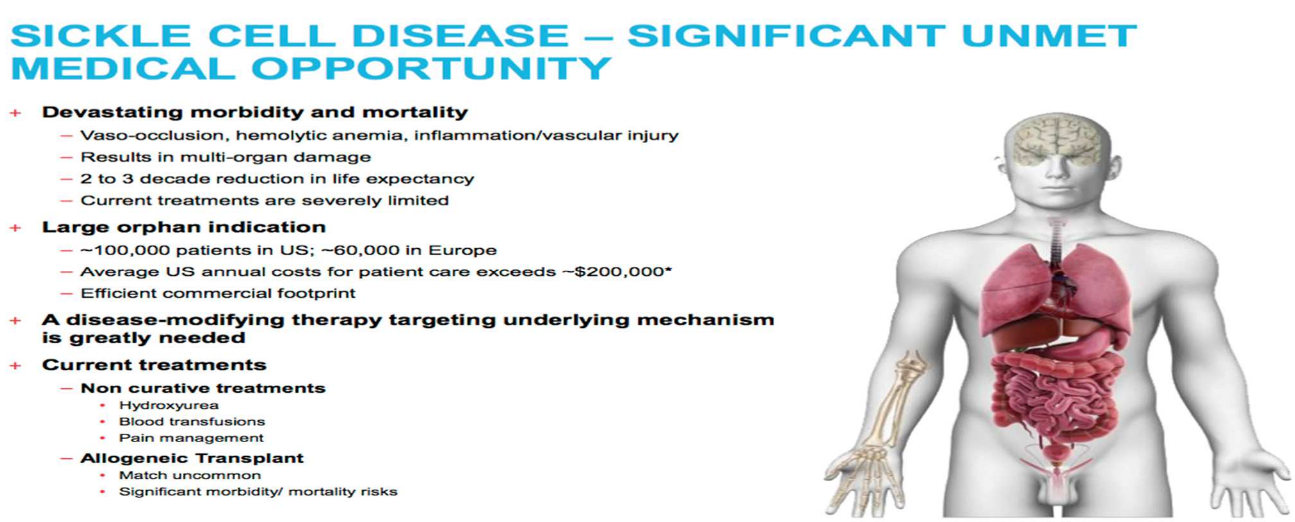
Novo Nordisk (NVO) is conducting a Phase 3 study of their GLP-1 type-2 diabetes medication, semaglutide. The treatment is currently under review by the FDA for a once-weekly injection but a pill version would provide more efficient, longer-lasting mode of delivery. Phase 2 data for the drug was positive when presented at the 2017 ADA conference with semaglutide showing clinically relevant reductions in HbA and body weight. Currently, Eli Lilly (LLY) has a once-weekly injectable on the market called Trulicity but if Phase 3 trials for semaglutide are successful, NVO could have a big advantage with the ability to treat a wider market. What it would mean for NVO is potentially huge as the company is facing pricing pressure in diabetes behind increased competition. NVO expects semaglutide to expand their entire offerings and biotech consulting firm Evaluate thinks it could reach $2.2B in sales by 2022. The GLP-1 market is expanding at double-digit rates, a positive trial could be a game-changer for NVO beyond 2018.



The $105B company trades 20X earnings, 5.9X sales, and 35X cash with a 1.8% yield. Shares are up almost 50% in 2017. BAML upgraded shares to Buy on 12/6 seeing better visibility into the GLP-1 franchise growth and improving sentiment related to the PIONEER trials.

Global Blood Therapeutics (GBT) will have Part A of the Phase 3 HOPE trial in the first half of 2018. The trial looks at their drug GBT440 in people with sickle cell disease. SCD is caused by a mutation in the hemoglobin gene which causes red blood cells to deform and potentially obstruct oxygen delivery. GBT's investigational therapy, GBT440 or voxeletor, binds to the hemoglobin and raises its affinity for oxygen. SCD affects over 100,000 in the US and the market for treatment is expected to reach $584M by 2025. There is no currently available FDA approved treatment for SCD. GBT gave an update on the trial at ASH in December and generally positive showing improvements in multiple endpoints including hemoglobin levels, daily pain, hospitalizations for vaso-occlusive crisis (VOC), transfusions, depression and overall well-being. The company did disclose two deaths but both were unrelated to GBT440.

The $1.75B company is not yet profitable and trades 8X cash with limited debt. Short interest is nearing 12%. Needham highlighted GBT as one of their names to watch in 2018 on 12/14 with a $70 PT. The firm sees substantial upside from the HOPE trials. GBT as their top-pick heading into 2018. They have more conviction for a positive outcome from Part A of the Phase 3 HOPE trial in 1H18E, following data updates at ASH. Voxeletor's safety and efficacy profile remain encouraging and the recent pullback in GBT shares creates an attractive buying opportunity for investors. They also continue to like the commercial opportunity in SCD and believe voxeletor has potential to reach blockbuster status. They think the stock could double from current levels with positive Part A HOPE data in 1H18. Cantor was positive with a $61 PT noting that they were impressed by the hemoglobin response rate of 55% (6 of 11 patients), which we believe reaffirms the drug's activity in the overall sickle cell population. Sensitivity of PRO instrument in less symptomatic patients provides encouraging evidence for upcoming Phase 3 Part A study, which will further validate and calibrate the instrument.



Alexion (ALXN) is expecting Phase 3 data for ALXN1210 in paroxysmal nocturnal hemoglobinuria in Q2 2018. PNH is a severe and ultra-rate blood disorder which is characterized by destruction of red blood cells, blood clots, and impaired marrow production. ALXN's treatment is a longer-acting anti-C5 antibody which has demonstrated rapid, complete, and sustained reduction of free C5 levels. The trial is being run against Soliris (eculizumab) which is their current treatment but ALXN1210 could extend the dosing interval to potentially once a month. Soliris revenue last quarter was just over $750M while volume growth was 3%. The company is targeting approval in early 2019.

The $26.39B company trades 16.7X earnings, 17.2X cash and 7.6X sales with double-digit EPS growth. Baird raised their PT to $150 on 12/18 seeing upside from current levels driven by continued commercial strength of Soliris near-term, Phase 3 readouts for ALXN1210 (2Q18), potential IP extension in Europe, and increased business development activities. Cowen named ALXN one of their Best Ideas on 12/12 as the firm expects clean pivotal data on ALXN1210 which could reverse sentiment on the name. MSCO was out in December noting they remain convinced that management has chosen a dose that can drive both a non-inferior profile to Soliris on LDH as well as a reduction in break-through hemolysis.

ALXN1210 – Phase 3 Studies in PNH

PNH – Naïve Study

Patient Population	▪ Complement inhibitor treatment-naïve adult patients with PNH
Design	▪ N=246; Open label; Randomized (1:1) vs. Soliris®; 26 week study ▪ Q8W dosing based on 3 weight cohorts
Co-Primary Endpoints	▪ Normalization of LDH levels ▪ Percentage of patients who achieve transfusion avoidance
Status	▪ Enrollment complete ▪ Data expected 2Q18

PNH – Switch Study

Patient Population	▪ Adult patients with PNH who have been treated with Soliris for at least the past 6 months
Design	▪ N=197; Open Label; Randomized (1:1) vs. Soliris; 26 week study ▪ Q8W dosing based on 3 weight cohorts
Primary Endpoint	▪ Hemolysis as directly measured by percentage change in LDH levels
Status	▪ Enrollment complete ▪ Data expected 2Q18

AstraZeneca (AZN) has a big 1H of 2018 to look forward to with key data across several indications including lung, ovarian and breast cancer. The list includes:

- Phase 3 data in Selumetinib in Thyroid Cancer (ASTRA trials)
- Phase 3 data in PT010 in Chronic Obstructive Pulmonary Disease
- Phase 3 data in Lynparza in first-line ovarian cancer
- Phase 3 survival data in durvalumab in lung cancer (MYSTIC)
- Phase 3 data for durvalumab in head and neck cancer (KESTREL)
- Phase 3 data for durvalumab in head and neck cancer (EAGLE)
- Phase 3 data for durvalumab in lung cancer (ARCTIC)
- PDUFA for Tagrisso in First Line Lung cancer (FLAURA)

AZN has been undergoing a major shift as they look to reaccelerate growth and move past some of their current legacy treatments. CEO Soriot outlined plans to overhaul the company’s portfolio in 2014 with a goal of over $40B in revenue by 2023, mainly by shifting focus into oncology as they deal with a wave of patent expirations. The success of some of these trials will be integral to the momentum their oncology business takes and there is a lot of uncertainty around two of their drugs, notably durvalumab. In July, the company suffered a setback when they reported that a combination of their PD-L1 inhibitor durvalumab and tremelimumab failed to boost survival rate in first-line NSCLC. AZN is now looking to the combo again in additional endpoints in 2018. The failure was a continuation of struggles they’ve faced including a failure from tremelimumab by itself in mesothelioma. The $82.67B company trades 20.5X earnings, 3.7X sales, and 15.8X cash with a 2.7% yield.

Deutsche Bank was out positive on 12/5 with respect to their position in ovarian cancer. The firm’s survey of 47 U.S. physicians treating patients with ovarian cancer suggests strong uptake of the PARP inhibitors class across multiple lines of therapy. Physicians perceive the various approved drugs as comparable on efficacy but with tolerability favoring AstraZeneca's Lynparza they now believe AstraZeneca will emerge as market leader in a potential greater than $7B class, with significant upside potential to consensus forecasts. BMO positive on 9/7 with a $38 PT predicting that its EPS will rise at a compound annual growth rate of 15% between 2017 and 2022 driven by its oncology franchise.

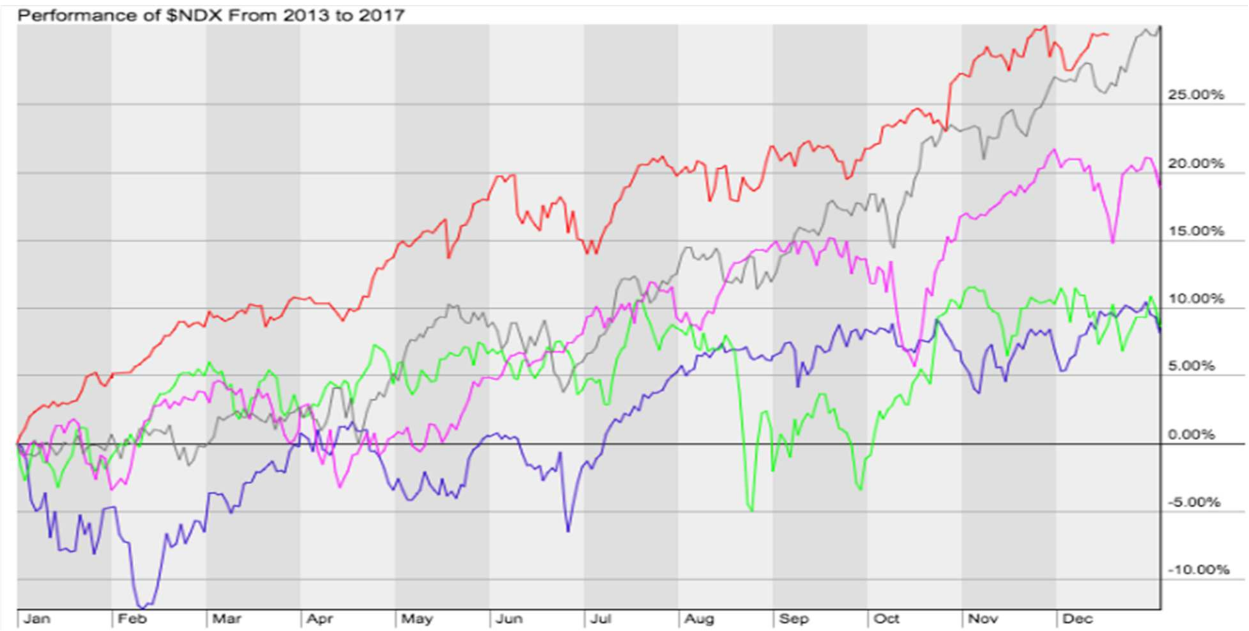
Other Biotech Events in the 1H of 2018

When	Company	Ticker	Trial	Stage	Treatment
01/10/18	Eli Lilly	LLY	MONARCH-1 and 2	PDUFA	Second-line hormone-receptor-positive (HR+), human epidermal growth factor receptor 2-negative (HER2-) breast cancer and HR+, HER2- breast cancer
01/10/18	LipoCine	LPCN	LPCN 1021	AdCom	Men with low testosterone
01/12/18	Spark Therapeutics	ONCE	Luxturna	PDUFA	Inherited retinal dystrophies
01/19/18	Exelixis	EXEL	XL184 Cabozantinib (CELESTIAL)	Phase 3	Advanced hepatocellular cancer
01/24/18	Synergy Pharma	SGYP	Trulance	PDUFA	Constipation-predominant irritable bowel syndrome
01/28/18	Sucampo Pharma	SCMP	Lubiprostone	PDUFA	Pediatric functional constipation
January	Acceleron	XLRN	ACE-083	Phase 2	Facioscapulohumeral muscular dystrophy
02/02/18	Amag Pharma	AMAG	Feraheme	PDUFA	Iron deficiency anemia
02/02/18	Portola	PTLA	Andexanet Alfa	PDUFA	Factor Xa Inhibitor Reversal Agent
02/03/18	Amgen	AMGN	XGEVA	PDUFA	Multiple myeloma
02/12/18	Gilead	GILD	Bictegravir	PDUFA	HIV
02/14/18	Amag Pharma	AMAG	Makena Auto-Injector	PDUFA	Reduce the risk of preterm birth in women with a singleton pregnancy
02/14/18	Pacira Pharma	PCRX	Exparel	AdCom	Single-dose injection femoral nerve block for total knee arthroplasty surgery
02/15/18	Exelixis	EXEL	Cabozantinib	PDUFA	First-Line RCC
02/15/18	Kura Oncology	KURA	Tipifarnib	Presentation	HNSCC
02/28/18	La Jolla	LJPC	LJPC-501	PDUFA	Hypotension
02/28/18	Aerie Pharma	AERI	Rhopressa	PDUFA	Glaucoma
02/28/18	Vertex	VRTX	Tezacaftor	PDUFA	Cystic fibrosis
Q1	AstraZeneca / Merck	AZN/MRK	Lynparza	PDUFA	Breast Cancer
Q1	Ionis Pharma (IONS)	IONS	IONIS-HTT Rx	Phase 1/2	Huntington's Diseas
03/13/18	Pfizer	PFE	Xeljanz	PDUFA	Ulcerative colitis
Early 2018	Biogen	BIIB	Natalizumab	Phase 2B	Acute ischemic stroke
Q1	Acorda Therapeutics	ACOR	Tozadenant	Phase 3	Parkinson's
Q1	Aimmune	AIMT	AR101 Palisade	Phase 3	Peanut Allergy
Q1	Anaptysbio	ANAB	ANB020	Phase 2A	Peanut Allergy
Q1	Arena Pharma	ARNA	APD371	Phase 2	Pain Associated with Crohn's Disease
Q1	Biohaven	BHVN	Rimegepant	Phase 3	Migraines
Q1	Bristol Myers	BMY	Opdivo+Yervoy	Phase 3	First Line Non-Small Cell Lung Cancer
Q1	Celgene	CELG	Revlimid	Phase 3	Relapsed or Refractory Follicular Lymphoma
Q1	Corcept	CORT	CORT125134	Phase 2	Cushing's Syndrome
Q1	Dermira	DERM	Olumacostat Glasaretil	Phase 3	Acne
Q1	Esperion	ESPR	Bempedoic Acid	Phase 2	Hypercholesterolemia
Q1	Fibrogen	FGEN	Pamrelumab	Phase 2	Pancreatic Cancer
Q1	GlaxoSmithKline	GSK	Dolutegravir	Phase 3	HIV
Q1	GW Pharma	GWPH	Epidiolex	Phase 3	Infantile Spasms
Q1	GW Pharma	GWPH	Epidiolex	Phase 2	Epilepsy
Q1	Merck	MRK	KEYNOTE-189	Phase 3	First Line Non-Small Cell Lung Cancer
Q1	Pfizer	PFE	Tanezumab	Phase 3	Two trials: Chronic Lower Back Pain, Osteoarthritis
Q1	Regeneron	REGN	Praluent	Phase 3	Cardiovascular Events
Q1	Reata Pharma	RETA	Bardoxolone Methyl	Phase 2	Mitochrondrial Myopathies
Q1	SAGE Therapeutics	SAGE	SAGE-217	Phase 2	Post-Partum Depression
Q1	Spectrum	SPPI	ROLONTIS	Phase 3	Chemotherapy-induced Neutropenia
04/16/18	Clovis Oncology	CLVS	Rucaparib ARIEL 3	PDUFA	Ovarian Cancer
04/12/18	Eli Lilly	LLY	Abemaciclib	PDUFA	HR+, HER2- Metastatic Breast Cancer
04/27/18	AbbVie	ABBV	Elagolix	PDUFA	Endometriosis
Fall 2018	Alkermes	ALKS	ENLIGHTEN-2	Phase 3	Schizophrenia
04/30/18	Amgen	AMGN	ENDEAVOR	PDUFA	Relapsed Multiple Myeloma
06/13/18	Pfizer	PFE	Xeljanz	PDUFA	Ulcerative Colitis
1H	Allergan	AGN	UBROGEPANT	Phase 3	Acute Migraine
1H	Amgen	AMGN	ABP 798	Phase 3	Biosimilar; Non-Hodgkin Lymphoma
1H	Anika Therapeutics	ANIK	Cingal	Phase 3	Osteoarthritis
1H	Array Bio	ARRY	Binimetinib	PDUFA	BRAF Mutant Melanoma
1H	AstraZeneca	AZN	ASTRA	Phase 3	Thyroid Cancer
1H	AstraZeneca	AZN	Lynparza	Phase 3	First Line Ovarian Cancer
1H	AstraZeneca	AZN	EAGLE	Phase 3	Head and Neck Cancer
1H	AstraZeneca	AZN	ARCTIC	Phase 3	Lung Cancer

Seasonality

Typically, in this space, I'll highlight 10-15 names which have seasonal strength over a stretch of months each year. This has been effective with certain names but given the outperformance of the broader markets, I feel like it is more useful to find names which are beating the averages. This year, I've chosen to look specifically at seasonal performance as well as performance seasonally vs the S&P and for tech against the NASDAQ. The NASDAQ was higher by almost 30% in 2017 and the S&P by almost 20% and there's alpha to be made by finding names and sectors within them which have seasonal strength to better rotate throughout the year.

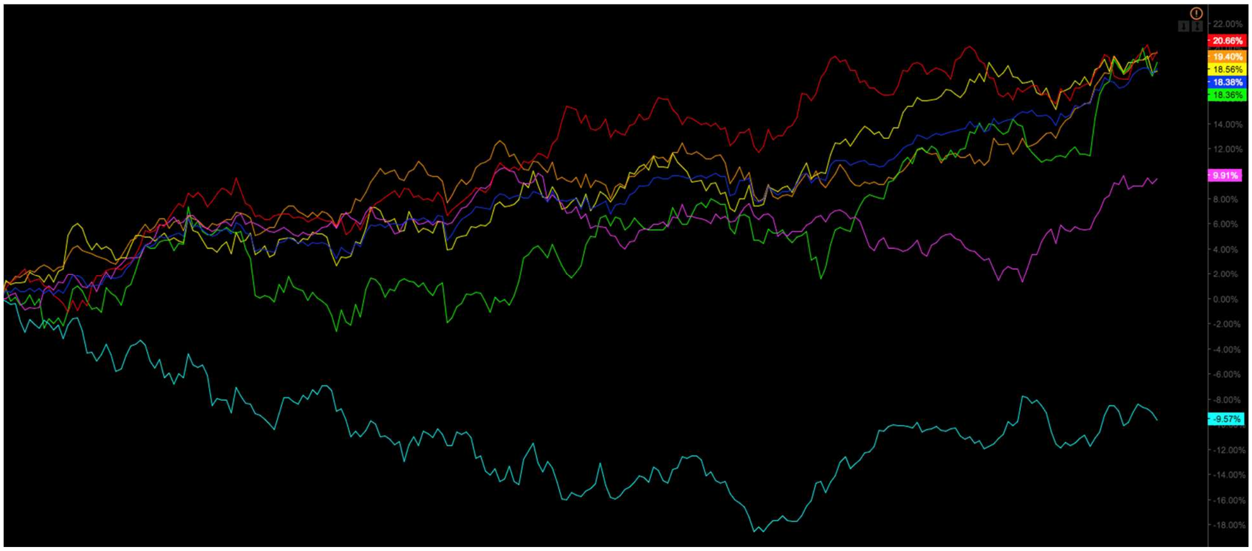
First, the **S&P** and **NASDAQ** as standalone performers. Over the last five years only.



On a month-to-month basis, the SPX has performed best in April, May, and November with the weakest months being in August, September, and January. The NASDAQ has been strongest in May, July, and November with the weakest months being June, September and January.

Let's look at some **individual sectors** now and how they've fared against the S&P.

This was 2017 with the S&P the blue line and the different sectors compared with the performance. The teal line which is lagging is energy. As you can see, the general momentum was higher by there are notable rotations within each sector which we'll hopefully pull out a bit.

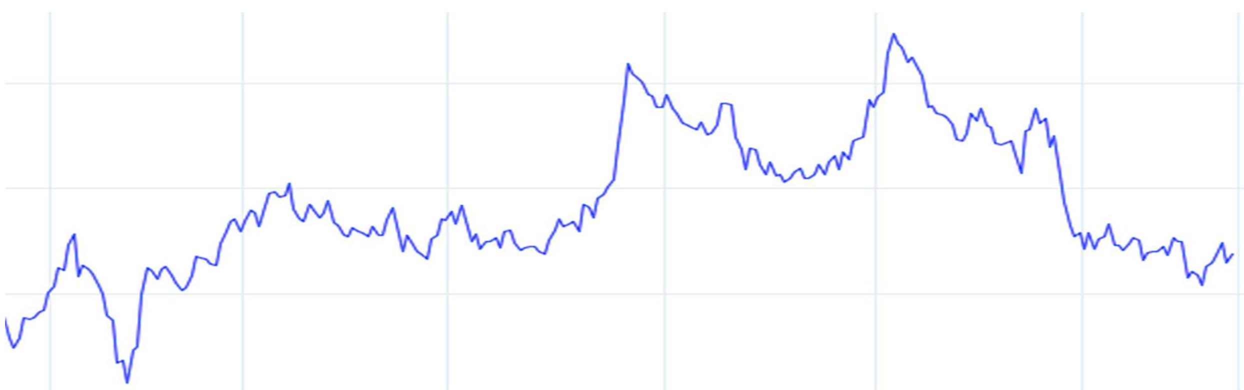


Consumer Discretionary (XLY) – Historically, the strongest months for the XLY are February and May with October, November, and December the strongest three-month grouping. The weakest months are August and January. Over the last five years, the XLY has outperformed the SPX most often in February, March, July, and November. In 2017, the XLY underperformed the S&P for most of the year. Here's the individual pull out of XLY vs SPY.

Staples (XLP) - The strongest months for the XLP are February, May, and December. The weakest months are June and August. Over the last five years, the XLP has outperformed the SPX most often in January, February, and April although a very mixed bag with no single month beating the S&P in more than 3 of the last 5 years. In 2017, the XLP beat the S&P early and late with April/May and November/December strongest. This is the XLP vs the SPY for 2017 with a long period from mid-May until November of underperformance.

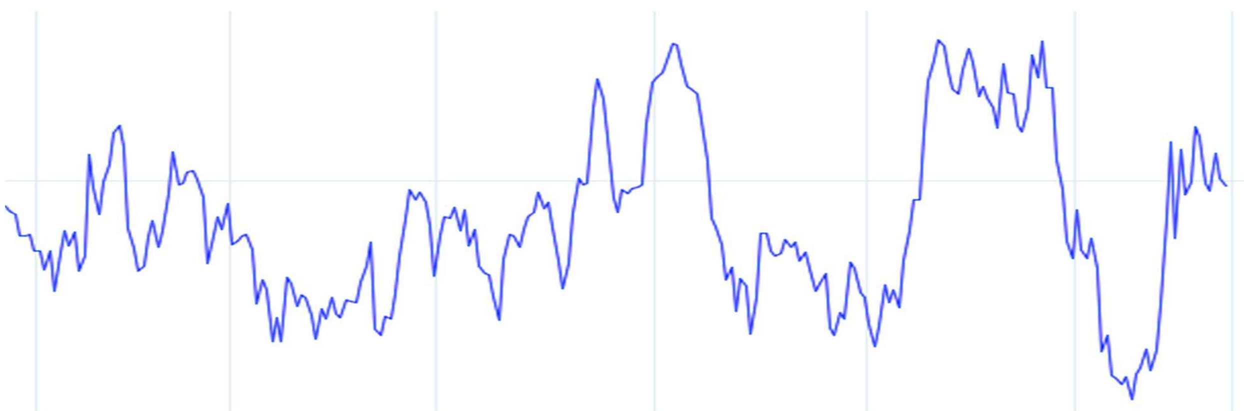
Energy (XLE) - The strongest months for the XLE are February, March, April, and September with spring the strongest three-month grouping. The weakest months are January and May Over the last five years, the XLE has outperformed the SPX most often in March and April. In 2017, the XLE beat the S&P in just three months, July, Sept. and December. The XLE significantly underperformed the SPY in 2017, beating just three months out of the year, the lowest in 20 years.

Healthcare (XLV) - The strongest months for the XLV are May and July. The weakest month is August. Over the last five years, the XLV has outperformed the SPX most often in June, July, January, and February. It was weakest in October and December. In 2017, the XLV showed some relative strength early in the year and outperformed six months of the year.

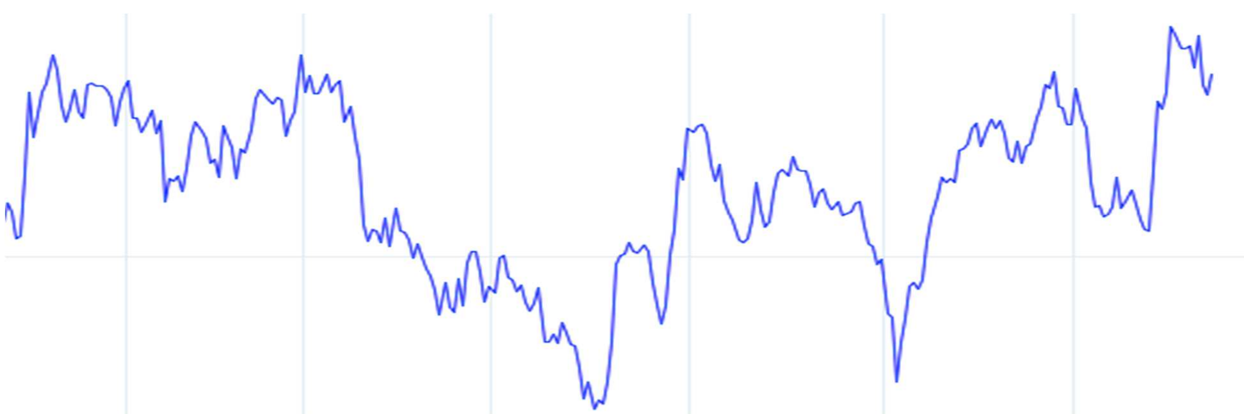


Materials (XLB) - The strongest months for the XLB are April and November with February through May the strongest multi-month grouping. The weakest months are August and September. Over the last five years, the XLB has outperformed the SPX most often in April and August with the worst months in May, June, and December. In 2017, the XLB lagged the SPY for most of the year but rallied strong in late Summer/early Fall.

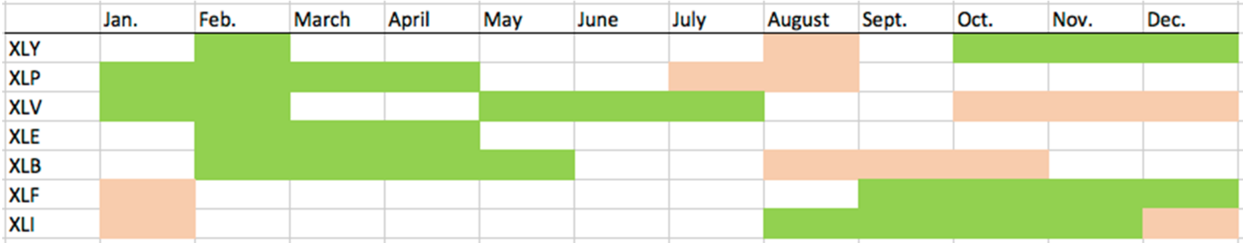
Industrials (XLI) - The strongest months for the XLI are February and November with October/November the strongest multi-month grouping. The weakest months are December and January. Over the last five years, the XLI has outperformed the SPX most often in August, September, and November. In 2017, the XLI beat the S&P in eight months with the strongest stretch in the 1H of the year.



Financials (XLF) - The strongest months for the XLF are October, November, and February with the October through December period the strongest three-month grouping. The weakest months are January, June, and August. Over the last five years, the XLF has outperformed the SPX most often in March and November. In 2017, the XLF beat the S&P in six different months including each of the last four. The XLF tends to be the one group which goes on multi-month runs beating the S&P. Since 2013, it has had three different three-month stretches, one four month stretch, and two different five month stretches.



So, if we're looking just at sector rotations, based on weakest and strongest months on a standalone basis and vs. the S&P a potential portfolio would be optimal to rotate as such.



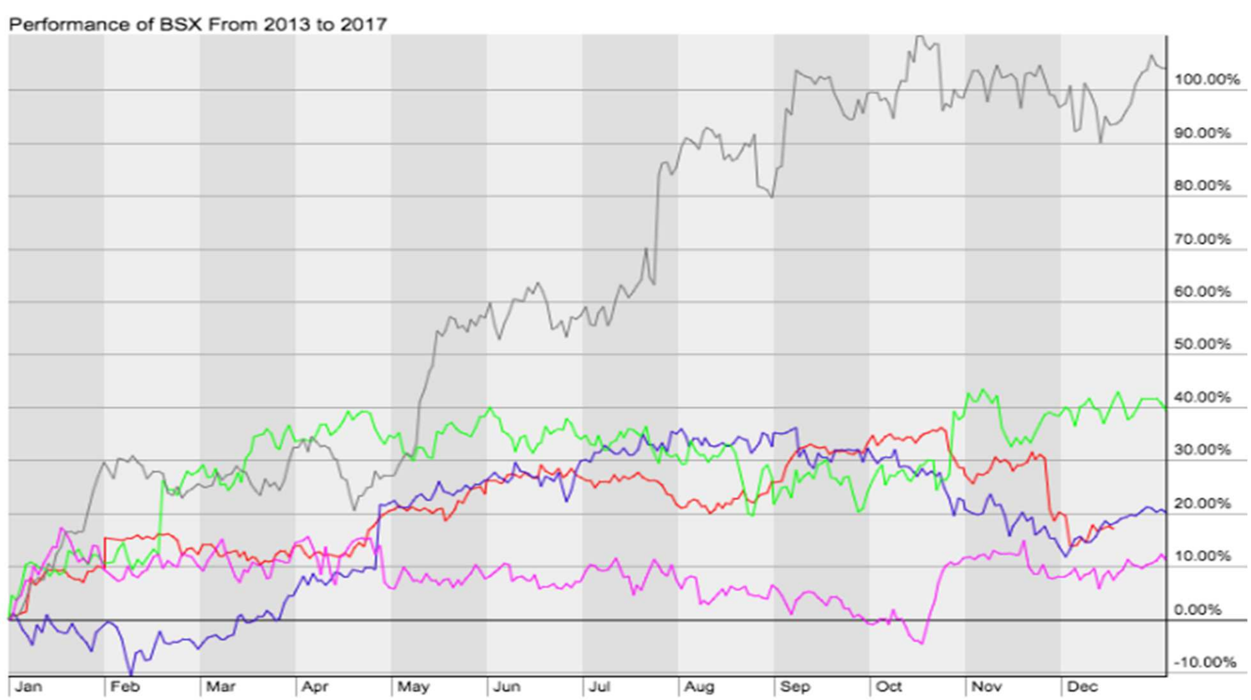
Now, a month-by-month breakdown looking at some specific names.

January

Strong – ABEO, ALKS, ATAX, AXGN, AXLL, BHE, BPL, BSX, CAMP, CCUR, CMO, COHR, CRUS, CYTR, DIS, DW, DX, EMC, EQC, FUR, HCN, HOLX, HRS, HRTX, IEP, INTC, LLTC, LSCC, MDC, MGIC, MNRO, MSB, MU, NAVB, NRT, OSK, PBI, PLXS, RGEN, SMTC, SPNC, VLO, WDC, XCRA, XLNX

Weak – ACI, ADP, AJR, APC, BRS, BXS, CB, CINF, CL, COP, CPB, CVX, D, DBD, DVN, ECL, EGN, FITB, FMER, GPC, GSK, K, KMB, KO, L, MDU, MMC, MMM, MUR, MYL, NPBC, ONB, PGR, PII, PNK, PX, RDC, RRD, SCG, SNPS, STR, SYY, TAP, TRP, UL, UN, VLY, WSM, XOM

Since we know healthcare tends to outperform early in the year, one name which jumps out is **Boston Scientific (BSX).** Shares have beat the S&P every January and every March since 2013, its two strongest months of the year by far and has beaten the XLV each of the last five years. Shares are seasonally strong into the early Summer with March, May and January its best months while December also strong. Its weakest months are August and November. Shares sold off in the 2H of 2017 down over 7.5% and could be setting up for a reversion trade with seasonal tailwinds. Looking at the chart, we can see BSX closed positive in Jan. every year since 2013 except for 2016 but even then it still outperformed the S&P which was down 5%.

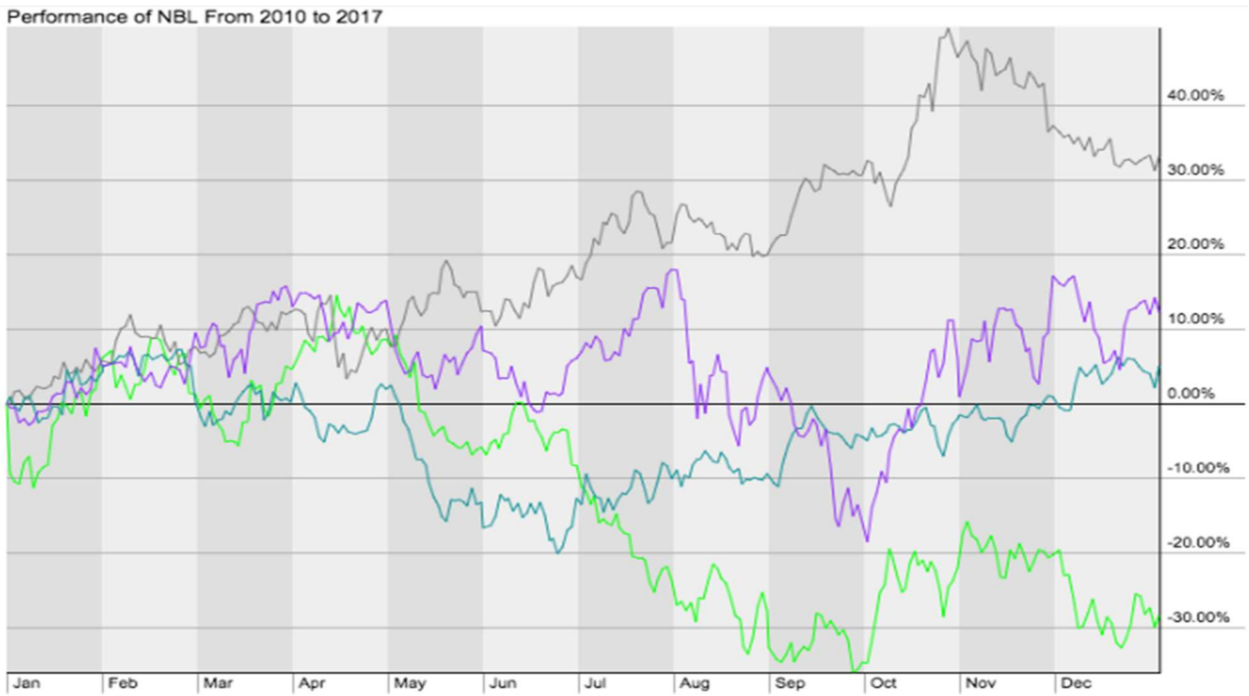


February

Strong – AON, CCE, CDE, CEF, CY, FLS, FOX, HL, HP, HSY, KSS, KSU, M, NEWP, PBCT, RDC, TEX, TSCO, VFC, BLDP, FOSL, KND, MDRX, OTEX

Weak – ACPW, AXAS, BBBY, GERN, KERX, KOPN, KT, RHT, RPTP, SGEN, SO, YRCW

February tends to have a lot of sectors in play and starting longer multi-month trends, so a lot to choose from an allocation point of view. Energy has been a laggard in 2017 and one area which is set to see some mean-reversion in 2018. February also starts a multi-month period of SPX outperformance for the group so **Noble (NBL)** an interesting name to consider. NBL has seen a lot of bullish flow into the end of 2017 including put sales in February around the $20 strike and call buys in the $27.50, $30, and $32.50 calls. The best month for NBL is March and April but has performed best against the XLE in January, February, and March. NBL has beaten the S&P most in January, March and April. If we look at a chart of NBL performance over the last seven years but take out the last two where we've seen an abnormal crude environment, we see some strong early year trends.

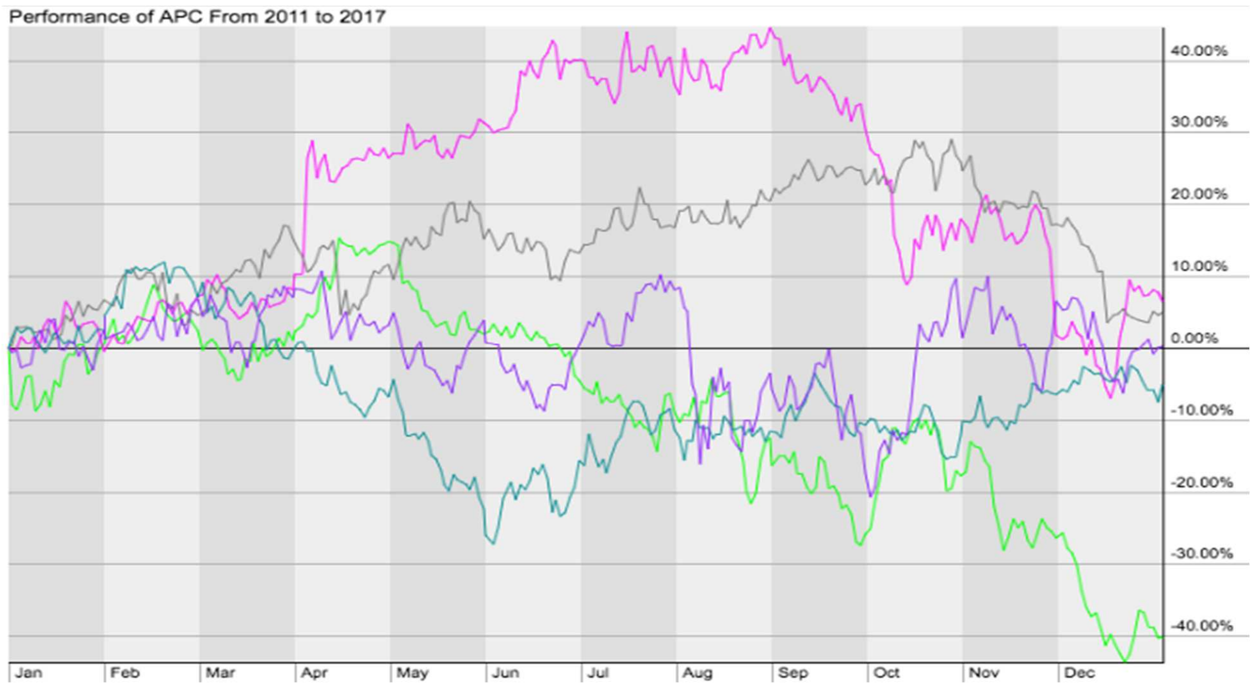


<u>March</u>

Strong – FL, BBY, WSM, TIF, PIR, FL, QCOM, BBY, CPE, HOT, WSM, BDN, ADBE, PLCE, ESV, TIF, TJX, GDP, VLY, EOG, ASNA, ROST, MDU, APC, DVN, BAC, LB, APA, WMB, AME, BRS, OII, NBL, PCP, MRO, MUR, FMER, CNP, COP, TSS, FISV, UNM, FITB, RF, CVX, BLL, NI, CVS, PKY, TRN, APD, PEP, M, TAP, NEE, DUK, PBI, GIS; AMD, CAR, TSO, GLW, VLO, MAS, PII, NBR, AAPL, SONC, LOW, ODP, SWN, NKE, EGN, OLN, RDC, NUE, OXY, PGR, IYR, KRE, EWW

Weak - CMCSA, AGN, SSYS, MO, PLL, PTC, GILD, ALXN, VRX, MYGN, NG, DYAX, SSRI, FSM, PDLI, VRTX, CF, IDRA, INCY, ALKS, AKRX, IAG, DATA, ONVO, YOKU, PSG, RAI, CLX, TEVA, POT, ENDP, BBRY, MRK, BBVA, INFY, GLD, JNPR, IMGN, SWKS, SERV, CRUS, FB, BIIB, CSC, BLMN

In March, we know that energy and materials are in strong multi-month periods so a name which is interesting on this list is **Anadarko (APC).** APC has been seasonally strong in March and April the last five years and tends to outperform the XLE in April, so entering a nice stretch ahead of Summer driving season and April earnings. APC has outperformed the S&P in March four of the last five years and in three of the last five Aprils as well. APC has seen a lot of bullish flow into the end of 2017 including buyers in the February $47.50 and $50 calls as well as 1,000 May $45 short puts and the $45 calls. Similar to NBL, if we look at a chart of performance without the last two years, we see strong seasonal performance in the early part of the year.

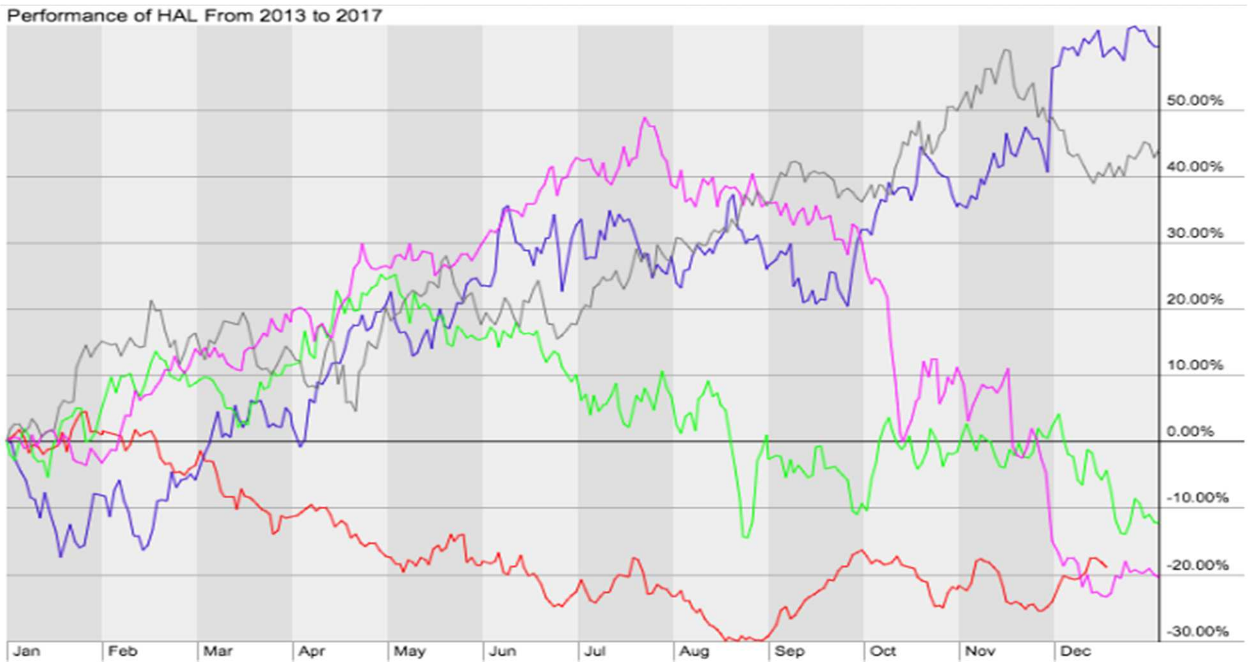


April

Strong – WFT, SWKS, NBR, DWDP, WFT, F, SWN, RES, SWKS, MTW, BEAV, PPC, APH, BHI, KMT, NBR, THC, PH, BCS, AXP, SAN, PDLI, AVP, CAT, FAST, COG, PNR, TDW, PII, TRMB, HAL, SLB, OKE, AFL, TXT, ITW, DD, BBVA, PPG, GD, RRD, BHP, AEG, EGN, TXN, ETN, PVA, OXY, NSC, CSX, STR, HES, UNP, EQT, TOT, BP, HBAN, WFC, RIO, ZION, BA, HON, STI, JNJ, LMT, GSK, NNN, ABT, XOM, DTE, PCL; UNG, XLU, XLB, XLE, XLI, OIH, XOP

Weak – TWTR, IMPV, QRVO, GRPN, ZNGA, INVN, YELP, BURL, CEMP, SGI, KITE, MDRX, PANW, AVGO, LGF, WNR, AFFX, INFY, MDCO, BMRN, HRB, DEPO, QCOM, ALSN, ATVI, FBHS, BIIB, COST, CELG, CHKP, PSX, CTSH, GIS, HRL, TWO, CAH, PBCT, AMGN, ACHN, IRWD, W, SWFT

April continues to be a strong period of the year for materials and energy so a name which stands out is **Halliburton (HAL).** Shares are strongest in February and April with the July/August period weakest. HAL has beaten the XLE in January, February, and April in four of the last five years and has beaten the S&P during the same period. HAL has drawn a lot of bullish flow into the end of 2017. On 11/16, the June 2018 $40 calls were bought over 10,000X while the July $45 calls have also been bought in size with 5,000 opened on 12/5. Looking at a chart of historically performance, we see strong moves in nearly every year with a Q1/Q2 low made in January before rallying.

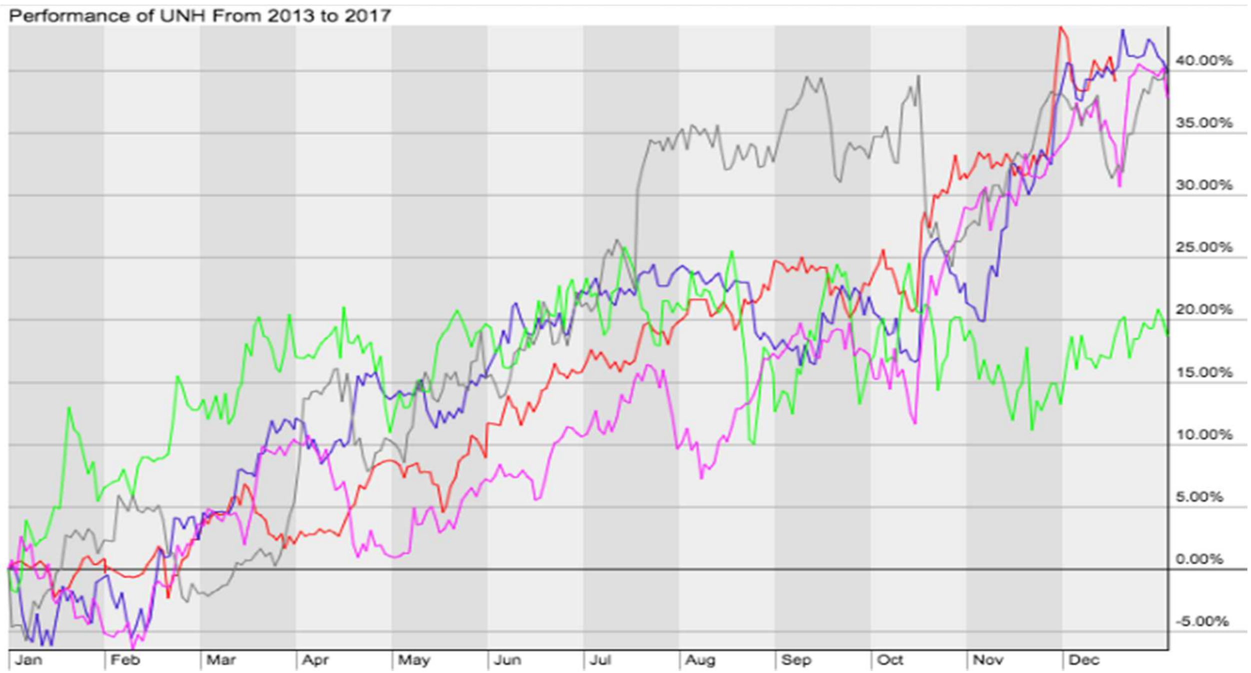


May

Strong – UNH, TSN, VRTX, CAR, MDR, CSC, S, EA, VSH, UNH, PBY, TSN, IGT, FLO, BK, JCI, TYC, MO, SLM, CAH, LNC, STJ, KO, WM, CAG, ETR, AX, FMC, MSI, CMA, SVU, K; IDTI, OII, HUM, SCI, RAD, EXPD, MGA, RRD, MENT, TEVA, LEG, TMO, MDT, ADM, BA, TCB, TEF, CHD, EIX, PPL, GIS, POM, HSY

Weak – GST, SYRG, GPT, FSLR, LINE, MEET, TTM, GTN, TPX, WLK, SIG, DKS, VALE, SLV, PSEC, BBL, SCCO, ARMH, GS, SLW, ITC, PRGO, HOT, CXO, EPD, AWK, SGI, ITB, XHB, LYG, CCI, XPO, KATE, ANF, CDE, KMX, ABEV, BBD, LULU, RIO, HIMX, KBH, MTW, GERN, ACAS, FDX, VIAV, CLF

In May, we start to see a strong rotation into healthcare which enters its strongest three-month stretch of the year. A name which looks interesting in this space is **United Health (UNH).** Shares are strongest in May and June, closing higher every year since 2013. UNH has also beaten the S&P every June for the past five years and strong in May and July as well, so a period of outperformance. It has beaten the XLV every June since 2013. UNH has seen a lot of bullish flow in 2017 but some sparse open interest into the new year (1,000 January $180 puts sold to open for more than $700,000 in late November) so certainly a name to watch for flow. On the chart, we can see shares tend to open the year mixed but enter a strong period which lasts through July.

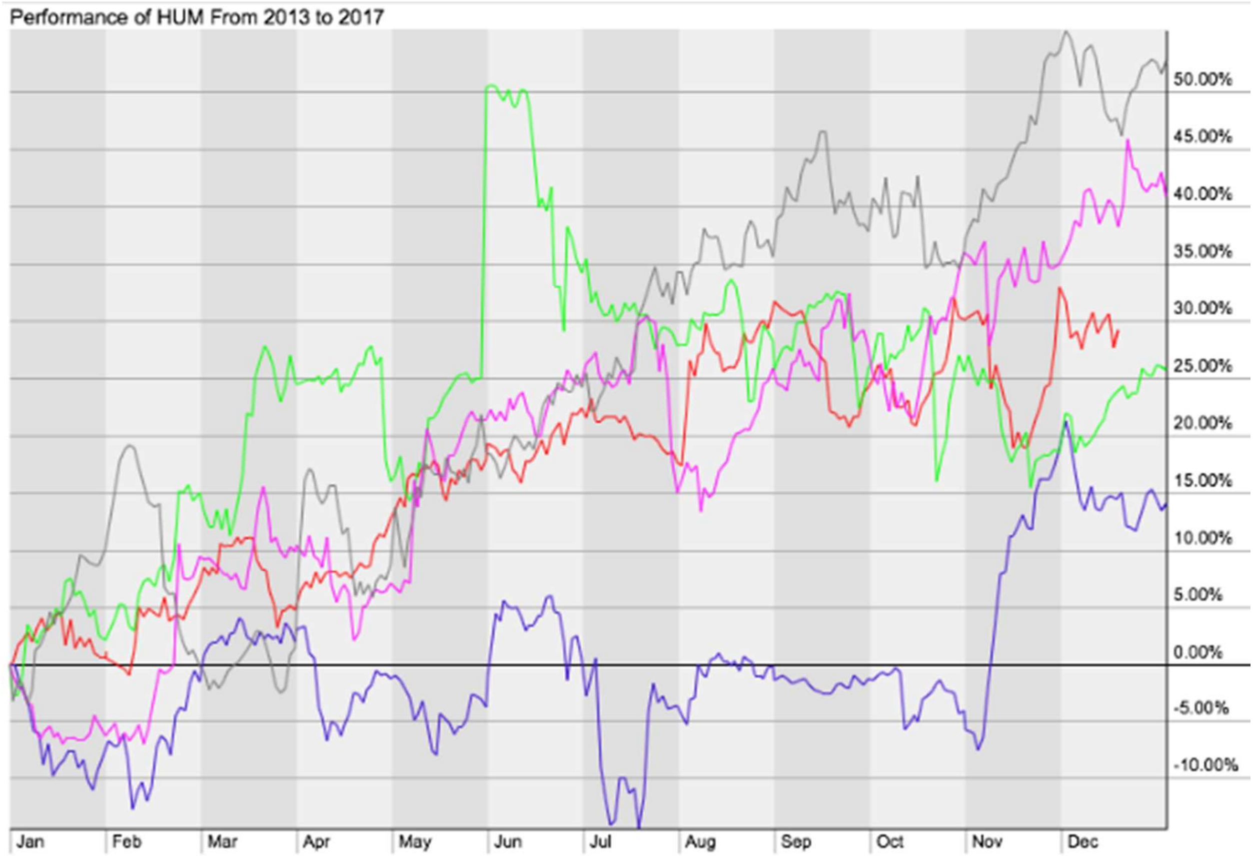


June

Strong – STZ, ORCL, SE, DVA, EXAS, SYRG, SBGI, BRCD, CXW, INFY, SRCL, ILMN, HOLX, ETP, VZ

Weak – ALJ, BKD, UAL, AMD, WETF, DAN, QTM, MPEL, DVAX, WDC, OC, AAL, HUN, PAY, NRF, OCLR, IDTI, QVCA, DAL, XHB, BC, SPN, LVS, TEX, FNSR, MTG, ITB, XLNX, BX, GCI, TTWO, WYNN, GT, MBI, KATE, VLO, HOV, NAV, ETFC, BCS, DWA, CENX, PNC, SPR, WNC, SYMC, MAS, IPG, SEE, MGM, HAS, VIAB, TSN, DISCA, EAT, PH, CS, HST, BK, TRN

June continues a strong multi-month run in healthcare. Another name to focus on here is **Humana (HUM)** which continues strength from May. Shares are strongest in August but start a nice four-month run in May and June which have closed higher four of the last five years. HUM has beaten the S&P in May and June at the same rate and in 2017 outperformed in six months out of the year. Its worst month is March, so potential to buy into weakness ahead of a typically strong stretch. HUM has seen a lot of bullish flow in 2017 and notable trades include size buyers of the Jan. 2018 $240 and $250 calls. On the chart we can see the multi-month period of gains for shares in the spring as well as outperformance in June, even in down years like 2016.

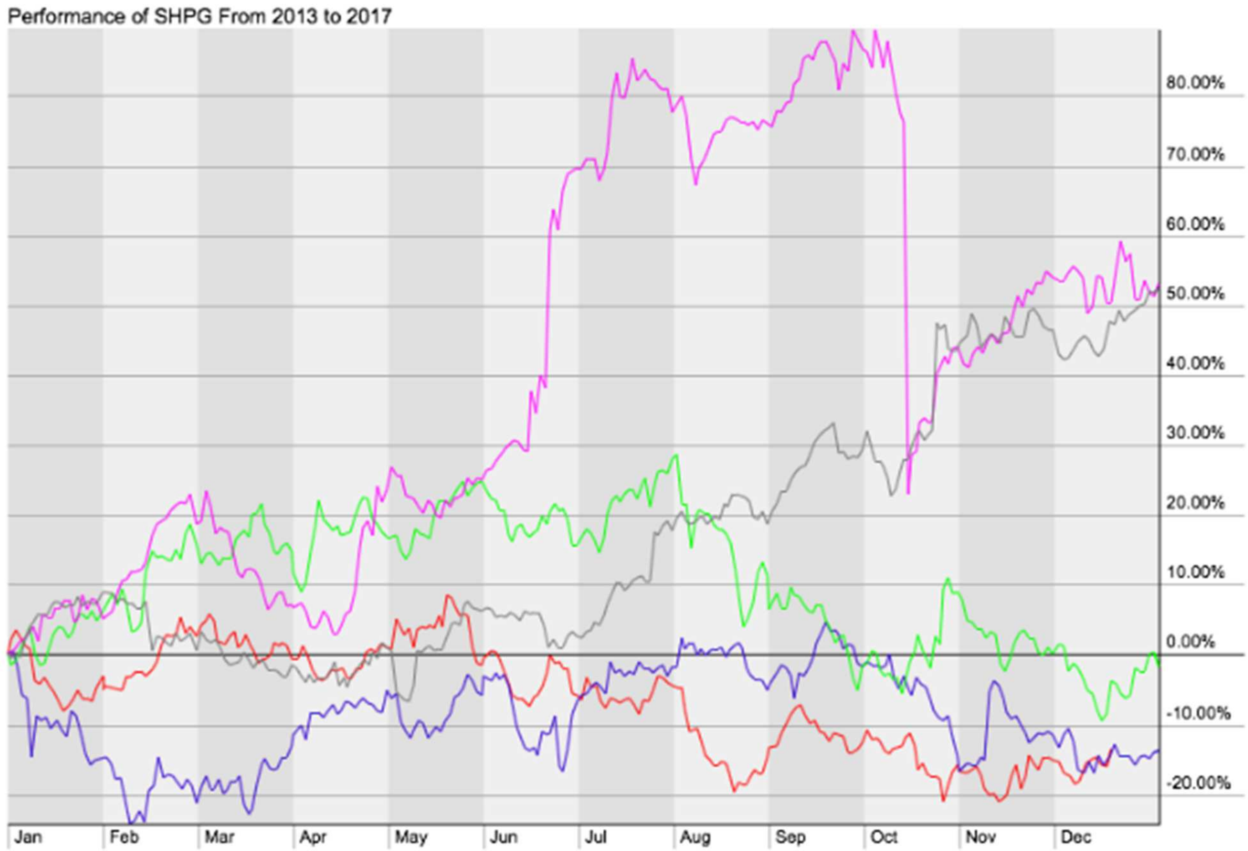


July

Strong – AMGN, ARMH, HOG, CERN, SHPG, XRAY, IP, CNI, HCP, NYCB, IBM, BAX, IBB, BBT, BEAV, STLD, JNPR, HSBC, HCN, CNW, VTR, QGEN, KIM, CSX, BCS, AIV, LUK, NNN, HCBK, CMA, FNFG, PPG, TAP, TRP, CLX, ED

Weak – MGT, AKAM, AMKR, XCO, LKX, PWR, CPHD, MENT, NVDA, PLUG, SWC, BYD, GG, CRZO, CA, VIAV, DDD, HMY, VRSN, CCJ, ATML, A, GLW, TIVO, S, SM, HNT, DNR, CSIQ, ECA, CPE, AET, CXW, MWW, NBR, DF, PXD, RIG, COH, KBH, ADSK, BVN, INTU, ADBE, FOXA, XBI

July is a quiet month for trends as healthcare's strength typically wavers and we sit just on the cusp of some notable year-end moves in industrials, financials, and some consumer discretionary names. One name which has strong multi-year seasonality in July is **Shire (SHPG)** which has closed higher in each of the last five years and nine of the last ten. Shares perform best in April, July, and September with its worst months in March and June, a relatively choppy performance. SHPG has beaten the S&P in four of the last five July periods and has outperformed the XLV every year. SHPG has traded poorly for most of 2017 and has mixed flow into the New Year with shares carving out of a big base above $140. Buyers remain in the April $145, $165, and $170 calls. On the chart, you can see some of the volatility but outperformance in July before typically fading in August.

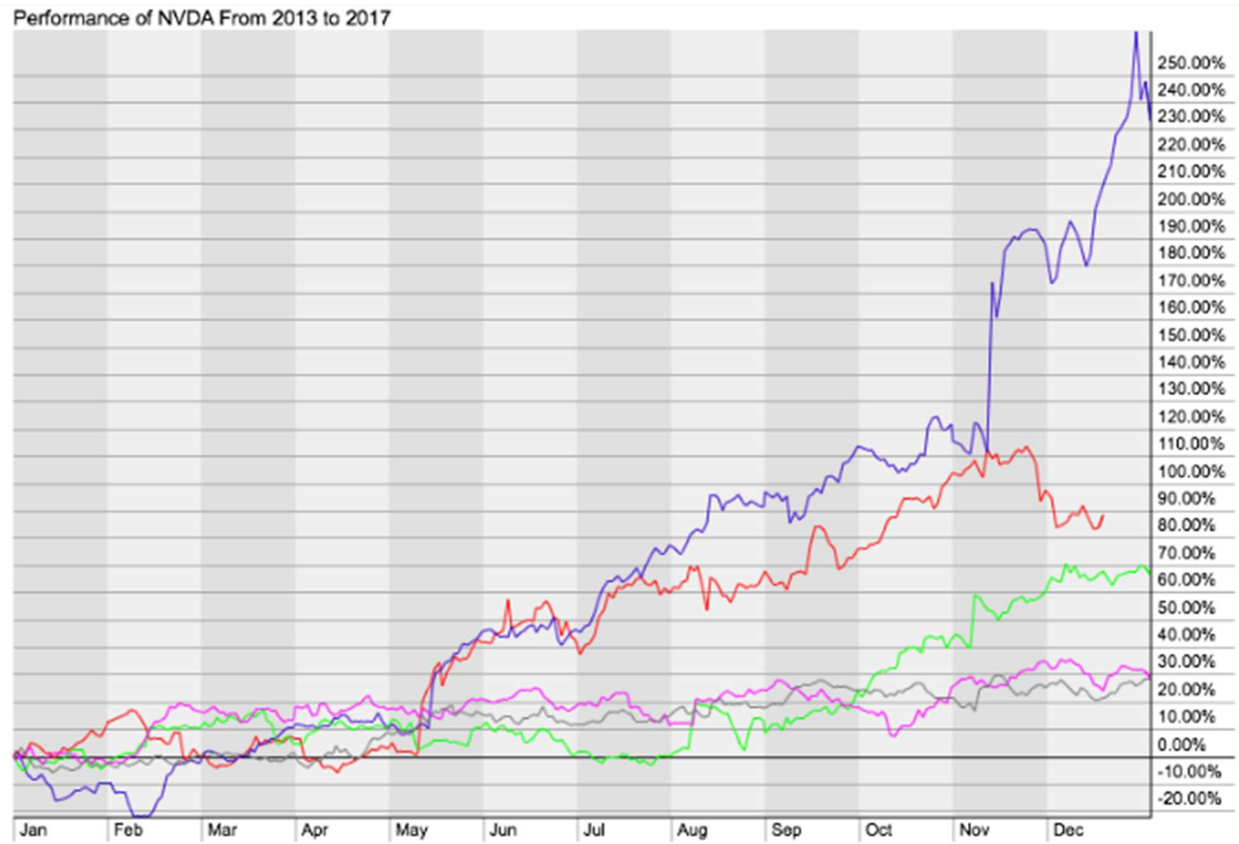


August

Strong – URBN, MDCO, MBT, HAIN, AEE, OPK, NVDA, SWKS, CRZO, QLGC, GPOR, EA, ATVI, JBL, GG, CDE, D, CHD, FTR, FNSR, NTES, VRTX, MSTX, EBAY, MXIM, AGN, ERF, CBL, EOG, SRE, MDLZ, WEC

Weak – TXMD, TMUS, SPWR, UNG, MDCA, DHT, FRO, CIEN, JBHT, RSG, MT, STLD, CLDX, F, PIR, SBAC, TTMI, URI, ACAS, FL, DLTR, ASNA, LUV, NAT, DB, CBG, SVU, DIS, NUE, BHI, HPQ, YHOO, XPO, CAA, CMC, PCAR, PDCO, STJ, AOS, CSX, TXT, WDR, WFM, STT, EXPD, ORCL, T

August starts a nice run for a couple of different S&P sectors into the end of the year but instead here, I'll focus on tech which hasn't been looked at much so far for the year. July and August begin a seasonally strong five-month period where the QQQ has outperformed the SPY. In the last five years, the QQQ has lagged the SPY from July to October in just four months (16 of 20 overall). **Nvidia (NVDA)** is a name which has outperformed in August each year since 2013 and nine of the last ten years. It is also strong in September, October, and November so setting up for a strong period into the year-end. NVDA has outperformed the QQQ every August since 2013 and outperformed the SPY in those years as well.

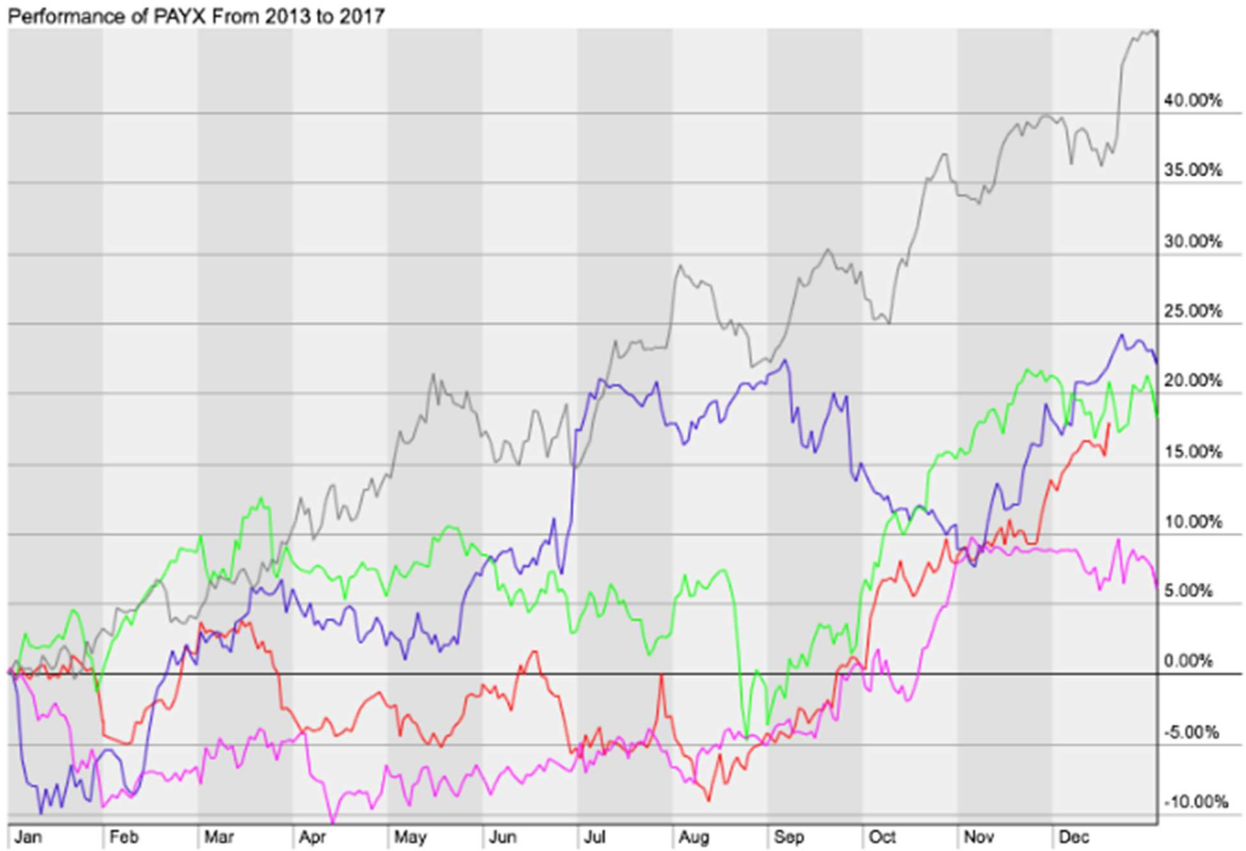


September

Strong – AMZN, YHOO, PSUN, PAYX, BVN, NKE, PDCO, NVS, T, CPE, PDCE, BBBY, NOK, GILD, IRM, DRI, AGN, VIAV, MCO, SPLS, MGM, HCC, TE, GSS, BBY, PDLI, RDEN, AFFX, RIGL, ATVI, OHI, SONC, ELGX, ALL, GD, MYL, CCL, OKE, SO, XEL, GSK

Weak – LNG, SKX, VG, ON, KKD, AGEN, BLDR, GTE, OI, CY, NUAN, CPN, HTZ, AXL, TER, CPG, GPS, X, BEAV, CX, AXLL, LSCC, GGB, TRMB, ARRS, EXEL, GPK, NRG, ABB, CMI, MRVL, CNX, AVP, FIS, LPX, AER, VZZ, MHR, ANF, AA, MOS, ALK, AMAT, BBG, GES, ING, HON, LRCX, FLR, FLS, AAPL, CE, ROST, TSM, CBI, CLF

September starts a strong run into year-end for several sectors and **Paychex (PAYX)** is a name in focus for a big run into year-end. Shares have closed higher in four of the last September months as well as four of the last five October's and every November. Its worst months are January and April. PAYX has outperformed the SPY in September, October, and November in four of the last five years and 80% of the time during that stretch over the last decade. PAYX doesn't draw a lot of options flow but has seen sizable buyers in the Jan. 2018 $70 calls as well as the March $65 calls. On the chart, it's pretty clear where the late-year inflection usually begins for shares which pick up momentum in October and November.

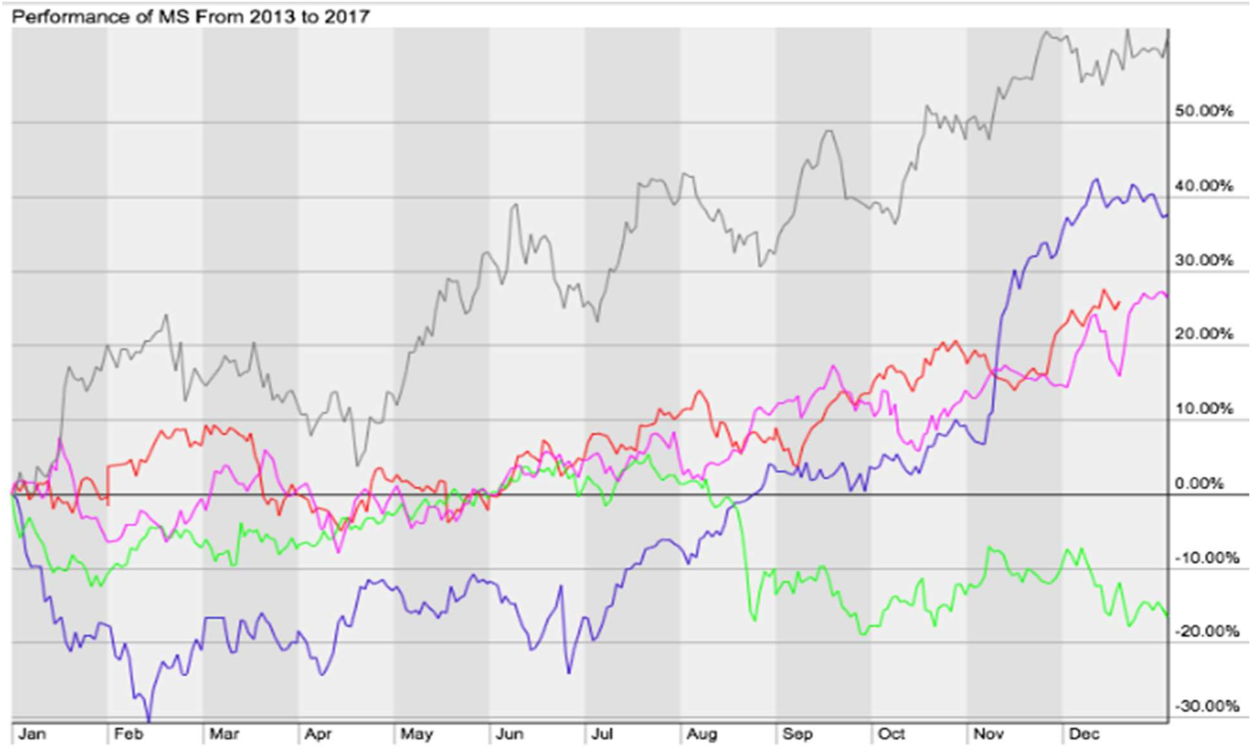


October

Strong – CPHD, SUNE, LCI, TASR, PTC, CTSH, VIP, CHKP, CA, BIIB, MYGN, BRCD, INTU, ESI, INFY, ALK, AAPL, IBN, MCHP, NOK, GPN, VOD, PGR, STM, MENT, MSFT, MON, MS, ADM, GS, FDX, MHFI, CL, EXPD, ACE, NUE, CB, ACN, VIV, OMC, TEF, EIX, DHR, SYMC, ADP, COST, SYY, BEN, PG, FHN, CLX, MAT, VZ, TRV, BMY, CPB, WBA, KMB, PFE, PCG, AKAM, LRCX, ADBE, CTXS, EMC, GPS, CSCO, ROST, TTMI, TSM, RCL, CNI, SBUX, SCHW, PH; XLP, XLK

Weak – CYH, HL, EXAS, CDE, KGC, IPXL, ELGX, AEM, ENDP, KND, DAR, THC, PPC, AU, RCII, NEM, PAAS, GPOR, MDR, GFI, ACHC, ABEV, XRX, WEN, ABX, ARIA, EW, CVA, HES, CI, MNST, MCK, ABC, RRC, CAR, ESRX, MRO, NLY, RTN, BAX, LEN, MSI, LMT, NVO, NOC

Financials have a seasonal tendency to outperform into year-end with the XLF beating the SPY in October and November more than half of years since 2007. The XLF itself has closed higher in October and November each of the last five years and in eight of ten years in October. **Morgan Stanley (MS)** has closed higher every October and November since 2013 and every October back to 2009. MS's best months are October, November, and July while it lags in August. Looking at an even bigger data set, we see that MS has beaten the S&P 75% of the time in October going back to 1998. MS has a lot of bullish flow in open interest into the new year including size put sales in February, April, and all the way out to Jan. 2020. The February $55 calls have been bought aggressively in December. On the chart, the late-year tendencies are pretty clear even in weak years like 2015.

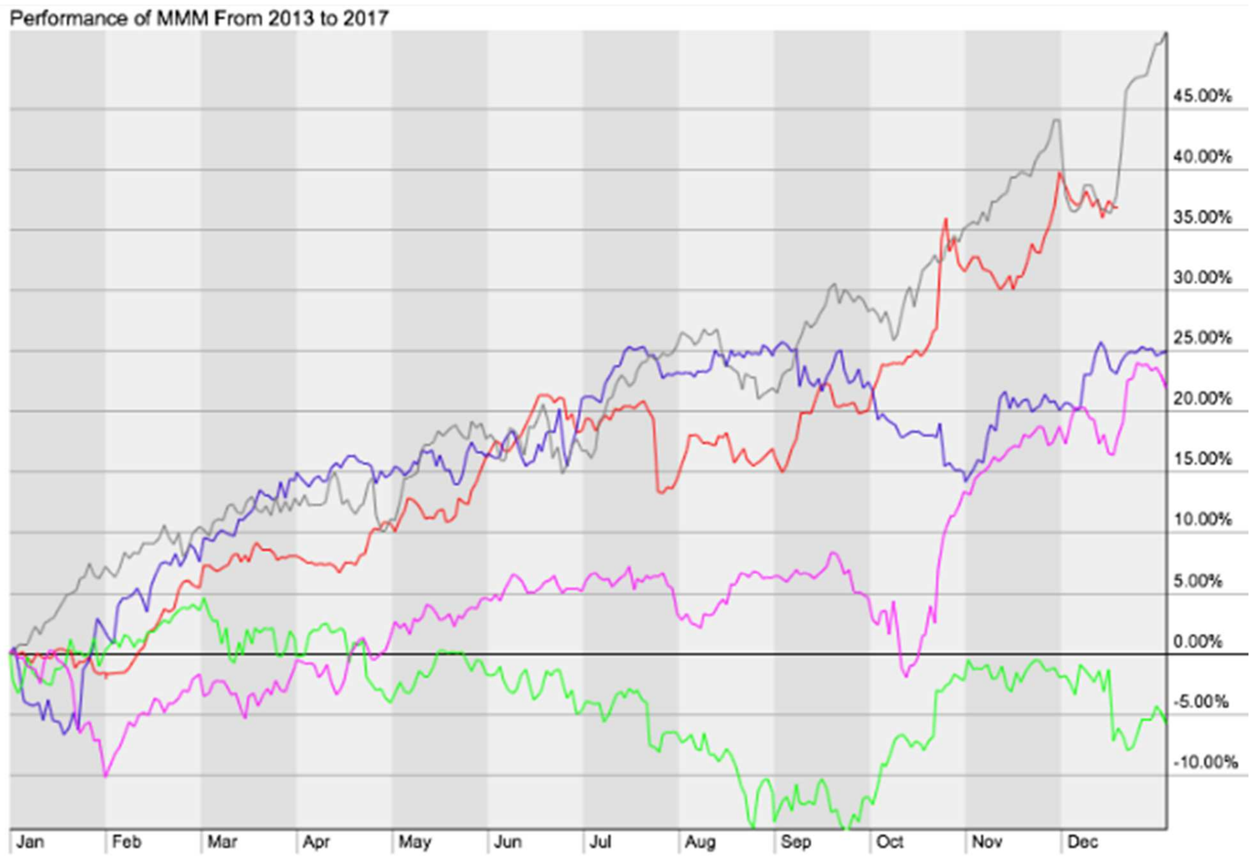


<u>**November**</u>

Strong – FNSR, ABB, NVDA, RHT, AMKR, DYAX, AMD, VIAV, ADSK, AMTD, ANF, NKTR, WNC, VRSN, HNT, GLW, GPS, TTMI, ATML, SEE, AOS, A, CSCO, FLEX, CI, VMC, LOW, AET, OLN, CDNS, OZRK, MYL, LUV, ANTM, EMR, DE, JWN, PCAR, SPLS, MCD, UPS, RHI, WMT, COST, KNX, PNC, WEN, CMC, CCJ, HRL, MMM, MRK, LLY, HFC, FTR, RTN, CHD, KEY

Weak – NBG, KEG, ESV, OPK, ATW, LYG, NE, WFT, APA, PBR, TDW, NBL, HCN, DDR, PTEN, SNH, KIM, CBL, OII, NFX, STO, SLB, EA, EOG, SU

November tends to be a strong month for financials as well as some consumer names into the Holidays but one of the best sectors during this time span is industrials. A name to focus on in November is **3M Co (MMM)** which has closed higher every year since 2008 and stretching back 20-years to 1998 has closed higher 95% of the time. MMM has beaten the S&P four of the last five November months and eight of the last ten. Since 1998 it has beaten the XLI in November almost 70% of years. Its worst months are July, September, and January while its other strong months are February and May. On the chart, you can see how the strong November typically starts in mid-to-late October, so one to watch likely into earnings that quarter and has finished in December strong nearly every year except 2015.

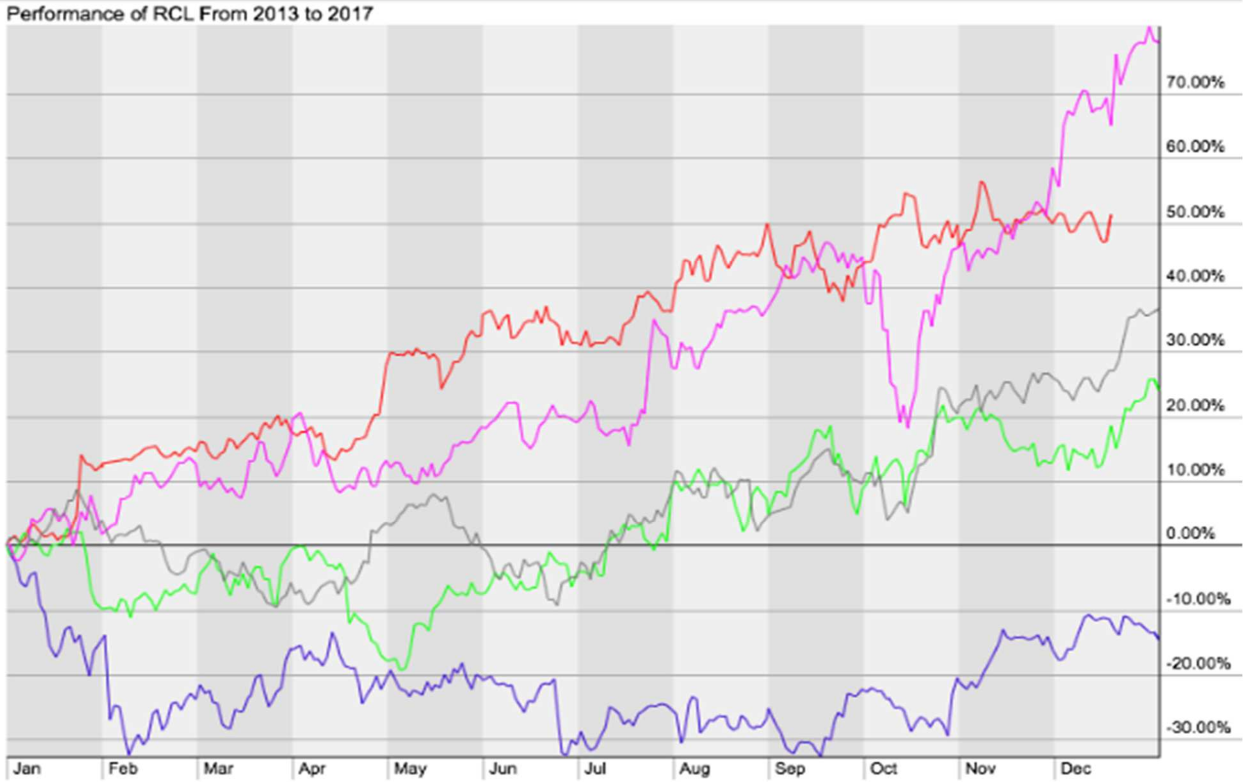


December

Strong – CENX, INCY, OI, SPF, NTAP, AKS, ERJ, FBR, MTG, LEN, VRX, SBGI, X, SSRI, HLS, TIVO, ROVI, OCR, KBH, ESRX, AES, TER, MOS, EXEL, PHM, GRMN, TOL, CNX, GCI, EAT, TWX, TGNA, STZ, BC, IVZ, RCL, ADI, ALXN, KLAC, DF, MAS, DHI, SYK, CCL, VTR, CRH, TROW, KIM, POT, SONC, CNW, SCHW, PLD, JBHT, IRM, HD, IPG, XLV

Weak – GDP, AEO, SWHC, CRUS, BBY, SRPT, FINL, MBT, NUAN, PTN, SINA, DLTR, KERX, HAL, ERF, FCX, NPBC, FLO, CHS, TTWO, CNI, TSCO, LRCX, EBAY, CERN

December tends to be a strong end for trends in industrials and financials as well as select consumer names which accumulate around the Holidays. One group which trades very well in December is cruise liners and **Royal Caribbean (RCL)** one which has closed higher each of the last five years and eight of ten. CCL and NCLH have both also closed higher nearly every December since 2013. RCL shares are also strong in October, July, and January with its weakest months in April, June, and August. RCL has beaten the S&P around 65% in December and January so a trend which continues into early year as well. RCL has seen a lot of bullish positioning into 2018 including accumulation in the Jan. 2018 $125 and $130 calls. On the chart, we can see how even in weak overall years, the November/December stretch is positive while a name which tends to close the year strong.



Seasonality Portfolio

Ticker	Company	Sector	Market Cap	Fwd P/E	P/S	P/B
APC	Anadarko Petroleum Corporation	Basic Materials	29.19B	-	2.78	2.71
BSX	Boston Scientific Corporation	Healthcare	34.44B	18.11	3.90	4.54
HAL	Halliburton Company	Basic Materials	41.86B	22.60	2.24	4.54
HUM	Humana Inc.	Healthcare	35.33B	20.26	0.66	3.15
MMM	3M Company	Industrial Goods	139.85B	24.05	4.51	11.55
MS	Morgan Stanley	Financial	94.49B	13.02	2.22	1.33
NBL	Noble Energy, Inc.	Basic Materials	14.45B	449.84	3.55	1.48
NVDA	NVIDIA Corporation	Technology	115.19B	41.41	12.83	18.54
PAYX	Paychex, Inc.	Services	24.00B	26.43	7.54	12.60
RCL	Royal Caribbean Cruises Ltd.	Services	25.21B	14.07	2.90	2.49
SHPG	Shire plc	Healthcare	47.42B	9.80	3.20	1.45
UNH	UnitedHealth Group Incorporated	Healthcare	212.16B	20.33	1.08	4.70

Technical Momentum into 2018 with Consolidation Patterns Near Breakouts or Freshly Breaking Out ($3B+ Market Caps)

With the market hitting record highs into year-end there are too many names with strong technical momentum to list, and many patterns have already broken out, so best to be patient for new ones to develop. A few that look good into 2018 include from a weekly chart perspective include:

Alcoa (AA) clearing resistance in a large channel up pattern with potential to reach $55.

Apple (AAPL) extended near the channel resistance but weekly flag targets $195-$200.

ABIOMED (ABMD) weekly bull wedge setting up, move above $200 starts next leg higher.

Abbott Labs (ABT) breaking out of a weekly bull flag that targets a move above $60.

Autohome (ATHM) sitting just under resistance of a major range breakout

AveXis (AVXS) strong trend breaking out of consolidation

CDW Corp (CDW) consolidating under a new high breakout, needing to clear $70

Celanese (CE) tight range consolidation under new highs with room to run to $120

Dow-DuPont (DWDP) looking for a break out of this bull pennant

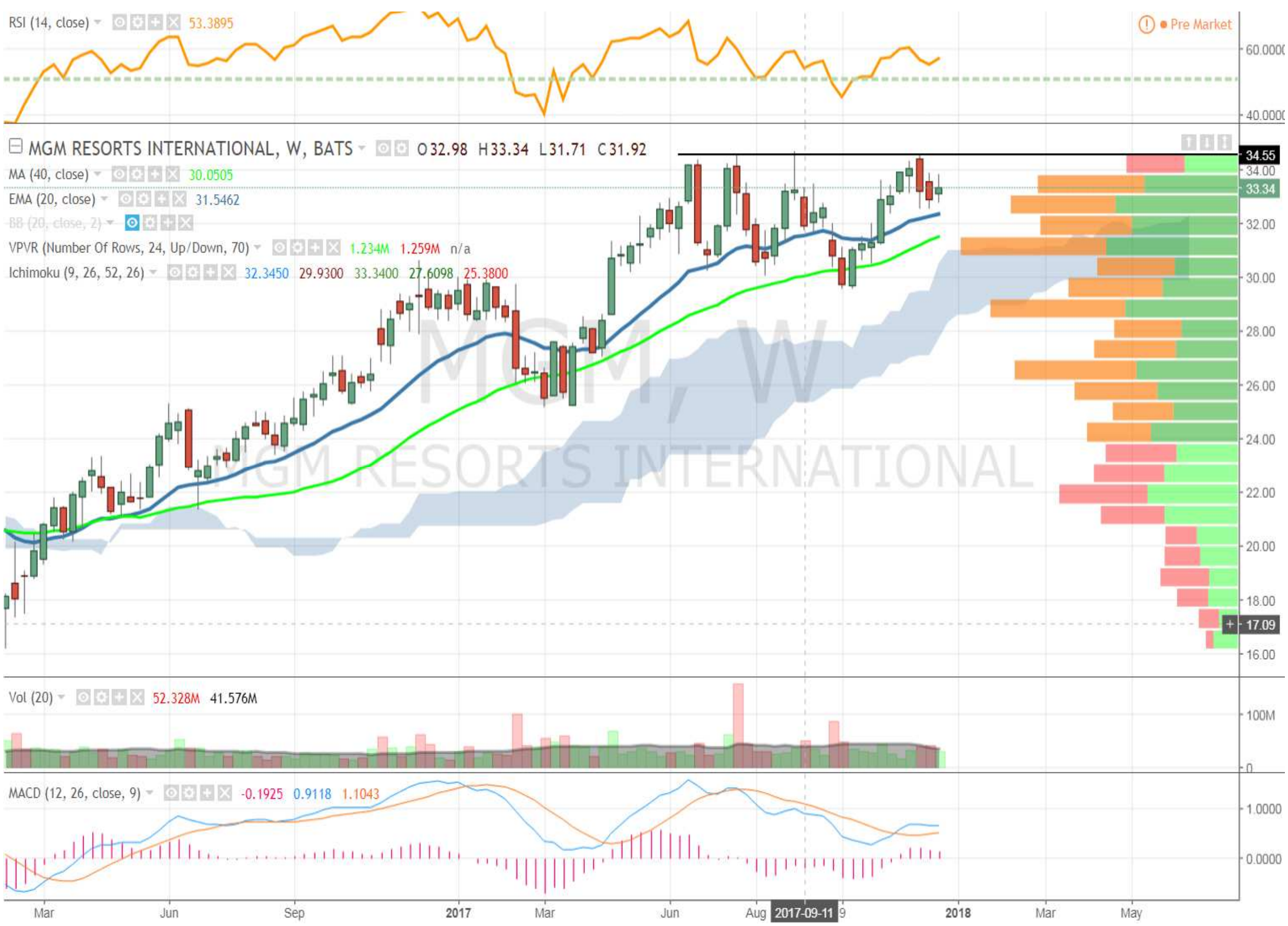
Eastman Chemical (EMN) ascending triangle looking to break out to new highs

Green Dot (GDOT) consolidating healthy after a strong run, expect expansionary move to new highs

HDFC Bank (HDB) breaking out of a long range for its next leg higher

Gartner (IT) nearing big bull wedge and resistance breakout over $126

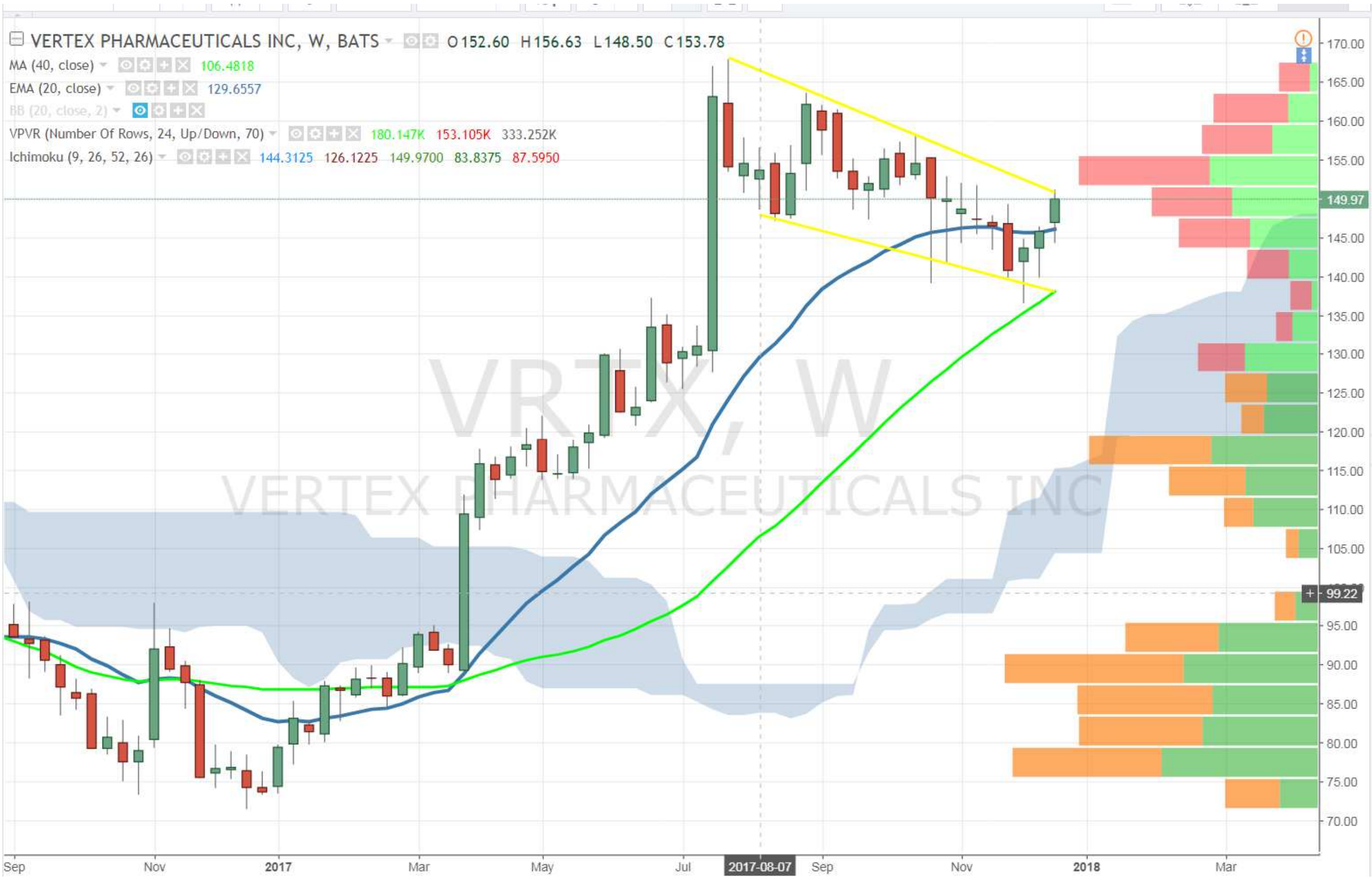
MGM Resorts (MGM) setting up for a big range breakout to highs



OshKosh (OSK) weekly bull flag ready to make a run to $100+

Packaging Corp (PKG) clearing out of a long range and looking to start a new trend move

Vertex Pharma (VRTX) bull wedge, above $156 can start a strong move higher



Weight Watchers (WTW) breaking out of weekly bull consolidation

Large Options Open Interest Positions of Note (February 2018-Dec. 2018 Expirations)

February

Date	Description	Volume	Price	Premium Paid
12/4/2017	FB 100 16 FEB 18 175 CALL	29,260	$7.75	$22,969,100
7/31/2017	AAPL 100 16 FEB 18 140 CALL	9,639	$15.15	$14,844,060
9/8/2017	AAPL 100 16 FEB 18 150 CALL	8,224	$16.60	$13,651,840
7/26/2017	BA 100 16 FEB 18 230 CALL	10,078	$12.40	$12,950,230
8/24/2017	AAPL 100 16 FEB 18 150 CALL	6,833	$17.40	$11,855,255
11/24/2017	AMZN 100 16 FEB 18 1180 CALL	1,710	$63.74	$11,268,900
11/17/2017	EA 100 16 FEB 18 110 CALL	15,562	$5.72	$9,415,010
12/7/2017	BABA 100 16 FEB 18 175 CALL	7,174	$10.25	$7,353,350
10/31/2017	INTC 100 16 FEB 18 46 CALL	40,077	$1.82	$7,294,014
8/22/2017	AAPL 100 16 FEB 18 165 CALL	7,031	$8.85	$6,257,590
11/29/2017	FB 100 16 FEB 18 180 CALL	9,074	$6.70	$6,079,580
11/29/2017	BABA 100 16 FEB 18 185 CALL	6,481	$8.99	$6,059,735
11/8/2017	GOOG 100 16 FEB 18 1160 CALL	4,021	$12.80	$5,709,820
12/8/2017	MU 100 16 FEB 18 41 CALL	10,741	$4.90	$5,263,090
12/6/2017	BABA 100 16 FEB 18 180 CALL	6,981	$6.75	$4,816,890
12/4/2017	WMT 100 16 FEB 18 95 CALL	11,167	$4.25	$4,801,810
12/5/2017	AAPL 100 16 FEB 18 175 CALL	7,869	$5.65	$4,485,330
12/22/2017	TWX 100 16 FEB 18 82.5 CALL	4,400	$10.15	$4,466,000
12/15/2017	GOOG 100 16 FEB 18 1050 CALL	934	$45.70	$4,296,400
12/8/2017	EA 100 16 FEB 18 110 CALL	11,012	$3.75	$4,129,500
12/8/2017	VNTV 100 16 FEB 18 65 CALL	3,961	$10.40	$4,119,440
11/8/2017	GOOG 100 16 FEB 18 1180 CALL	4,031	$10.00	$4,031,000
12/5/2017	GOOG 100 16 FEB 18 1100 CALL	3,057	$12.20	$4,004,670
12/13/2017	EA 100 16 FEB 18 110 CALL	10,584	$3.76	$3,979,584
11/30/2017	BAC 100 16 FEB 18 28 CALL	21,555	$1.72	$3,707,460
11/14/2017	EA 100 16 FEB 18 115 CALL	6,139	$5.75	$3,591,315
12/14/2017	DWDP 100 16 FEB 18 70 CALL	14,805	$2.37	$3,508,785
7/21/2017	SPGI 100 16 FEB 18 160 CALL	6,002	$5.20	$3,481,160
11/21/2017	FB 100 16 FEB 18 180 CALL	3,247	$9.50	$3,117,120
12/5/2017	GOOG 100 16 FEB 18 1010 CALL	652	$42.40	$2,790,560
11/29/2017	SPGI 100 16 FEB 18 160 CALL	3,103	$7.70	$2,730,640
12/15/2017	NFLX 100 16 FEB 18 190 CALL	2,244	$11.95	$2,681,580
10/10/2017	INTC 100 16 FEB 18 41 CALL	20,473	$1.20	$2,559,125
11/28/2017	BAC 100 16 FEB 18 28 CALL	22,591	$1.11	$2,507,601
12/15/2017	GOOGL 100 16 FEB 18 1150 CALL	1,676	$12.50	$2,430,200

Date	Description	Volume	Price	Premium Paid
12/20/2017	GOOGL 100 16 FEB 18 1065 CALL	553	$43.37	$2,411,080
10/13/2017	INTC 100 16 FEB 18 41 CALL	20,097	$1.17	$2,391,543
8/31/2017	NXST 100 16 FEB 18 70 CALL	10,000	$2.35	$2,350,000
12/5/2017	BMY 100 16 FEB 18 62.5 CALL	7,842	$2.86	$2,297,706
10/30/2017	AGN 100 16 FEB 18 195 CALL	3,256	$6.15	$2,214,080
11/28/2017	GOOG 100 16 FEB 18 1050 CALL	516	$41.95	$2,208,480
11/21/2017	BABA 100 16 FEB 18 200 CALL	2,902	$7.60	$2,205,520
12/4/2017	V 100 16 FEB 18 110 CALL	5,900	$3.60	$2,124,000
12/4/2017	PYPL 100 16 FEB 18 72.5 CALL	6,139	$3.45	$2,117,955
11/24/2017	MU 100 16 FEB 18 50 CALL	4,614	$4.25	$1,984,020
11/29/2017	CHTR 100 16 FEB 18 300 CALL	500	$39.00	$1,950,000
12/22/2017	MU 100 16 FEB 18 40 CALL	3,117	$6.10	$1,901,370
12/14/2017	TSLA 100 16 FEB 18 310 CALL	401	$45.35	$1,872,670
11/13/2017	BABA 100 16 FEB 18 185 CALL	1,488	$12.26	$1,845,120
11/29/2017	FB 100 16 FEB 18 195 CALL	7,859	$2.30	$1,807,570
12/20/2017	TROX 100 16 FEB 18 21 CALL	10,034	$1.74	$1,745,916
12/15/2017	INTC 100 16 FEB 18 45 CALL	11,166	$1.49	$1,741,896
12/20/2017	LOW 100 16 FEB 18 90 CALL	5,250	$3.30	$1,732,500
8/24/2017	MBI 100 16 FEB 18 10 CALL	14,200	$1.11	$1,732,400
12/19/2017	MU 100 16 FEB 18 40 CALL	3,058	$5.60	$1,727,770
12/18/2017	EDU 100 16 FEB 18 85 CALL	1,474	$11.50	$1,695,100
11/15/2017	EA 100 16 FEB 18 115 CALL	3,069	$5.35	$1,687,950
10/5/2017	MSFT 100 16 FEB 18 77.5 CALL	6,833	$2.47	$1,687,751
12/12/2017	GM 100 16 FEB 18 42 CALL	10,077	$1.66	$1,672,782
12/5/2017	WFC 100 16 FEB 18 60 CALL	10,149	$1.54	$1,654,287
11/7/2017	DHI 100 16 FEB 18 47 CALL	9,834	$1.51	$1,622,610
11/24/2017	WFC 100 16 FEB 18 52.5 CALL	4,957	$3.10	$1,586,240
9/27/2017	AJRD 100 16 FEB 18 30 CALL	2,069	$6.90	$1,551,750
11/13/2017	AMZN 100 16 FEB 18 1220 CALL	509	$29.40	$1,529,545
12/13/2017	UNP 100 16 FEB 18 125 CALL	1,692	$9.00	$1,522,800
8/21/2017	IMMU 100 16 FEB 18 7 CALL	5,073	$2.85	$1,496,535
9/29/2017	VMC 100 16 FEB 18 125 CALL	2,500	$5.70	$1,475,000
12/13/2017	TSLA 100 16 FEB 18 310 CALL	367	$40.10	$1,471,670
12/12/2017	IBM 100 16 FEB 18 160 CALL	4,102	$3.45	$1,435,700
12/20/2017	IAC 100 16 FEB 18 135 CALL	5,011	$2.79	$1,398,069

Date	Description	Volum	Price	Premium Paid
12/15/2017	WES 100 16 FEB 18 60 PUT	5,098	$13.69	$7,188,180
10/13/2017	MBI 100 16 FEB 18 9 PUT	28,000	$2.47	$7,000,000
9/29/2017	MBI 100 16 FEB 18 11 PUT	23,000	$2.63	$6,164,000
11/17/2017	PAA 100 16 FEB 18 23 PUT	15,003	$3.30	$5,101,020
9/20/2017	UNIT 100 16 FEB 18 12.5 PUT	33,035	$1.35	$4,955,250
8/2/2017	FTR 100 16 FEB 18 19 PUT	5,048	$6.20	$3,129,760
12/19/2017	SHPG 100 16 FEB 18 160 PUT	3,138	$9.80	$3,075,240
12/20/2017	NFLX 100 16 FEB 18 190 PUT	2,514	$11.74	$2,966,520
9/5/2017	AAPL 100 16 FEB 18 150 PUT	4,529	$6.22	$2,694,755
11/24/2017	WFC 100 16 FEB 18 57.5 PUT	5,872	$4.45	$2,642,400
10/31/2017	AAPL 100 16 FEB 18 165 PUT	3,109	$7.75	$2,456,110
10/17/2017	FB 100 16 FEB 18 175 PUT	2,478	$9.80	$2,428,440
10/31/2017	JCP 100 16 FEB 18 2.5 PUT	65,035	$0.37	$2,341,260
10/17/2017	DDD 100 16 FEB 18 11 PUT	20,000	$1.12	$2,200,000
12/11/2017	FB 100 16 FEB 18 170 PUT	5,325	$3.95	$2,156,625
8/15/2017	JCP 100 16 FEB 18 3 PUT	50,891	$0.41	$2,086,531
8/15/2017	UNIT 100 16 FEB 18 20 PUT	5,020	$3.93	$2,008,000
9/18/2017	INTC 100 16 FEB 18 40 PUT	5,000	$3.87	$1,950,000
8/18/2017	LB 100 16 FEB 18 30 PUT	10,105	$1.75	$1,869,425
12/21/2017	DISCA 100 16 FEB 18 25 PUT	6,182	$2.75	$1,730,960
8/22/2017	UNIT 100 16 FEB 18 15 PUT	12,710	$1.25	$1,715,850
12/18/2017	ROKU 100 16 FEB 18 55 PUT	1,589	$10.50	$1,668,450
11/10/2017	HOG 100 16 FEB 18 47.5 PUT	4,724	$3.40	$1,653,400
8/22/2017	THC 100 16 FEB 18 11 PUT	15,600	$1.00	$1,638,000
11/29/2017	T 100 16 FEB 18 36 PUT	10,359	$1.40	$1,481,337
12/5/2017	NFLX 100 16 FEB 18 150 PUT	5,961	$2.29	$1,478,328
11/29/2017	EA 100 16 FEB 18 110 PUT	1,515	$7.85	$1,302,900
12/12/2017	SNAP 100 16 FEB 18 17 PUT	5,541	$2.25	$1,268,889
11/7/2017	GGP 100 16 FEB 18 21 PUT	8,185	$1.41	$1,252,305
12/11/2017	PTCT 100 16 FEB 18 17 PUT	6,555	$1.65	$1,212,675
11/21/2017	BA 100 16 FEB 18 260 PUT	1,540	$7.87	$1,211,980
12/21/2017	AEIS 100 16 FEB 18 70 PUT	3,144	$3.26	$1,145,520
12/4/2017	T 100 16 FEB 18 38 PUT	5,304	$2.01	$1,140,360
11/10/2017	TWX 100 16 FEB 18 85 PUT	3,158	$3.10	$1,136,880
11/30/2017	STX 100 16 FEB 18 38 PUT	3,603	$2.68	$1,134,945

March

Date	Description	Volum	Price	Premium Paic
9/13/2017	NVDA 100 16 MAR 18 130 CALL	10,055	$45.91	$46,303,275
10/27/2017	GOOG 100 16 MAR 18 1035 CALL	5,299	$55.00	$29,144,500
9/12/2017	WDAY 100 16 MAR 18 92.5 CALL	10,050	$19.58	$19,798,500
11/3/2017	MELI 100 16 MAR 18 200 CALL	2,512	$72.70	$18,262,240
8/28/2017	MCD 100 16 MAR 18 145 CALL	9,879	$16.50	$16,547,325
10/19/2017	GOOG 100 16 MAR 18 1000 CALL	2,500	$49.50	$12,900,000
9/13/2017	JD 100 16 MAR 18 36 CALL	10,000	$10.65	$10,800,000
11/14/2017	JD 100 16 MAR 18 36 CALL	20,070	$5.30	$10,737,450
10/18/2017	UNP 100 16 MAR 18 130 CALL	137,500	$0.66	$9,350,000
11/13/2017	SQ 100 16 MAR 18 32 CALL	10,002	$9.00	$9,101,820
11/16/2017	WMT 100 16 MAR 18 92.5 CALL	11,528	$7.23	$8,334,744
9/11/2017	JD 100 16 MAR 18 36 CALL	10,020	$8.20	$8,266,500
9/22/2017	FCAU 100 16 MAR 18 15 CALL	22,044	$3.65	$8,046,060
12/14/2017	MAC 100 16 MAR 18 70 CALL	27,242	$2.65	$8,036,390
12/21/2017	ADSK 100 16 MAR 18 110 CALL	15,009	$4.36	$6,754,050
12/6/2017	DISH 100 16 MAR 18 52.5 CALL	20,040	$3.22	$6,613,200
10/20/2017	UNP 100 16 MAR 18 120 CALL	22,569	$2.88	$6,454,734
12/13/2017	CSCO 100 16 MAR 18 36 CALL	16,281	$2.72	$4,444,713
12/12/2017	MRK 100 16 MAR 18 55 CALL	13,830	$3.15	$4,425,600
11/29/2017	TGT 100 16 MAR 18 62.5 CALL	16,087	$2.49	$4,214,794
12/14/2017	AVGO 100 16 MAR 18 300 CALL	10,099	$3.70	$3,837,620
12/14/2017	AVGO 100 16 MAR 18 260 CALL	2,256	$15.30	$3,519,360
10/25/2017	GM 100 16 MAR 18 49 CALL	25,878	$1.26	$3,260,628
11/22/2017	SQ 100 16 MAR 18 50 CALL	6,565	$4.83	$3,209,500
12/19/2017	LKQ 100 16 MAR 18 35 CALL	3,667	$6.20	$3,153,620
12/14/2017	TEVA 100 16 MAR 18 20 CALL	25,418	$1.14	$2,897,652
11/3/2017	MAC 100 16 MAR 18 60 CALL	12,676	$2.25	$2,852,100
10/4/2017	C 100 16 MAR 18 70 CALL	4,185	$6.55	$2,741,175
12/14/2017	AVGO 100 16 MAR 18 310 CALL	10,023	$2.60	$2,656,095
10/18/2017	DISH 100 16 MAR 18 55 CALL	8,828	$3.00	$2,648,400
11/21/2017	GM 100 16 MAR 18 45 CALL	10,181	$2.51	$2,585,974
9/14/2017	DISH 100 16 MAR 18 55 CALL	6,087	$4.05	$2,556,540
11/14/2017	CREE 100 16 MAR 18 35 CALL	6,472	$3.80	$2,459,360

Date	Description	Volum	Price	Premium Pai
12/4/2017	JPM 100 16 MAR 18 115 CALL	14,182	$1.66	$2,382,576
9/26/2017	BWP 100 16 MAR 18 12 CALL	7,501	$2.92	$2,190,292
12/8/2017	CHTR 100 16 MAR 18 330 CALL	1,011	$21.30	$2,153,430
11/13/2017	GOOG 100 16 MAR 18 1060 CALL	521	$41.05	$2,146,520
12/6/2017	FB 100 16 MAR 18 190 CALL	4,747	$4.50	$2,136,150
11/22/2017	WFC 100 16 MAR 18 55 CALL	10,234	$2.05	$2,118,438
12/13/2017	BURL 100 16 MAR 18 120 CALL	5,000	$4.10	$2,100,000
8/1/2017	C 100 16 MAR 18 75 CALL	9,917	$2.07	$2,052,819
12/20/2017	THO 100 16 MAR 18 150 CALL	2,010	$9.53	$2,050,200
11/29/2017	MAC 100 16 MAR 18 70 CALL	9,920	$1.91	$2,033,600
8/25/2017	FCAU 100 16 MAR 18 15 CALL	12,506	$1.55	$2,000,960
12/1/2017	ULTA 100 16 MAR 18 230 CALL	2,010	$9.00	$1,989,900
12/4/2017	DIS 100 16 MAR 18 115 CALL	6,159	$3.15	$1,940,085
11/21/2017	BIDU 100 16 MAR 18 250 CALL	1,181	$16.29	$1,936,840
10/9/2017	MAC 100 16 MAR 18 65 CALL	10,333	$1.85	$1,911,605
12/14/2017	TWTR 100 16 MAR 18 22 CALL	7,726	$2.47	$1,908,322
12/5/2017	MIDD 100 16 MAR 18 110 CALL	1,010	$17.50	$1,878,600
11/21/2017	YNDX 100 16 MAR 18 35 CALL	6,000	$3.11	$1,866,000
12/4/2017	TTWO 100 16 MAR 18 105 CALL	2,317	$7.50	$1,830,430
10/10/2017	DISH 100 16 MAR 18 60 CALL	8,831	$2.05	$1,810,355
12/5/2017	ULTA 100 16 MAR 18 235 CALL	1,501	$11.50	$1,756,170
11/30/2017	LUV 100 16 MAR 18 57.5 CALL	3,080	$5.40	$1,724,800
12/5/2017	CRM 100 16 MAR 18 110 CALL	5,050	$2.27	$1,717,000
12/8/2017	LKQ 100 16 MAR 18 35 CALL	3,029	$5.65	$1,711,385
10/30/2017	SQ 100 16 MAR 18 35 CALL	3,923	$4.20	$1,686,890
12/14/2017	EA 100 16 MAR 18 115 CALL	5,075	$3.22	$1,649,375
6/28/2017	GE 100 16 MAR 18 29 CALL	20,045	$0.82	$1,643,690
10/30/2017	SQ 100 16 MAR 18 34 CALL	3,626	$4.44	$1,631,700
12/20/2017	ESRX 100 16 MAR 18 75 CALL	4,330	$3.55	$1,580,450
11/7/2017	SCHW 100 16 MAR 18 40 CALL	2,874	$5.25	$1,551,960
12/1/2017	GLNG 100 16 MAR 18 25 CALL	6,585	$2.30	$1,547,475
11/14/2017	VALE 100 16 MAR 18 10 CALL	20,250	$0.75	$1,539,000
10/4/2017	MAC 100 16 MAR 18 65 CALL	10,214	$1.50	$1,532,100
10/20/2017	NSC 100 16 MAR 18 155 CALL	12,010	$1.26	$1,513,260
8/15/2017	SBGI 100 16 MAR 18 25 CALL	2,440	$6.20	$1,488,400

Date	Description	Volume	Price	Premium Paid
8/8/2017	SEAS 100 16 MAR 18 17 PUT	68,427	$4.22	$36,266,310
11/16/2017	TWX 100 16 MAR 18 85 PUT	24,767	$4.60	$12,135,830
8/8/2017	SEAS 100 16 MAR 18 15 PUT	18,135	$3.23	$5,984,550
10/26/2017	PSA 100 16 MAR 18 210 PUT	3,051	$18.00	$5,491,800
9/7/2017	GM 100 16 MAR 18 40 PUT	10,000	$4.55	$4,650,000
10/20/2017	SCSS 100 16 MAR 18 35 PUT	9,347	$4.25	$4,019,210
12/15/2017	MPLX 100 16 MAR 18 48 PUT	2,723	$12.28	$3,343,844
11/27/2017	LRCX 100 16 MAR 18 210 PUT	2,031	$14.93	$3,046,500
11/30/2017	CELG 100 16 MAR 18 100 PUT	4,955	$6.10	$2,973,000
9/18/2017	AMZN 100 16 MAR 18 960 PUT	500	$55.00	$2,807,500
12/14/2017	TEVA 100 16 MAR 18 25 PUT	3,608	$7.25	$2,669,920
10/16/2017	AGN 100 16 MAR 18 175 PUT	4,436	$5.22	$2,506,340
10/18/2017	SCSS 100 16 MAR 18 33 PUT	6,250	$4.30	$2,500,000
8/4/2017	TEVA 100 16 MAR 18 32.5 PUT	2,010	$12.05	$2,422,050
12/14/2017	NVDA 100 16 MAR 18 205 PUT	951	$24.70	$2,325,195
11/8/2017	AAOI 100 16 MAR 18 50 PUT	1,472	$14.70	$2,178,560
9/21/2017	INCY 100 16 MAR 18 110 PUT	1,500	$13.50	$2,055,000
11/10/2017	SKT 100 16 MAR 18 25 PUT	6,589	$2.90	$1,976,700
12/15/2017	SNAP 100 16 MAR 18 18 PUT	5,605	$3.25	$1,849,650
11/10/2017	K 100 16 MAR 18 65 PUT	4,735	$3.60	$1,704,600
11/10/2017	CBL 100 16 MAR 18 7.5 PUT	9,324	$1.75	$1,678,320
11/17/2017	SQ 100 16 MAR 18 43 PUT	3,560	$4.56	$1,637,600
12/7/2017	PXD 100 16 MAR 18 160 PUT	1,208	$13.40	$1,618,720
12/6/2017	ALB 100 16 MAR 18 140 PUT	955	$15.65	$1,494,575
10/23/2017	TSLA 100 16 MAR 18 310 PUT	800	$18.50	$1,488,000
8/7/2017	HOLX 100 16 MAR 18 50 PUT	1,310	$11.00	$1,480,300
12/15/2017	INTC 100 16 MAR 18 43 PUT	11,059	$1.23	$1,459,788
9/1/2017	GE 100 16 MAR 18 25 PUT	10,000	$1.48	$1,410,000
12/15/2017	GLP 100 16 MAR 18 30 PUT	1,056	$13.30	$1,404,480
11/20/2017	MON 100 16 MAR 18 125 PUT	1,500	$8.90	$1,395,000
8/7/2017	COF 100 16 MAR 18 85 PUT	2,200	$6.30	$1,386,000
11/2/2017	NWL 100 16 MAR 18 32 PUT	3,636	$3.78	$1,374,408
11/9/2017	SKT 100 16 MAR 18 25 PUT	4,659	$2.90	$1,374,405
12/19/2017	UNP 100 16 MAR 18 130 PUT	3,001	$4.70	$1,365,455
9/19/2017	NUVA 100 16 MAR 18 50 PUT	2,542	$4.80	$1,347,260

Date	Description	Volume	Price	Premium Paid
9/19/2017	NUVA 100 16 MAR 18 50 PUT	2,542	$4.80	$1,347,260
10/19/2017	SCSS 100 16 MAR 18 33 PUT	3,203	$4.10	$1,313,230
8/29/2017	NWL 100 16 MAR 18 45 PUT	5,001	$2.55	$1,300,260
11/9/2017	DIS 100 16 MAR 18 100 PUT	3,095	$3.85	$1,284,425
10/31/2017	ADS 100 16 MAR 18 220 PUT	1,001	$11.90	$1,261,260
9/29/2017	RCII 100 16 MAR 18 11 PUT	6,997	$1.75	$1,259,460
11/3/2017	RCII 100 16 MAR 18 9 PUT	11,937	$1.05	$1,253,385
11/13/2017	VMW 100 16 MAR 18 135 PUT	774	$16.00	$1,238,400
6/6/2017	MON 100 16 MAR 18 110 PUT	2,152	$5.25	$1,183,600
9/13/2017	CVI 100 16 MAR 18 25 PUT	2,338	$4.60	$1,145,620
8/7/2017	HOLX 100 16 MAR 18 45 PUT	1,650	$6.52	$1,122,000
8/4/2017	CBL 100 16 MAR 18 10 PUT	4,543	$2.10	$1,090,320
9/14/2017	PFE 100 16 MAR 18 38 PUT	3,348	$3.25	$1,087,775
11/28/2017	CMG 100 16 MAR 18 280 PUT	518	$20.65	$1,069,670
9/20/2017	RCII 100 16 MAR 18 11 PUT	6,987	$1.49	$1,048,050
8/28/2017	TEVA 100 16 MAR 18 20 PUT	2,002	$4.82	$980,980
10/31/2017	GPS 100 16 MAR 18 26 PUT	4,130	$2.35	$970,550
9/13/2017	JBLU 100 16 MAR 18 25 PUT	1,627	$5.88	$959,930
11/6/2017	WYNN 100 16 MAR 18 140 PUT	1,505	$6.35	$955,675
9/11/2017	HDS 100 16 MAR 18 42.5 PUT	990	$9.37	$950,400
8/18/2017	MDXG 100 16 MAR 18 12.5 PUT	5,000	$1.50	$950,000
8/7/2017	CBL 100 16 MAR 18 10 PUT	4,407	$2.15	$947,505
12/1/2017	LITE 100 16 MAR 18 55 PUT	1,165	$7.90	$943,650
9/7/2017	LNG 100 16 MAR 18 42.5 PUT	2,500	$3.80	$925,000
9/8/2017	LSI 100 16 MAR 18 80 PUT	2,050	$3.90	$902,000
10/16/2017	PEGI 100 16 MAR 18 25 PUT	4,000	$2.05	$840,000
7/27/2017	CBL 100 16 MAR 18 10 PUT	4,582	$1.80	$801,850
9/19/2017	C 100 16 MAR 18 70 PUT	2,157	$3.70	$798,090
12/12/2017	SKT 100 16 MAR 18 25 PUT	4,616	$1.60	$784,720
12/14/2017	TXN 100 16 MAR 18 100 PUT	1,828	$4.15	$767,760
12/22/2017	DHR 100 16 MAR 18 100 PUT	1,163	$6.60	$767,580
11/29/2017	VZ 100 16 MAR 18 49 PUT	4,193	$1.81	$754,740
11/21/2017	HIMX 100 16 MAR 18 14 PUT	3,002	$2.45	$750,500
12/20/2017	AGN 100 16 MAR 18 140 PUT	3,660	$2.00	$746,640
11/20/2017	CERN 100 16 MAR 18 65 PUT	2,061	$3.60	$741,960

April

Date	Description	Volume	Price	Premium Paid
10/30/2017	EBAY 100 20 APR 18 30 CALL	20,000	$7.70	$15,400,000
11/1/2017	EDU 100 20 APR 18 79.57 CALL	6,363	$11.60	$7,381,080
12/4/2017	TWX 100 20 APR 18 92.5 CALL	10,233	$5.35	$6,242,130
12/4/2017	MU 100 20 APR 18 35 CALL	5,990	$7.53	$4,492,500
10/18/2017	MAR 100 20 APR 18 135 CALL	20,020	$2.03	$4,304,300
12/14/2017	MYL 100 20 APR 18 42.5 CALL	20,866	$1.99	$4,277,530
12/1/2017	ADSK 100 20 APR 18 115 CALL	6,051	$6.85	$4,265,955
8/14/2017	AAPL 100 20 APR 18 160 CALL	3,246	$12.65	$4,203,570
10/31/2017	STZ 100 20 APR 18 225 CALL	3,526	$10.80	$3,984,380
11/27/2017	INFO 100 20 APR 18 40 CALL	5,500	$4.80	$3,960,000
12/6/2017	WBA 100 20 APR 18 65 CALL	4,734	$8.19	$3,881,880
12/13/2017	TWX 100 20 APR 18 90 CALL	10,021	$3.81	$3,818,001
11/29/2017	ADSK 100 20 APR 18 115 CALL	4,686	$7.56	$3,675,370
10/5/2017	SGMS 100 20 APR 18 48 CALL	5,000	$7.30	$3,650,000
10/11/2017	NXPI 100 20 APR 18 120 CALL	10,129	$3.50	$3,646,440
8/2/2017	AAPL 100 20 APR 18 160 CALL	3,356	$10.76	$3,611,056
12/18/2017	FIS 100 20 APR 18 85 CALL	3,000	$11.80	$3,585,000
9/28/2017	TRN 100 20 APR 18 32 CALL	15,000	$2.30	$3,450,000
10/20/2017	AAPL 100 20 APR 18 170 CALL	5,554	$5.50	$3,082,470
11/8/2017	GOOGL 100 20 APR 18 1140 CALL	836	$32.55	$2,967,800
10/27/2017	WBA 100 20 APR 18 75 CALL	20,057	$1.15	$2,828,037
9/20/2017	MLCO 100 20 APR 18 25 CALL	14,000	$1.95	$2,800,000
12/8/2017	ADSK 100 20 APR 18 115 CALL	4,758	$5.80	$2,759,640
10/4/2017	FOLD 100 20 APR 18 17 CALL	10,020	$2.70	$2,705,400
12/5/2017	WM 100 20 APR 18 85 CALL	10,039	$2.60	$2,610,140
9/12/2017	BABA 100 20 APR 18 175 CALL	1,534	$17.00	$2,607,800
12/13/2017	TWX 100 20 APR 18 87.5 CALL	5,002	$5.20	$2,601,040
12/19/2017	SSNC 100 20 APR 18 35 CALL	3,800	$6.70	$2,546,000
12/13/2017	KMX 100 20 APR 18 60 CALL	2,561	$9.62	$2,500,960
12/12/2017	GPOR 100 20 APR 18 10 CALL	7,505	$3.20	$2,401,600
11/3/2017	RSG 100 20 APR 18 65 CALL	10,267	$2.15	$2,207,405
12/14/2017	NEM 100 20 APR 18 36 CALL	11,027	$1.93	$2,183,346

Date	Description	Volum	Price	Premium Paid
9/26/2017	MET 100 20 APR 18 55 CALL	12,504	$1.54	$2,088,168
12/11/2017	QCOM 100 20 APR 18 67.5 CALL	6,406	$3.15	$2,081,950
11/22/2017	KR 100 20 APR 18 20 CALL	5,183	$3.91	$2,073,200
9/19/2017	BIDU 100 20 APR 18 220 CALL	600	$33.74	$2,046,000
10/23/2017	CC 100 20 APR 18 60 CALL	4,000	$4.80	$2,000,000
12/13/2017	GOOG 100 20 APR 18 1160 CALL	1,250	$15.90	$1,975,000
12/1/2017	AABA 100 20 APR 18 75 CALL	5,031	$3.75	$1,962,090
12/5/2017	CMCSA 100 20 APR 18 37.5 CALL	5,000	$4.05	$1,950,000
10/4/2017	PBR 100 20 APR 18 12 CALL	35,377	$0.53	$1,945,735
11/29/2017	ADSK 100 20 APR 18 110 CALL	1,914	$9.48	$1,923,570
12/7/2017	AVGO 100 20 APR 18 290 CALL	2,014	$9.55	$1,923,370
11/17/2017	KMX 100 20 APR 18 70 CALL	3,271	$5.60	$1,897,180
10/18/2017	KMB 100 20 APR 18 130 CALL	10,431	$1.80	$1,877,580
11/2/2017	WM 100 20 APR 18 82.5 CALL	7,501	$2.37	$1,777,737
9/27/2017	MA 100 20 APR 18 140 CALL	2,114	$8.25	$1,754,620
9/20/2017	EFX 100 20 APR 18 120 CALL	3,733	$4.55	$1,754,510
11/29/2017	BAC 100 20 APR 18 31 CALL	24,166	$0.71	$1,739,952
12/6/2017	BAC 100 20 APR 18 27 CALL	6,173	$2.80	$1,716,094
10/6/2017	NFLX 100 20 APR 18 180 CALL	560	$30.56	$1,711,360
11/29/2017	CCL 100 20 APR 18 60 CALL	2,100	$8.00	$1,701,000
10/6/2017	BAC 100 20 APR 18 29 CALL	22,329	$0.76	$1,697,004
9/29/2017	TRN 100 20 APR 18 32 CALL	5,537	$2.90	$1,661,100
12/13/2017	AABA 100 20 APR 18 75 CALL	5,008	$3.15	$1,627,600
10/16/2017	VRX 100 20 APR 18 14 CALL	10,265	$1.56	$1,601,340
12/21/2017	TWX 100 20 APR 18 100 CALL	10,115	$1.39	$1,577,940
11/13/2017	MU 100 20 APR 18 50 CALL	4,158	$3.52	$1,517,670
10/12/2017	BAC 100 20 APR 18 25 CALL	7,067	$2.10	$1,484,070
10/10/2017	VRTX 100 20 APR 18 160 CALL	1,000	$14.30	$1,470,000
12/11/2017	TSLA 100 20 APR 18 295 CALL	305	$47.20	$1,439,600
9/27/2017	FOLD 100 20 APR 18 17 CALL	5,000	$2.75	$1,425,000
9/14/2017	WDC 100 20 APR 18 92.5 CALL	2,043	$6.50	$1,348,380
10/12/2017	VRTX 100 20 APR 18 165 CALL	1,000	$12.10	$1,340,000
12/6/2017	T 100 20 APR 18 39 CALL	20,077	$0.61	$1,305,005
10/6/2017	TRN 100 20 APR 18 32 CALL	2,766	$4.45	$1,272,360
12/8/2017	PX 100 20 APR 18 155 CALL	2,016	$6.30	$1,270,080

Date	Description	Volume	Price	Premium Paid
10/24/2017	NXPI 100 20 APR 18 110 PUT	21,589	$3.20	$6,908,480
10/11/2017	KR 100 20 APR 18 21 PUT	31,292	$1.80	$5,476,100
10/2/2017	GIS 100 20 APR 18 52.5 PUT	10,010	$3.70	$3,703,700
9/8/2017	KR 100 20 APR 18 22 PUT	11,508	$2.95	$3,337,320
10/24/2017	TSLA 100 20 APR 18 200 PUT	9,576	$2.97	$2,920,680
12/4/2017	QCOM 100 20 APR 18 62.5 PUT	6,088	$3.80	$2,313,440
8/25/2017	KR 100 20 APR 18 22 PUT	9,180	$2.30	$2,157,300
11/30/2017	HBI 100 20 APR 18 22 PUT	9,165	$2.40	$2,153,775
9/12/2017	KR 100 20 APR 18 22 PUT	8,009	$2.60	$2,122,385
12/21/2017	GIS 100 20 APR 18 60 PUT	6,167	$3.35	$2,065,945
10/4/2017	KR 100 20 APR 18 21 PUT	8,264	$2.45	$2,024,680
9/14/2017	FOXA 100 20 APR 18 34 PUT	2,325	$7.50	$1,813,500
12/13/2017	HBI 100 20 APR 18 22 PUT	7,870	$2.25	$1,810,100
11/8/2017	HSIC 100 20 APR 18 72.5 PUT	3,000	$5.60	$1,680,000
11/29/2017	DIS 100 20 APR 18 100 PUT	5,070	$2.75	$1,424,670
8/30/2017	MNK 100 20 APR 18 35 PUT	3,500	$3.96	$1,400,000
11/6/2017	SBUX 100 20 APR 18 50 PUT	15,901	$0.87	$1,383,387
12/4/2017	ADBE 100 20 APR 18 170 PUT	1,120	$11.80	$1,377,600
11/8/2017	HSIC 100 20 APR 18 70 PUT	3,000	$4.55	$1,365,000
11/7/2017	DISCA 100 20 APR 18 17.5 PUT	6,964	$1.84	$1,323,160
11/30/2017	MU 100 20 APR 18 46 PUT	2,103	$5.90	$1,240,770
10/17/2017	PBR 100 20 APR 18 11 PUT	9,378	$1.30	$1,219,140
12/15/2017	DISCA 100 20 APR 18 22.5 PUT	4,050	$2.85	$1,215,000
11/21/2017	UAA 100 20 APR 18 25 PUT	1,000	$12.00	$1,200,000
10/24/2017	AMD 100 20 APR 18 14 PUT	5,939	$1.71	$1,187,800
8/28/2017	HSIC 100 20 APR 18 160 PUT	1,500	$7.30	$1,155,000
10/5/2017	KR 100 20 APR 18 21 PUT	5,010	$2.30	$1,152,300
10/30/2017	TUP 100 20 APR 18 60 PUT	2,032	$4.70	$1,056,640
12/1/2017	QCOM 100 20 APR 18 62.5 PUT	3,055	$3.45	$1,053,975
8/30/2017	HSIC 100 20 APR 18 155 PUT	1,500	$6.90	$1,020,000
9/20/2017	NKE 100 20 APR 18 52.5 PUT	3,003	$3.30	$990,990
12/20/2017	MNK 100 20 APR 18 20 PUT	5,000	$1.92	$950,000
9/8/2017	BAC 100 20 APR 18 26 PUT	2,500	$3.75	$950,000
8/30/2017	TUP 100 20 APR 18 55 PUT	2,114	$4.50	$930,160
9/8/2017	BAC 100 20 APR 18 22 PUT	6,070	$1.35	$837,660

11/9/2017	HTZ 100 20 APR 18 20 PUT	2,500	$3.25	$825,000
11/21/2017	CELG 100 20 APR 18 100 PUT	1,500	$5.25	$787,500
9/26/2017	TSLA 100 20 APR 18 220 PUT	1,514	$5.20	$787,280
12/13/2017	MDCO 100 20 APR 18 27 PUT	2,153	$3.40	$753,550
9/6/2017	CAKE 100 20 APR 18 45 PUT	1,002	$6.80	$711,420
10/24/2017	HAL 100 20 APR 18 47.5 PUT	1,007	$6.80	$684,760
9/21/2017	FOLD 100 20 APR 18 14 PUT	2,500	$2.30	$675,000
12/15/2017	PYPL 100 20 APR 18 70 PUT	2,121	$3.10	$646,905
10/26/2017	NKE 100 20 APR 18 57.5 PUT	1,615	$3.95	$637,925
11/14/2017	ADSK 100 20 APR 18 130 PUT	441	$13.35	$601,965
10/20/2017	RDC 100 20 APR 18 13 PUT	3,325	$1.75	$598,500
8/30/2017	AA 100 20 APR 18 45 PUT	1,000	$5.50	$590,000
10/6/2017	MU 100 20 APR 18 37 PUT	1,702	$3.45	$578,680
10/13/2017	WLTW 100 20 APR 18 165 PUT	500	$10.85	$570,000
9/20/2017	KHC 100 20 APR 18 77.5 PUT	1,541	$3.40	$554,760
8/23/2017	TTM 100 20 APR 18 30 PUT	2,000	$2.71	$550,000
10/16/2017	AUPH 100 20 APR 18 10 PUT	1,271	$3.75	$546,530
8/29/2017	HSIC 100 20 APR 18 150 PUT	1,000	$4.80	$540,000
12/18/2017	MAT 100 20 APR 18 10 PUT	13,360	$0.35	$534,400
9/19/2017	T 100 20 APR 18 38 PUT	2,005	$2.54	$507,265
10/3/2017	GIS 100 20 APR 18 50 PUT	2,002	$2.35	$502,502

May

Date	Description	Volume	Price	Premium Paid
10/19/2017	IMMU 100 18 MAY 18 4 CALL	14,000	$6.85	$9,590,000
11/14/2017	CDK 100 18 MAY 18 55 CALL	6,827	$9.08	$6,553,920
12/19/2017	MHK 100 18 MAY 18 240 CALL	1,425	$41.60	$5,928,000
11/30/2017	NKTR 100 18 MAY 18 60 CALL	5,000	$7.90	$4,000,000
12/14/2017	WYN 100 18 MAY 18 115 CALL	6,079	$5.41	$3,525,820
12/20/2017	CSX 100 18 MAY 18 50 CALL	4,166	$7.50	$3,124,500
11/21/2017	BHF 100 18 MAY 18 50 CALL	3,000	$9.00	$2,730,000
10/24/2017	NOW 100 18 MAY 18 120 CALL	1,910	$13.80	$2,635,800
11/29/2017	ANAB 100 18 MAY 18 80 CALL	1,350	$17.50	$2,362,500
10/31/2017	ALXN 100 18 MAY 18 105 CALL	1,000	$23.50	$2,350,000
11/8/2017	JD 100 18 MAY 18 40 CALL	5,061	$4.50	$2,277,450
12/11/2017	AAL 100 18 MAY 18 55 CALL	6,341	$2.69	$1,902,300
11/7/2017	JD 100 18 MAY 18 39 CALL	4,015	$4.60	$1,866,975
10/3/2017	REGN 100 18 MAY 18 460 CALL	374	$46.50	$1,776,500
10/25/2017	EXEL 100 18 MAY 18 25 CALL	3,535	$4.80	$1,732,150
9/29/2017	MBI 100 18 MAY 18 7 CALL	7,530	$2.17	$1,731,900
12/21/2017	HD 100 18 MAY 18 175 CALL	929	$17.07	$1,607,170
10/5/2017	UNP 100 18 MAY 18 105 CALL	1,135	$12.72	$1,443,720
11/28/2017	WEN 100 18 MAY 18 14 CALL	10,805	$1.30	$1,404,650
12/12/2017	JUNO 100 18 MAY 18 37.5 CALL	1,101	$11.43	$1,376,250
10/16/2017	EXEL 100 18 MAY 18 35 CALL	3,581	$3.50	$1,360,780
12/21/2017	VOYA 100 18 MAY 18 55 CALL	5,475	$2.15	$1,177,125
11/14/2017	NKTR 100 18 MAY 18 45 CALL	2,500	$4.60	$1,150,000
10/9/2017	DG 100 18 MAY 18 90 CALL	4,500	$2.21	$1,102,500
11/16/2017	YNDX 100 18 MAY 18 37 CALL	5,000	$2.10	$1,050,000
10/20/2017	VMC 100 18 MAY 18 130 CALL	1,511	$6.90	$1,042,590
12/14/2017	CHRW 100 18 MAY 18 82.5 CALL	1,405	$7.29	$1,039,700
12/19/2017	Z 100 18 MAY 18 45 CALL	2,937	$3.40	$1,027,950
11/16/2017	VNTV 100 18 MAY 18 70 CALL	2,003	$5.05	$1,011,515
10/18/2017	ESRX 100 18 MAY 18 55 CALL	1,601	$5.75	$992,620
12/4/2017	M 100 18 MAY 18 25 CALL	2,929	$3.25	$981,215
12/22/2017	TROX 100 18 MAY 18 20 CALL	2,515	$3.84	$965,760

11/15/2017	HD 100 18 MAY 18 160 CALL	794	$11.95	$952,800
12/21/2017	COMM 100 18 MAY 18 39 CALL	3,000	$2.90	$930,000
10/19/2017	AGN 100 18 MAY 18 215 CALL	1,500	$5.90	$885,000
11/6/2017	SWKS 100 18 MAY 18 125 CALL	1,098	$8.00	$878,400
11/27/2017	JD 100 18 MAY 18 43 CALL	3,480	$2.38	$849,120
9/28/2017	APC 100 18 MAY 18 50 CALL	1,700	$4.61	$783,700
10/17/2017	AAL 100 18 MAY 18 55 CALL	2,000	$3.80	$760,000
11/9/2017	SRPT 100 18 MAY 18 70 CALL	2,026	$3.30	$749,620
11/27/2017	SUM 100 18 MAY 18 30 CALL	3,010	$2.40	$737,450
10/26/2017	SPGI 100 18 MAY 18 170 CALL	1,005	$6.90	$733,650
10/23/2017	AFL 100 18 MAY 18 90 CALL	4,550	$1.41	$705,250
10/3/2017	ACN 100 18 MAY 18 125 CALL	540	$12.65	$691,200
10/3/2017	LM 100 18 MAY 18 33 CALL	1,040	$6.60	$686,400
12/12/2017	SWKS 100 18 MAY 18 110 CALL	1,562	$4.01	$656,040
12/13/2017	CL 100 18 MAY 18 75 CALL	2,346	$2.76	$649,842
11/3/2017	WFT 100 18 MAY 18 5 CALL	20,068	$0.30	$602,040
10/11/2017	HLF 100 18 MAY 18 90 CALL	1,500	$3.95	$600,000
11/22/2017	WEN 100 18 MAY 18 14 CALL	5,101	$1.10	$586,615
11/10/2017	JD 100 18 MAY 18 55 CALL	7,630	$0.75	$572,250
10/23/2017	SPGI 100 18 MAY 18 170 CALL	1,075	$5.18	$556,850
11/13/2017	PRGO 100 18 MAY 18 90 CALL	625	$7.40	$556,250
10/24/2017	NOW 100 18 MAY 18 130 CALL	601	$9.15	$549,915
11/14/2017	ESRX 100 18 MAY 18 60 CALL	1,000	$4.86	$540,000
12/20/2017	PWR 100 18 MAY 18 39 CALL	2,202	$2.45	$539,490
12/12/2017	BSX 100 18 MAY 18 27 CALL	4,370	$1.20	$524,400
10/17/2017	ALXN 100 18 MAY 18 165 CALL	700	$7.40	$518,000
11/10/2017	NOW 100 18 MAY 18 105 CALL	200	$25.46	$514,000
12/22/2017	FITB 100 18 MAY 18 26 CALL	1,033	$4.95	$511,335
10/24/2017	AGN 100 18 MAY 18 215 CALL	1,000	$5.10	$510,000

Date	Description	Volum	Price	Premium Pai
10/18/2017	HOG 100 18 MAY 18 50 PUT	4,706	$5.60	$2,611,830
12/19/2017	SPPI 100 18 MAY 18 17 PUT	8,025	$2.25	$2,006,250
12/11/2017	HOG 100 18 MAY 18 55 PUT	3,192	$6.23	$1,988,616
12/22/2017	CSX 100 18 MAY 18 50 PUT	10,020	$1.90	$1,903,800
11/21/2017	CHRW 100 18 MAY 18 80 PUT	3,000	$5.40	$1,680,000
12/13/2017	CHRW 100 18 MAY 18 85 PUT	3,524	$4.00	$1,409,600
12/13/2017	AGN 100 18 MAY 18 175 PUT	725	$14.74	$1,170,875
10/4/2017	MBI 100 18 MAY 18 8 PUT	7,755	$1.42	$1,139,985
11/28/2017	VFC 100 18 MAY 18 75 PUT	2,000	$5.00	$1,060,000
11/27/2017	CHRW 100 18 MAY 18 80 PUT	1,555	$5.30	$839,700
10/10/2017	GOGO 100 18 MAY 18 12 PUT	4,102	$1.97	$820,400
12/21/2017	LB 100 18 MAY 18 60 PUT	1,366	$5.75	$805,940
12/22/2017	UNP 100 18 MAY 18 130 PUT	1,300	$6.05	$786,500
12/5/2017	CHRW 100 18 MAY 18 85 PUT	1,505	$4.85	$752,500
10/18/2017	MCK 100 18 MAY 18 175 PUT	250	$29.80	$745,000
11/3/2017	AAL 100 18 MAY 18 55 PUT	750	$9.60	$720,000
9/19/2017	UNIT 100 18 MAY 18 10 PUT	6,161	$1.10	$708,515
12/22/2017	UNP 100 18 MAY 18 125 PUT	1,599	$4.25	$679,575
10/12/2017	JCP 100 18 MAY 18 6 PUT	2,183	$2.82	$635,253
12/1/2017	MD 100 18 MAY 18 55 PUT	850	$7.33	$623,050
12/12/2017	BSX 100 18 MAY 18 25 PUT	4,369	$1.34	$589,815
10/5/2017	UNP 100 18 MAY 18 110 PUT	953	$6.00	$586,095
11/14/2017	RMTI 100 18 MAY 18 8 PUT	2,000	$2.75	$550,000
10/19/2017	COTY 100 18 MAY 18 12 PUT	10,000	$0.55	$550,000
11/10/2017	HES 100 18 MAY 18 47.5 PUT	1,085	$4.80	$542,500
12/11/2017	HLF 100 18 MAY 18 65 PUT	1,000	$5.30	$535,000
11/15/2017	CAT 100 18 MAY 18 125 PUT	1,002	$5.30	$531,060
11/29/2017	CHRW 100 18 MAY 18 77.5 PUT	1,842	$2.90	$506,550

June

Date	Description	Volume	Price	Premium Paid
6/30/2017	JPM 100 15 JUN 18 77.5 CALL	12,903	$15.85	$20,451,255
11/1/2017	EA 100 15 JUN 18 115 CALL	15,499	$10.90	$16,893,910
11/29/2017	EA 100 15 JUN 18 115 CALL	20,812	$6.36	$13,631,860
12/18/2017	TWTR 100 15 JUN 18 20 CALL	21,031	$5.80	$12,197,980
5/25/2017	NSC 100 15 JUN 18 140 CALL	17,502	$3.82	$7,875,900
4/25/2017	AMZN 100 15 JUN 18 1100 CALL	1,609	$38.65	$6,202,695
6/8/2017	KO 100 15 JUN 18 42 CALL	12,999	$4.12	$5,654,565
10/31/2017	MSFT 100 15 JUN 18 87.5 CALL	17,117	$3.35	$5,648,610
11/28/2017	EA 100 15 JUN 18 115 CALL	7,768	$6.35	$5,204,560
11/13/2017	T 100 15 JUN 18 36 CALL	38,041	$1.27	$4,869,248
9/15/2017	CRM 100 15 JUN 18 95 CALL	6,006	$7.95	$4,774,770
11/6/2017	QCOM 100 15 JUN 18 65 CALL	13,936	$3.40	$4,738,240
11/16/2017	HAL 100 15 JUN 18 40 CALL	10,340	$4.25	$4,394,500
12/6/2017	DWDP 100 15 JUN 18 77.5 CALL	20,131	$1.82	$4,348,296
11/14/2017	LNG 100 15 JUN 18 50 CALL	10,032	$4.10	$4,263,600
7/20/2017	QCOM 100 15 JUN 18 70 CALL	39,261	$1.00	$4,004,622
12/8/2017	T 100 15 JUN 18 38 CALL	28,512	$1.39	$3,963,168
12/13/2017	RRC 100 15 JUN 18 15 CALL	13,111	$2.85	$3,802,190
9/12/2017	KO 100 15 JUN 18 45 CALL	13,686	$2.70	$3,777,336
11/28/2017	F 100 15 JUN 18 12 CALL	50,059	$0.75	$3,754,425
10/19/2017	PG 100 15 JUN 18 92.5 CALL	10,076	$3.40	$3,425,840
12/22/2017	SCHW 100 15 JUN 18 41 CALL	2,824	$12.00	$3,388,800
12/22/2017	SCHW 100 15 JUN 18 41 CALL	2,824	$12.00	$3,388,800
12/6/2017	EA 100 15 JUN 18 115 CALL	7,150	$4.47	$3,360,500
11/2/2017	C 100 15 JUN 18 75 CALL	6,406	$5.07	$3,247,842
12/19/2017	SCHW 100 15 JUN 18 42 CALL	2,996	$10.80	$3,235,680
11/16/2017	KO 100 15 JUN 18 47 CALL	20,037	$1.58	$3,185,883
10/27/2017	ETE 100 15 JUN 18 20 CALL	45,213	$0.58	$2,984,058
12/4/2017	EA 100 15 JUN 18 115 CALL	6,431	$4.48	$2,958,260
3/1/2017	AAPL 100 15 JUN 18 200 CALL	20,364	$1.34	$2,749,140
5/16/2017	UNP 100 15 JUN 18 105 CALL	2,075	$13.20	$2,739,000

12/11/2017	MSFT 100 15 JUN 18 95 CALL	15,272	$1.67	$2,550,424
5/8/2017	IBM 100 15 JUN 18 175 CALL	10,000	$2.50	$2,550,000
12/14/2017	MO 100 15 JUN 18 75 CALL	9,416	$2.41	$2,504,656
11/30/2017	PG 100 15 JUN 18 92.5 CALL	10,000	$2.47	$2,470,000
12/22/2017	TWX 100 15 JUN 18 95 CALL	5,040	$4.90	$2,469,600
12/11/2017	ONCE 100 15 JUN 18 55 CALL	2,724	$8.80	$2,451,600
12/20/2017	EA 100 15 JUN 18 115 CALL	3,537	$6.50	$2,387,475
5/10/2017	SBUX 100 15 JUN 18 57.5 CALL	3,505	$6.58	$2,365,875
11/20/2017	GE 100 15 JUN 18 19 CALL	25,131	$0.94	$2,362,314
9/22/2017	CRM 100 15 JUN 18 95 CALL	2,901	$8.10	$2,349,810
10/27/2017	WBA 100 15 JUN 18 77.5 CALL	15,971	$1.13	$2,299,824
8/18/2017	FB 100 15 JUN 18 185 CALL	2,181	$10.35	$2,257,335
4/21/2017	FB 100 15 JUN 18 155 CALL	2,178	$10.20	$2,254,230
8/29/2017	BABA 100 15 JUN 18 180 CALL	1,501	$14.65	$2,243,995
12/4/2017	TTWO 100 15 JUN 18 110 CALL	2,018	$11.10	$2,179,440
8/30/2017	GE 100 15 JUN 18 25 CALL	20,317	$1.04	$2,112,968
12/7/2017	CRM 100 15 JUN 18 105 CALL	2,847	$7.00	$1,992,900
21-Jun	SLB 100 15 JUN 18 65 CALL	3,250	$6	$1,917,500
11/22/2017	GBT 100 15 JUN 18 45 CALL	2,017	$9.50	$1,916,150
11/6/2017	RDS/A 100 15 JUN 18 60 CALL	2,887	$6.50	$1,876,550
5/17/2017	SLB 100 15 JUN 18 72.5 CALL	3,284	$5.40	$1,806,200
12/18/2017	LULU 100 15 JUN 18 65 CALL	1,186	$14.75	$1,779,000
11/29/2017	WMT 100 15 JUN 18 92.5 CALL	2,051	$8.30	$1,763,860
12/18/2017	LULU 100 15 JUN 18 67.5 CALL	1,298	$12.97	$1,683,506
12/12/2017	ONCE 100 15 JUN 18 55 CALL	2,094	$7.60	$1,633,320
10/23/2017	BRK/B 100 15 JUN 18 190 CALL	1,593	$9.75	$1,632,825
10/10/2017	BMY 100 15 JUN 18 70 CALL	5,332	$2.95	$1,626,260
4/19/2017	SBUX 100 15 JUN 18 57.5 CALL	2,602	$6.00	$1,613,240
10/26/2017	PG 100 15 JUN 18 92.5 CALL	10,044	$1.57	$1,576,908
12/14/2017	TEVA 100 15 JUN 18 20 CALL	8,768	$1.78	$1,534,400
12/20/2017	LNG 100 15 JUN 18 52.5 CALL	5,000	$2.80	$1,525,000
12/15/2017	BMY 100 15 JUN 18 65 CALL	4,762	$3.05	$1,500,030
12/12/2017	BUD 100 15 JUN 18 115 CALL	2,814	$5.30	$1,491,420

Date	Description	Volume	Price	Premium Paid
11/9/2017	TWX 100 15 JUN 18 90 PUT	40,516	$8.10	$32,817,960
11/20/2017	NVDA 100 15 JUN 18 210 PUT	3,479	$22.50	$7,862,540
9/29/2017	AMZN 100 15 JUN 18 750 PUT	5,000	$15.10	$7,625,000
11/21/2017	LCI 100 15 JUN 18 17.5 PUT	9,550	$2.73	$4,488,500
8/17/2017	DDS 100 15 JUN 18 50 PUT	5,271	$7.35	$3,847,830
7/17/2017	SHLD 100 15 JUN 18 5 PUT	16,623	$2.10	$3,823,290
11/29/2017	QCOM 100 15 JUN 18 65 PUT	6,507	$4.40	$3,253,500
6/6/2017	SHLD 100 15 JUN 18 8 PUT	6,554	$4.72	$3,178,690
3/23/2017	CVX 100 15 JUN 18 100 PUT	4,010	$7.16	$2,871,160
10/5/2017	NFLX 100 15 JUN 18 140 PUT	5,607	$4.75	$2,663,325
12/4/2017	CRR 100 15 JUN 18 13 PUT	6,275	$3.80	$2,572,750
10/31/2017	RCII 100 15 JUN 18 7 PUT	25,183	$0.90	$2,392,385
11/27/2017	QCOM 100 15 JUN 18 65 PUT	5,000	$4.50	$2,250,000
10/24/2017	MPLX 100 15 JUN 18 31 PUT	10,000	$2.23	$2,230,000
10/10/2017	GE 100 15 JUN 18 27 PUT	5,426	$4.05	$2,197,530
10/25/2017	TSLA 100 15 JUN 18 250 PUT	1,895	$11.50	$2,179,250
12/11/2017	KANG 100 15 JUN 18 17.5 PUT	5,242	$3.17	$1,782,280
12/13/2017	HIMX 100 15 JUN 18 10 PUT	10,000	$1.70	$1,750,000
12/19/2017	CME 100 15 JUN 18 140 PUT	3,033	$5.20	$1,698,480
11/30/2017	TWX 100 15 JUN 18 95 PUT	1,750	$9.00	$1,680,000
6/16/2017	COST 100 15 JUN 18 140 PUT	3,512	$4.45	$1,597,960
9/8/2017	MSFT 100 15 JUN 18 82.5 PUT	1,500	$10.65	$1,597,500
12/19/2017	CBOE 100 15 JUN 18 120 PUT	3,000	$5.10	$1,530,000
10/25/2017	LOCO 100 15 JUN 18 15 PUT	3,885	$3.70	$1,437,450
12/19/2017	NDAQ 100 15 JUN 18 72.5 PUT	5,313	$2.55	$1,434,510
11/9/2017	T 100 15 JUN 18 34 PUT	5,956	$2.42	$1,429,440
3/13/2017	NFLX 100 15 JUN 18 125 PUT	1,014	$13.35	$1,379,040
10/25/2017	RCII 100 15 JUN 18 9 PUT	8,391	$1.60	$1,342,560
7/14/2017	NFLX 100 15 JUN 18 160 PUT	717	$18.65	$1,340,790
12/12/2017	CXO 100 15 JUN 18 130 PUT	1,755	$7.50	$1,316,250
8/31/2017	INCY 100 15 JUN 18 120 PUT	1,000	$12.90	$1,310,000
7/19/2017	MS 100 15 JUN 18 50 PUT	2,015	$6.80	$1,309,750
10/9/2017	NFLX 100 15 JUN 18 230 PUT	300	$42.00	$1,257,000
12/13/2017	HIMX 100 15 JUN 18 9 PUT	10,011	$1.14	$1,251,375
12/22/2017	VZ 100 15 JUN 18 52.5 PUT	4,702	$2.64	$1,241,328

5/18/2017	GILD 100 15 JUN 18 60 PUT	2,023	$5.05	$1,021,615
12/5/2017	GOOG 100 15 JUN 18 820 PUT	1,001	$9.40	$970,970
12/20/2017	ICE 100 15 JUN 18 67.5 PUT	3,001	$3.20	$960,320
3/16/2017	C 100 15 JUN 18 60 PUT	1,500	$6.30	$952,500
4/21/2017	MRK 100 15 JUN 18 57.5 PUT	2,000	$3.55	$840,000
10/10/2017	GM 100 15 JUN 18 47 PUT	1,600	$4.95	$792,000
7/18/2017	UNH 100 15 JUN 18 190 PUT	500	$15.35	$770,000
9/20/2017	AGN 100 15 JUN 18 210 PUT	450	$17.05	$769,500
11/14/2017	LOXO 100 15 JUN 18 75 PUT	760	$10.00	$760,000
10/27/2017	CRM 100 15 JUN 18 95 PUT	1,524	$4.80	$746,760
9/11/2017	MDLZ 100 15 JUN 18 45 PUT	1,256	$5.55	$722,200
7/13/2017	PG 100 15 JUN 18 80 PUT	2,400	$2.87	$720,000
3/23/2017	WFC 100 15 JUN 18 50 PUT	2,005	$3.53	$707,765
10/31/2017	WYNN 100 15 JUN 18 135 PUT	797	$8.75	$697,375
8/29/2017	INCY 100 15 JUN 18 115 PUT	500	$12.80	$690,000
10/30/2017	LSI 100 15 JUN 18 80 PUT	1,501	$4.50	$675,450
9/5/2017	UTX 100 15 JUN 18 105 PUT	1,245	$4.95	$659,850
6/5/2017	V 100 15 JUN 18 90 PUT	1,520	$4.10	$646,000
12/4/2017	T 100 15 JUN 18 36 PUT	3,175	$2.04	$638,175
5/10/2017	SLB 100 15 JUN 18 70 PUT	1,050	$5.75	$614,250
8/15/2017	MRK 100 15 JUN 18 65 PUT	1,000	$5.85	$595,000
12/5/2017	GM 100 15 JUN 18 44 PUT	1,410	$4.10	$592,200
11/7/2017	TRIP 100 15 JUN 18 33 PUT	1,038	$4.40	$591,660
8/25/2017	TEVA 100 15 JUN 18 12.5 PUT	5,000	$1.16	$580,000
10/31/2017	CELG 100 15 JUN 18 90 PUT	1,038	$5.51	$571,938
12/15/2017	X 100 15 JUN 18 35 PUT	1,000	$5.65	$565,000
11/29/2017	X 100 15 JUN 18 20 PUT	7,000	$0.74	$546,000
10/25/2017	SCCO 100 15 JUN 18 41 PUT	2,000	$2.65	$530,000
11/7/2017	GNC 100 15 JUN 18 5 PUT	5,113	$0.95	$511,300
10/11/2017	CSCO 100 15 JUN 18 30 PUT	5,212	$0.98	$510,776

July

Date	Description	Volume	Price	Premium Paid
12/22/2017	TWX 100 20 JUL 18 97.5 CALL	42,012	$4.30	$18,065,160
12/21/2017	TWX 100 20 JUL 18 95 CALL	30,026	$5.25	$15,913,780
12/20/2017	LOW 100 20 JUL 18 80 CALL	10,005	$12.20	$12,206,100
12/13/2017	TWX 100 20 JUL 18 95 CALL	22,633	$4.95	$11,316,500
12/18/2017	LOW 100 20 JUL 18 80 CALL	10,149	$10.60	$11,214,645
12/12/2017	TWX 100 20 JUL 18 100 CALL	21,991	$3.10	$7,037,120
12/13/2017	MU 100 20 JUL 18 47 CALL	10,518	$4.19	$4,407,042
12/8/2017	MU 100 20 JUL 18 45 CALL	3,733	$5.71	$2,131,543
11/27/2017	AMD 100 20 JUL 18 15 CALL	26,062	$0.81	$2,111,022
12/5/2017	HAL 100 20 JUL 18 45 CALL	5,782	$3.03	$1,850,240
12/12/2017	MSI 100 20 JUL 18 82.5 CALL	1,400	$12.95	$1,813,000
11/27/2017	NKE 100 20 JUL 18 55 CALL	2,008	$7.05	$1,435,720
11/21/2017	NKE 100 20 JUL 18 55 CALL	2,000	$6.80	$1,380,000
12/11/2017	VRX 100 20 JUL 18 22 CALL	4,048	$2.90	$1,206,304
11/30/2017	MU 100 20 JUL 18 48 CALL	2,290	$5.30	$1,202,250
12/1/2017	WBA 100 20 JUL 18 90 CALL	10,709	$1.02	$1,092,318
11/20/2017	NKE 100 20 JUL 18 55 CALL	1,500	$6.95	$1,042,500
12/7/2017	T 100 20 JUL 18 36 CALL	5,016	$2.04	$1,023,264
12/20/2017	BABA 100 20 JUL 18 190 CALL	1,020	$9.65	$1,014,900
12/12/2017	CSGP 100 20 JUL 18 300 CALL	509	$18.50	$941,650
11/21/2017	QURE 100 20 JUL 18 20 CALL	3,000	$2.75	$825,000
12/11/2017	T 100 20 JUL 18 36 CALL	3,000	$2.32	$702,000
12/14/2017	VRX 100 20 JUL 18 19 CALL	1,778	$3.89	$691,642
11/30/2017	CIEN 100 20 JUL 18 19 CALL	1,511	$4.35	$664,840
12/1/2017	AZN 100 20 JUL 18 35 CALL	4,509	$1.30	$631,260
12/4/2017	BLK 100 20 JUL 18 540 CALL	321	$17.60	$606,690
11/27/2017	IAC 100 20 JUL 18 145 CALL	789	$7.39	$583,071
12/20/2017	MPC 100 20 JUL 18 67.5 CALL	1,458	$3.45	$539,460
12/6/2017	HAL 100 20 JUL 18 45 CALL	1,764	$2.90	$529,200
12/13/2017	FDX 100 20 JUL 18 250 CALL	410	$12.74	$522,340
12/6/2017	BPOP 100 20 JUL 18 38 CALL	2,000	$2.55	$510,000

Date	Description	Volume	Price	Premium Paid
12/18/2017	T 100 20 JUL 18 38 PUT	10,015	$2.60	$2,613,915
12/5/2017	VRX 100 20 JUL 18 14 PUT	8,788	$1.15	$1,001,832
11/29/2017	MON 100 20 JUL 18 110 PUT	2,001	$3.70	$860,430
11/27/2017	VMW 100 20 JUL 18 130 PUT	600	$12.90	$822,000
11/29/2017	AAPL 100 20 JUL 18 135 PUT	3,003	$2.55	$795,795
12/20/2017	BG 100 20 JUL 18 67.5 PUT	1,250	$6.10	$787,500
12/5/2017	AMD 100 20 JUL 18 9 PUT	6,505	$0.97	$643,995
12/12/2017	T 100 20 JUL 18 36 PUT	2,820	$2.15	$609,120

August

Date	Description	Volume	Price	Premium Paid
12/15/2017	TWX 100 17 AUG 18 95 CALL	3,436	$4.75	$1,632,100
12/15/2017	TWX 100 17 AUG 18 82.5 PUT	3,387	$3.30	$1,117,710
12/20/2017	CL 100 17 AUG 18 80 CALL	1,970	$1.90	$374,300
12/20/2017	NBIX 100 17 AUG 18 70 PUT	300	$8.20	$246,000
12/21/2017	VTR 100 17 AUG 18 55 PUT	1,009	$2.00	$216,935
12/21/2017	MDR 100 17 AUG 18 6 CALL	1,000	$1.45	$150,000
12/21/2017	NYLD 100 17 AUG 18 17.5 PUT	1,000	$1.10	$110,000
12/21/2017	MD 100 17 AUG 18 60 PUT	1,000	$9.80	$980,000
12/19/2017	WRD 100 17 AUG 18 17.5 PUT	1,200	$2.35	$282,000

September

Date	Description	Volume	Price	Premium Paid
12/14/2017	GOOG 100 21 SEP 18 1050 CALL	2,508	$87.07	$22,045,320
10/23/2017	GOOGL 100 21 SEP 18 1000 CALL	900	$89.00	$7,974,000
7/20/2017	AMZN 100 21 SEP 18 1040 CALL	448	$126.50	$5,505,920
7/20/2017	GOOGL 100 21 SEP 18 1000 CALL	534	$99.00	$5,340,000
7/20/2017	FB 100 21 SEP 18 165 CALL	2,510	$19.20	$4,919,600
8/8/2017	FB 100 21 SEP 18 175 CALL	1,906	$18.49	$3,621,400
11/29/2017	UNP 100 21 SEP 18 100 CALL	1,415	$23.60	$3,367,700
8/10/2017	AAPL 100 21 SEP 18 175 CALL	3,560	$9.50	$3,364,200
10/26/2017	CELG 100 21 SEP 18 100 CALL	2,638	$12.40	$3,271,120
11/17/2017	GOOGL 100 21 SEP 18 1200 CALL	527	$35.80	$1,976,250
7/20/2017	MSFT 100 21 SEP 18 75 CALL	3,301	$6.00	$1,964,095
6/9/2017	MSFT 100 21 SEP 18 70 CALL	2,015	$5.87	$1,501,175
9/27/2017	GILD 100 21 SEP 18 90 CALL	1,989	$6.05	$1,243,125
6/6/2017	AAPL 100 21 SEP 18 170 CALL	1,139	$10.15	$1,213,035
10/18/2017	BMY 100 21 SEP 18 55 CALL	1,000	$10.86	$1,120,000
11/9/2017	WFC 100 21 SEP 18 52.5 CALL	2,213	$4.80	$1,062,240
6/6/2017	UNP 100 21 SEP 18 105 CALL	700	$14.50	$1,018,500
10/11/2017	INTC 100 21 SEP 18 42 CALL	5,000	$2.00	$995,000
12/4/2017	INTC 100 21 SEP 18 47 CALL	3,750	$2.55	$993,750
6/26/2017	XOM 100 21 SEP 18 82.5 CALL	2,000	$4.70	$940,000
12/8/2017	CMCSA 100 21 SEP 18 42.5 CALL	5,016	$1.82	$912,912
12/11/2017	JNJ 100 21 SEP 18 150 CALL	2,717	$3.01	$869,440
8/8/2017	UNP 100 21 SEP 18 105 CALL	1,100	$7.90	$869,000
6/8/2017	KO 100 21 SEP 18 40 CALL	1,395	$5.84	$830,025
12/13/2017	BA 100 21 SEP 18 300 CALL	422	$19.11	$801,800
11/29/2017	UNP 100 21 SEP 18 130 CALL	1,066	$6.20	$676,910
10/12/2017	JPM 100 21 SEP 18 97.5 CALL	1,027	$6.85	$672,685
12/20/2017	C 100 21 SEP 18 75 CALL	1,127	$5.70	$670,565
7/26/2017	C 100 21 SEP 18 67.5 CALL	1,011	$6.45	$667,260
11/13/2017	KO 100 21 SEP 18 45 CALL	2,065	$3.16	$660,800
7/14/2017	ORCL 100 21 SEP 18 50 CALL	1,250	$4.80	$600,000

Date	Description	Volume	Price	Premium Paid
7/28/2017	AMZN 100 21 SEP 18 980 PUT	1,000	$87.45	$8,905,000
6/26/2017	GE 100 21 SEP 18 30 PUT	6,638	$3.95	$2,622,010
8/8/2017	AAPL 100 21 SEP 18 135 PUT	3,819	$6.45	$2,520,540
9/5/2017	WFC 100 21 SEP 18 57.5 PUT	1,000	$9.20	$935,000
10/30/2017	MRK 100 21 SEP 18 50 PUT	3,999	$2.22	$915,771
10/12/2017	AMGN 100 21 SEP 18 210 PUT	258	$34.20	$890,100
7/28/2017	AMZN 100 21 SEP 18 620 PUT	1,000	$7.00	$785,000
12/7/2017	UTX 100 21 SEP 18 110 PUT	2,185	$3.30	$721,050
9/11/2017	GILD 100 21 SEP 18 80 PUT	900	$7.25	$661,500
9/7/2017	QCOM 100 21 SEP 18 45 PUT	2,000	$3.25	$660,000
9/14/2017	UNP 100 21 SEP 18 115 PUT	501	$12.40	$623,745

December

Date	Description	Volume	Price	Premium Paid
10/26/2017	EDU 100 21 DEC 18 89.57 CALL	2,068	$14.20	$2,936,560
12/8/2017	EDU 100 21 DEC 18 74.57 PUT	800	$8.50	$680,000
12/19/2017	PZZA 100 21 DEC 18 65 PUT	400	$11.30	$452,000
12/15/2017	PZZA 100 21 DEC 18 65 CALL	750	$4.80	$360,000
9/5/2017	FIZZ 100 21 DEC 18 120 CALL	121	$21.20	$266,200
12/20/2017	LOGM 100 21 DEC 18 100 CALL	100	$24.40	$244,000
11/14/2017	ASML 100 21 DEC 18 180 CALL	106	$20.30	$215,180
6/29/2017	ELLI 100 21 DEC 18 100 PUT	1,002	$12.93	$1,295,586
11/15/2017	ABMD 100 21 DEC 18 185 PUT	148	$22.70	$335,960
8/31/2017	MSI 100 21 DEC 18 65 PUT	1,245	$2.38	$317,475
12/20/2017	MIC 100 21 DEC 18 50 PUT	1,072	$1.85	$198,320
8/31/2017	MSI 100 21 DEC 18 70 PUT	509	$3.05	$157,790

Notable Short Puts in Open Interest

The following tables look at notable short puts in open interest including the size of the position, the information such as strike and expiration, the dollar value of a potential stock position if they are put shares, and the distance the current stock price is from the short strike. A larger negative number implies that the position is underwater and set to be put shares while a higher number implies that shares are slightly above the short strike. I've included 50 of the current names in our database below and only the names which are between 5-6% of their short strike. I've included short write-ups on three interesting names with short-put open interest.

50 Short Put Positions Within 10% of their Short Strike

Date	Ticker & Strike	Volume	Price	Credit	Distance from Break-Even
4/12/2017	SNAP 100 18 JAN 19 18 PUT	1,519	$3.90	$622,790	7.45%
4/20/2017	DISH 100 19 JAN 18 47.5 PUT	1,000	$2.13	$230,000	6.96%
12/21/2016	WFT 100 19 JAN 18 5 PUT	8,500	$1.31	$1,113,500	5.96%
3/16/2017	SLB 100 18 JAN 19 70 PUT	1,750	$6.15	$1,093,750	5.62%
6/16/2017	UAL 100 19 JAN 18 67.5 PUT	1,000	$3.52	$365,000	5.11%
3/15/2017	HOLX 100 19 JAN 18 47 PUT	500	$5.70	$320,000	5.01%
4/18/2017	MRK 100 15 JUN 18 57.5 PUT	872	$3.80	$370,600	4.95%
5/11/2017	CBS 100 19 JAN 18 62.5 PUT	1,286	$5.10	$668,720	4.83%
4/4/2017	CBS 100 19 JAN 18 60 PUT	5,255	$2.52	$1,382,065	4.68%
10/31/2016	GME 100 19 JAN 18 20 PUT	1,000	$2.50	$250,000	4.51%
3/31/2017	CBS 100 19 JAN 18 60 PUT	2,251	$2.40	$601,017	4.46%
6/2/2017	BX 100 19 JAN 18 34 PUT	2,006	$2.60	$537,608	4.33%
6/8/2017	VER 100 19 JAN 18 8 PUT	21,004	$0.50	$1,050,200	4.27%
3/30/2017	CBS 100 19 JAN 18 60 PUT	3,000	$2.25	$765,000	4.19%
3/13/2017	SLB 100 19 JAN 18 67.5 PUT	2,500	$2.76	$717,500	4.17%
1/18/2017	DVN 100 19 JAN 18 47.5 PUT	1,114	$7.50	$835,500	3.93%
12/21/2016	APC 100 19 JAN 18 55 PUT	2,500	$3.75	$937,500	3.28%
3/31/2017	ALK 100 19 JAN 18 75 PUT	1,058	$2.98	$315,284	3.14%
19-Jun	WHR 100 18 JAN 19 190 PUT	200	23.4	$475,000	3.05%
4/25/2017	AMD 100 19 JAN 18 12 PUT	5,241	$1.77	$922,416	3.03%
6/2/2017	CMCSA 100 19 JAN 18 42.5 PUT	4,000	$2.91	$1,180,000	3.01%
3/27/2017	KHC 100 18 JAN 19 82.5 PUT	1,000	$6.33	$730,000	2.72%
9/23/2016	CHK 100 19 JAN 18 5 PUT	15,750	$1.25	$1,968,750	2.67%
3/3/2017	ULTA 100 19 JAN 18 230 PUT	411	$9.60	$411,000	2.66%
3/27/2017	MOS 100 18 JAN 19 32 PUT	504	$7.10	$357,840	2.49%
5/9/2017	CELG 100 15 JUN 18 115 PUT	400	$10.55	$428,000	1.80%
5/15/2017	CYBR 100 19 JAN 18 45 PUT	481	$3.70	$192,400	1.55%

Date	Ticker & Strike	Volume	Price	Credit	Distance from Break-Even
6/13/2017	WIX 100 19 JAN 18 70 PUT	294	$11.14	$335,160	1.17%
1/13/2017	SLB 100 18 JAN 19 75 PUT	1,100	$8.25	$946,000	1.03%
4/11/2017	SNAP 100 18 JAN 19 20 PUT	3,479	$5.00	$1,843,870	1.00%
2/10/2017	LVLT 100 19 JAN 18 57.5 PUT	1,000	$4.40	$440,000	1.00%
4/19/2017	WBA 100 19 JAN 18 75 PUT	1,031	$3.00	$319,610	0.99%
1/19/2017	ALXN 100 19 JAN 18 140 PUT	400	$22.10	$884,000	0.75%
5/17/2017	KHC 100 18 JAN 19 85 PUT	500	$7.15	$415,000	0.50%
3/1/2017	MUX 100 18 JAN 19 3 PUT	11,142	$0.76	$835,650	0.45%
5/2/2017	CX 100 19 JAN 18 8 PUT	3,000	$0.57	$183,000	0.27%
3/24/2017	ACAD 100 19 JAN 18 37 PUT	1,002	$7.80	$781,560	0.21%
4/25/2017	ACAD 100 19 JAN 18 35 PUT	1,000	$5.70	$600,000	-0.14%
4/26/2017	ABX 100 19 JAN 18 16 PUT	6,527	$1.50	$992,104	-0.21%
4/18/2017	DISH 100 19 JAN 18 52.5 PUT	798	$3.80	$351,120	-0.35%
3/14/2017	SLCA 100 19 JAN 18 38 PUT	751	$5.10	$398,030	-0.43%
4/21/2017	SNAP 100 18 JAN 19 20 PUT	2,000	$4.70	$1,000,000	-0.98%
1/9/2017	HES 100 19 JAN 18 52.5 PUT	3,000	$4.85	$1,545,000	-1.34%
19-Jun	SGEN 100 19 JAN 18 65 PUT	504	10.8	$579,600	-1.42%
6/2/2017	INCY 100 18 JAN 19 110 PUT	473	$12.49	$629,090	-1.74%
4/21/2017	GSK 100 18 JAN 19 40 PUT	800	$4.07	$392,000	-2.23%
12/6/2016	SEAS 100 19 JAN 18 15 PUT	12,500	$0.95	$1,187,500	-2.99%
4/18/2017	CAH 100 18 JAN 19 75 PUT	1,007	$10.50	$1,258,750	-3.12%

DISCLAIMER:

Content: This report was prepared and written by Joseph Kunkle and Alexander Wolsky of OptionsHawk.com

Data Accuracy: This report was prepared from 12-01-17 to 12-27-17 so some of the figures may not be exact as of the end of 2017, but due to the time-intensive nature of the project it was required. The data provided is deemed to be reliable and was collected from multiple sources. Charts are provided courtesy of Finviz.com, Sentieo, Tradingview.com and various publically available corporate presentations and filings.

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Relativity Capital Hawk Alpha Discovery Fund Tear Sheet

Relativity
Capital Advisors

Hawk Alpha Discovery

September 2016

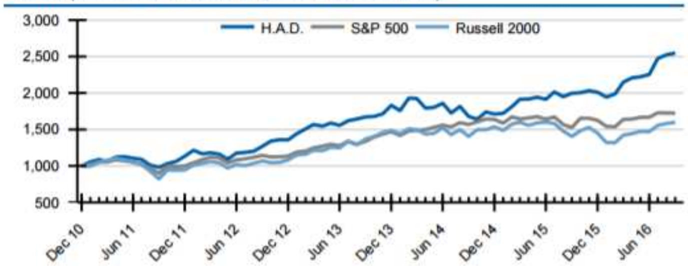
Program Description

The Hawk Alpha Discovery strategy is an all capitalization long short equity portfolio utilizing value added options strategies where appropriate. The portfolio is managed by Joseph S Kunkle, Masters from Boston University in Investment Management and G. Thomas Lackey Jr., CMT CFP® CFS to utilize the investing strategy Joe has been following since shortly after beginning OptionsHawk.com and used to generate the audited returns you see here. These returns are presented in a proforma fashion as if management and incentive fees were deducted.

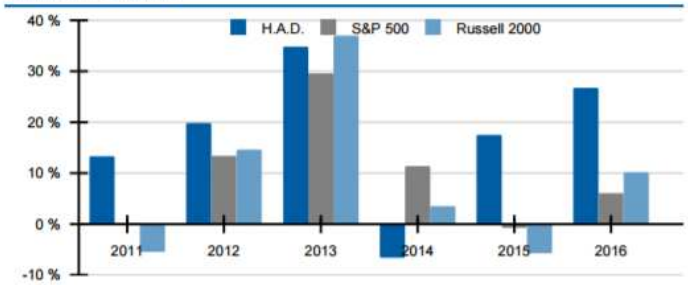
Monthly Performance

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2016	-3.32	2.28	8.08	2.80	0.62	1.45	9.72	2.05	0.93				26.74
2015	0.67	5.31	5.55	0.16	1.28	-1.47	5.28	-3.21	2.40	0.40	1.37	-1.06	17.52
2014	-4.00	9.77	-0.26	-6.87	0.55	3.16	-7.18	5.22	-7.59	-2.20	6.06	-1.73	-6.59
2013	6.26	4.55	3.95	-1.52	2.85	-2.08	4.12	1.49	1.73	0.37	2.17	6.79	34.84
2012	7.17	-4.02	1.28	-1.57	-6.07	7.75	0.75	1.41	5.72	5.49	1.48	-0.13	19.85
2011	5.58	2.97	-2.26	5.47	0.63	-1.89	-1.50	-7.26	-2.93	5.18	3.01	6.61	13.33

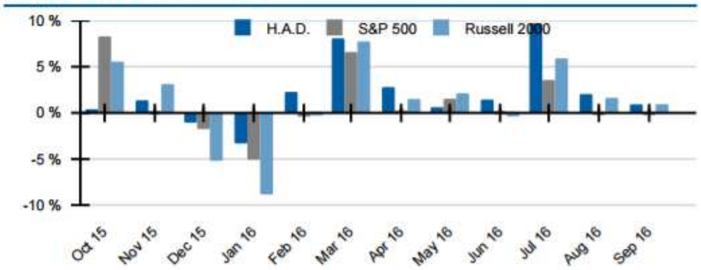
VAMI (Value of Initial $1,000 Investment)



Annual Returns



Last 12-Months Returns



Volatility (12 Months Rolling)

Return Summary	H.A.D.	S&P 500	Russell 2000
Total Return	154.79%	72.41%	59.72%
Average Annual ROR	17.61%	9.96%	9.03%
Gain Frequency Monthly	68.12%	62.32%	57.97%
Loss Frequency Monthly	31.88%	37.68%	42.03%
Max Monthly Gain	9.77%	10.77%	15.04%
Worst Monthly Loss	-7.59%	-7.18%	-11.37%
Max Drawdown	14.95%	17.03%	25.56%

Risk Summary	H.A.D.	S&P 500	Russell 2000
Annualized Standard Deviation	14.12%	11.53%	15.84%
Sortino Ratio (0%) Annualized	2.13	1.42	0.81
Sharpe Ratio (0%) Annualized	1.23	0.88	0.59
CALMAR Ratio	1.01	0.99	0.30
Annualized Alpha		10.43%	12.73%
Beta		0.73	0.56
Correlation		0.59	0.63

Manager Bio

Joseph S. Kunkle received his Masters of Science in Investment Management from Boston University. Joe utilizes his three prong investment process to identify the top fundamental themes in order to weed out the best investment opportunities in the market, where institutional money is committing with notable options positioning and then using technical positioning to design the trade plan including risk management.

G. Thomas Lackey Jr. CMT CFP® CFS brings over 20 years of industry experience and is the managing partner handling the portfolio details to put these ideas to work. He is responsible for all of the position execution and allocations keeping the portfolio in proper construction and moving fluidly with the research and ideas Joe is identifying.

More information can be found on our website, **relativitycap.com**

Investment Terms

Minimum Investment	$250,000
Management Fee	1.5%
Incentive Fee	15%
Lock Up Period	None

Contact Information

Relativity Capital Advisors, LLC

info@relativitycap.com
706-352-4112
1240 Sunset Bluff
Greensboro, GA 30642