Volume #31 Issue #10 17 March 2018

THE BOLLINGER BANDS LETTER

"Analysts at US investment bank JPMorgan have accused 12 artificial intelligence hedge funds of a major part in the equities sell-off that hit global markets in early February.

The bank's analysts told clients on Friday they believe AI funds, which use machine learning in their trading processes to predict market trends, played a "big role in February's de-risking" as their models rushed to unwind positions as volatility rose.

The team, led by London-based analyst Nikolaos Panigirtzoglou, wrote: "While we cannot prove this, we think the significant underperformance of AI funds during February, surpassing even that of CTAs, suggests the answer to the question [of whether AI funds played a role in the sell-off] is likely yes."

"It is likely that AI funds, similar to CTAs, played a big role in February's correction," the note added.", https://www.fnlondon.com/, 12 March 2018

Bollinger Bands

This month I combine current stock-market analysis with some Bollinger Band tutorial material. The focus will be on "W" bottoms, which are bottoming formations loosely patterned after the capital letter W. I cover this topic now because the market just delivered an object lesson in the importance of getting Ws right, complete with a fractal example, so we strike while the iron is hot.

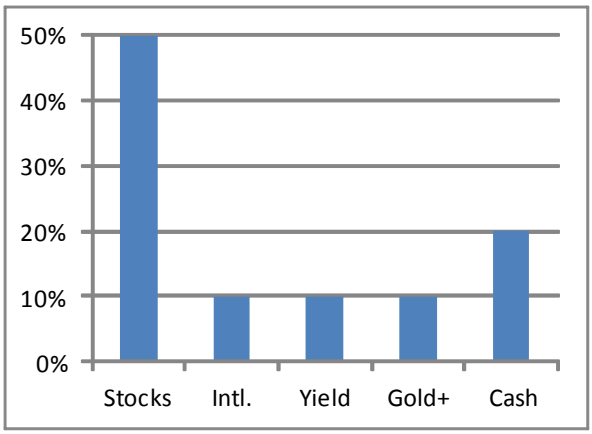
When I first started studying technical analysis, patterns were the most important component: Head and shoulders, wedges, triangles, spike bottoms and double tops, springs, pennants, flags, upthrusts, and so on. Often these patterns came with volume qualifiers like highest volume of left shoulder. Occasionally they came with locations, like near the 50-day average. Often they came with preconditions like after a rally or a decline. Sometimes the conditions could be quite specific, like a 52-week new high or low. Usually they came with a description of the underlying psychology. That was the forge in which a lot of my technical analysis knowledge was formed; patterns and qualifiers. Over the years as I developed my own approaches, head and shoulders became Three Pushes to a High, double bottoms became W Bottoms, and in a similar fashion oversold became Ice Breaker.

A W bottom is actually a subset of a larger area of study, M&W patterns, but today we'll focus on just two variations from the sixteen five-point W patterns originally posited by Dernell Every. Today very little is known about Mr. Every other than he was a champion fencer, worked at Standard Statistical in the Col. Ayers era, became an industrial statistician, and tried to patent a technical analysis technique--"Highest valued stocks; a new technical indicator". Arthur Merrill, the analyst I learned M&W patterns from, learned the classification that he used from Mr. Every. Robert Levy, of relative strength fame, was another early proponent of M&W patterns.

There are 32 five point M&W patterns possible. This month we are going to look at W1s, which morph into W2s and then W3s as they complete, and W4s which morph into W5s as they complete. Confusing? There is a handy-dandy pullout in the back of *Bollinger on Bollinger Bands* with the complete M&W taxonomy, which I have reproduced for you on page 14 of this letter.

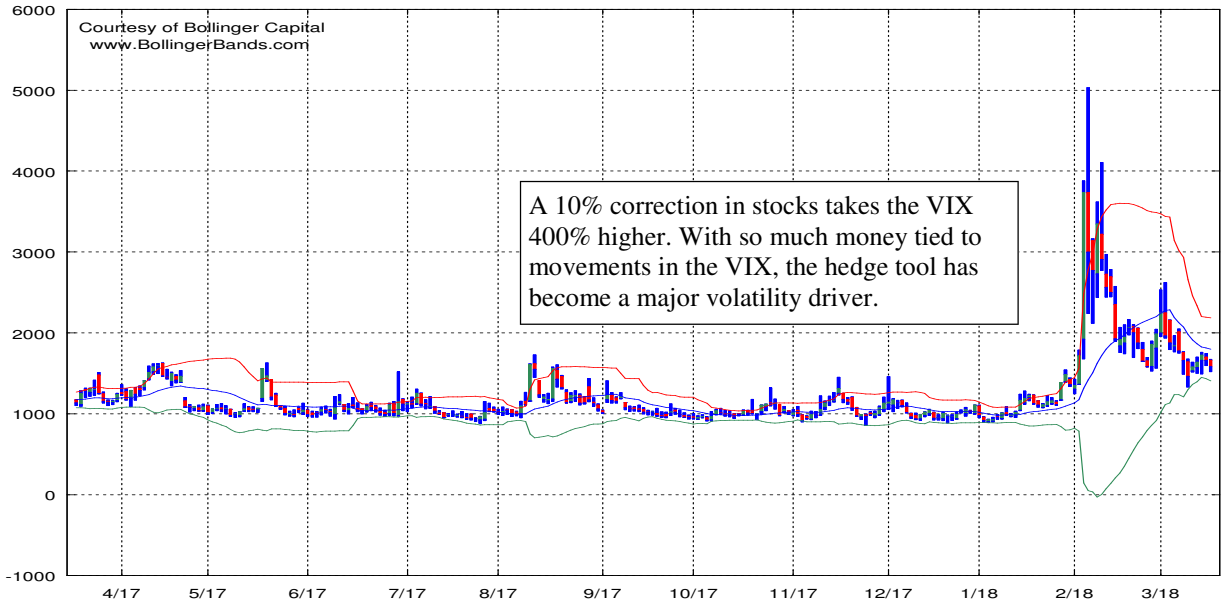
(A fascinating topic hinted at above is pattern evolution, but that is beyond the scope of this exposition. M&W patterns have forecasting power on their own, which was the basis of our PatternPower website, but that, too, is beyond the scope of our current discussion.)

Asset Allocations

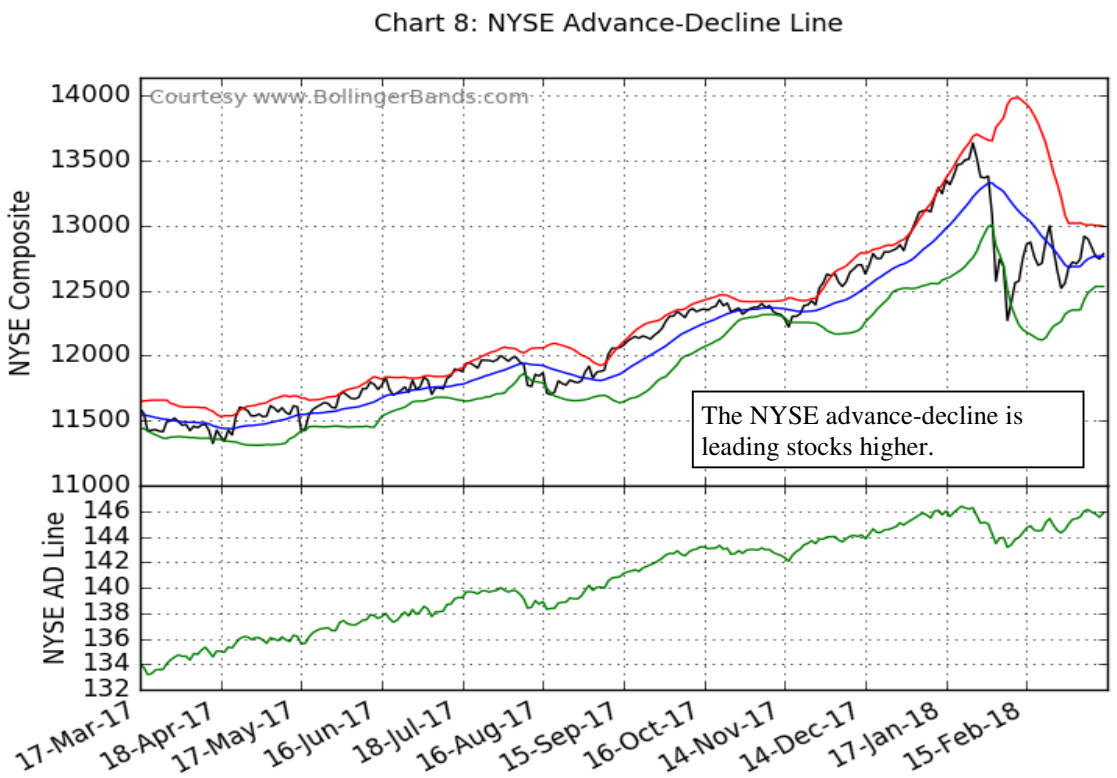


Value Line Arithmetic — One Year

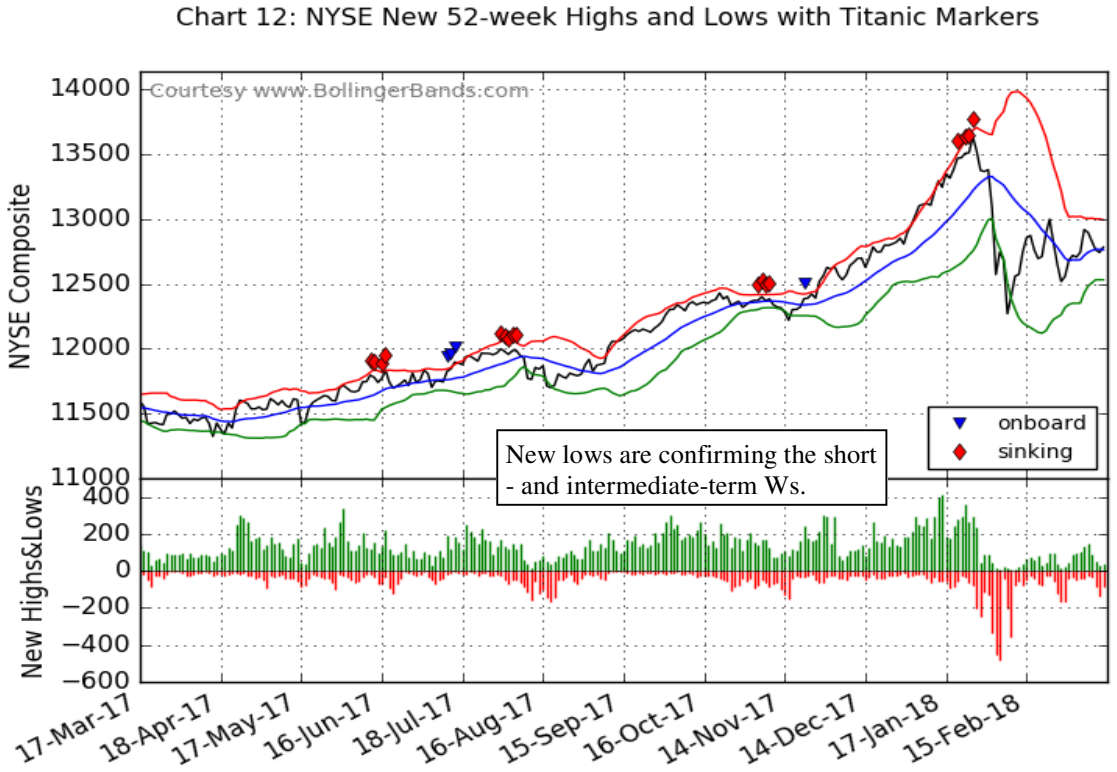
A W pattern is a bottom formation consisting of two lows separated by an intervening rally. I call the first low, the left trough of the W, the "momentum low" as this is usually where the highest downside momentum occurs. I call the second low, the right trough of the W, the "final low" or the "price low" as it often occurs at a lower price than that recorded at the momentum low. This is the typical W sequence: Bad news drives price down hard for a prolonged period, then we get a relief rally that takes us to the apex of the W. Next we get a secondary sell off, again usually associated with bad news, often worse news, which leads to the final or price low. The ensuing rally completes the W and ushers in a nascent uptrend. The final low can be recorded at, above, or below the level of the momentum low. My personal preference is for patterns that complete at a new low as they have the highest success rate. This is due to an excess negative psychology that is firmly set when the new swing low is made. From a psychological perspective Ws go from "Oh my god, it's never going to stop going down!" to "Maybe it's not so bad." to "Oh no, it's worse than we thought!" to "The worst is behind us." to "It's a new day!".



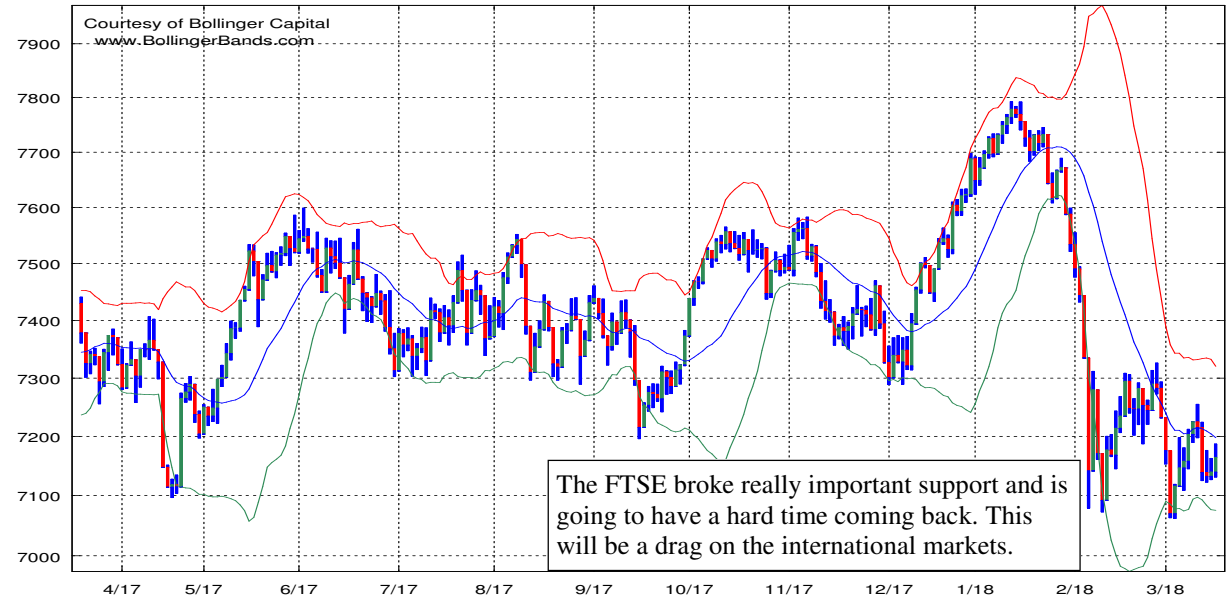
The Volatility Index — VIX — One Year



NYSE Composite and Advance - Decline Line — Daily — One Year



NYSE Composite and New Highs / New Lows Histogram — Daily — One Year



FTSE — Daily—One Year

(I am often asked whether in analyzing Ms and Ws one should use the entire bar or just the closes. The answer is emphatically the entire bar; using just the closes can easily cause you to miss some important patterns.)

M&Ws are often fractal, that is at the apex of an M or a W there will often be a small M and at the nadirs of these patterns we often find small Ws. These may be disguised by the default bar length being used, for example, daily bars. In that case checking the hourlies can help delineate the fractal patterns. I am more confident of M&W patterns when their fractal properties are evident. The idea is that technical patterns exhibit fractal qualities, which is to say that they are self-similar at changing levels of magnification. How can that be? I like to think of it as the psychology of the larger pattern being played out in miniature by shorter-term traders. Whatever the case, when analyzing patterns checking for fractals can add confidence.

That's enough background, let's turn to today. The correction started on the 29th of January and a momentum low was made on February 6th, followed by a price low on the 9th. This was a very fast sequence and not many

Nikkei 225 — Daily — One Year

paid attention, but if you were on the lookout you saw all the pieces line up perfectly. That formed the left hand side of a larger W. The apex of a larger W was put in on the 16th and the 27th and the price low was put in on March 6th. This pattern varies in magnitude, and somewhat in form from index to index, but there is a clear coherence across the formation. Bill Ohama, of Titanic Syndrome fame, called that his 3D approach—the same pattern appearing in more than one series. All these patterns may not be picture-book perfect, but the broad, informational strokes are quite clear.

In Bollinger Band terms we would like to see a new low in price that is not a new low in relation to the Bollinger Bands. %b is the perfect tool for this and we see a lower low in price from the 6th to the 9th, matched by a higher low in %b. Finally we would like to see BandWidth turn down either at the momentum low or shortly thereafter, which it did for the large pattern. Please see annotated charts on pages 11 and 12.

It took quite a bit of work, but some years ago I was able to write an algorithm to pick out Bollinger Band W bottoms that has continued to work. It doesn't nail every pattern that occurs, but it does a good job of identifying tradable W bottoms with good risk-reward characteristics. This screening capability was available and very popular on our web sites and we are now working with TradeStation to implement it on their platform.

Interest Rates

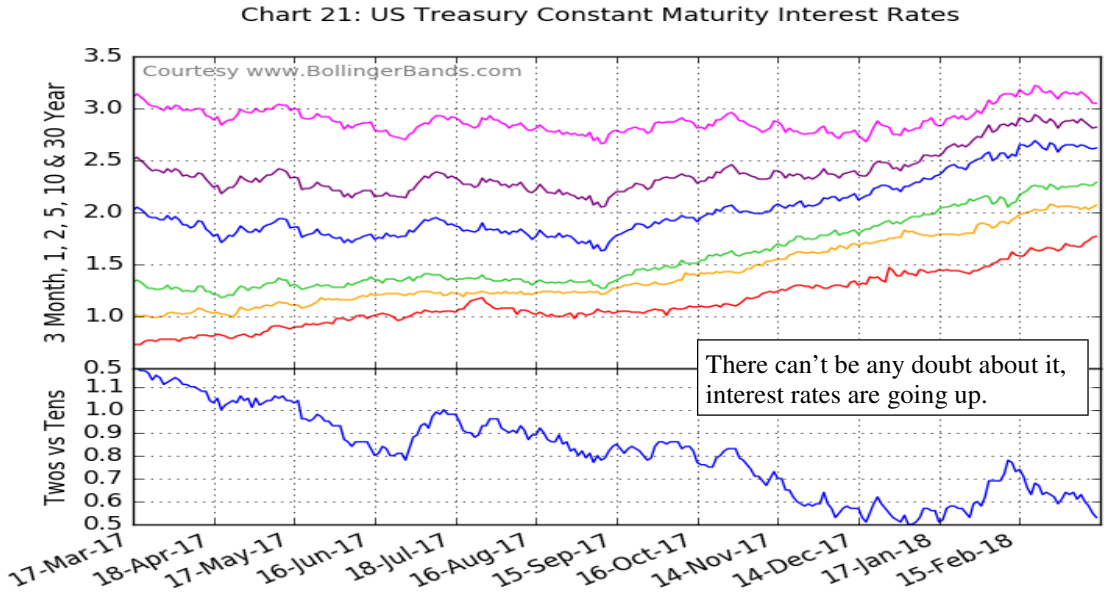
Interest rates continue their march higher. There may be some respite from time to time, but we are clearly in a bear market for bonds. Several bond brokers call me regularly and I tell them all the same thing; I am not buying bonds. They all have pretty much the same answer, buy this structure or that structure that should do well in a bear market. Perhaps they will, but maybe they won't. In any case, bond buyers are not being paid enough for the risks they are taking.

This is a bear market and preservation of capital is paramount, so I am not buying bonds. To wit: I made a mistake along the way. Not too long ago I bought a very well managed short-term bond fund thinking that those guys knew their business and could do a good job in the environment that we faced. The bottom line was that they couldn't, the market was just too tough. It was a bear market and in a bear market the prices of bonds go down no matter how clever you are.

For some it may be possible to eke out a decent return in bonds in the coming years, but the odds are hard against it. Better to just stay away and let others do the suffering!

Gold++

Having been through a deflationary cycle, one ponders the road ahead and, knowing how markets alternate, thinks inflation. Frankly, if you had told me twelve years ago that we were about to enter a severe deflation I would have thought that you were out of your mind. Yet, that is the way it turned out. Over the span of my career we went all the way from severe inflation to de-



Treasury Rates — One Year.

Gold Bullion ETF — GLD — One Year

flation. The trip from pinnacle to trough took 29 years and three months as we went from inflation in the high teens to deflation approaching minus two percent. We are using the seasonally adjusted Consumer Price Index for these comparisons and we used fuzzy terms purposefully. I simply do not believe that we measure price levels at all well, and imply false precision when changes in those levels are quoted to tenths of a percent. Those charts ought to be drawn with some humility and a big, fat marking pen, and the changes quotes with large +/- margins.

It seems clear to me that we are in an inflation and I suspect that it'll have some staying power. Another 30 year cycle? Maybe not, but this inflation will almost certainly carry well into the next decade. Real assets ought to do well, though real estate may already be far ahead of itself, as should commodities, precious metals and basic materials. My approach here would be to acquire these assets on pullbacks. Tags of the lower Bollinger Bands on weekly charts come to mind, but that may require too much patience for many. We've stuck our toes in the water and are looking for opportunities across the spectrum. We are looking for patterns

Gold Miners ETF — GDX — One Year

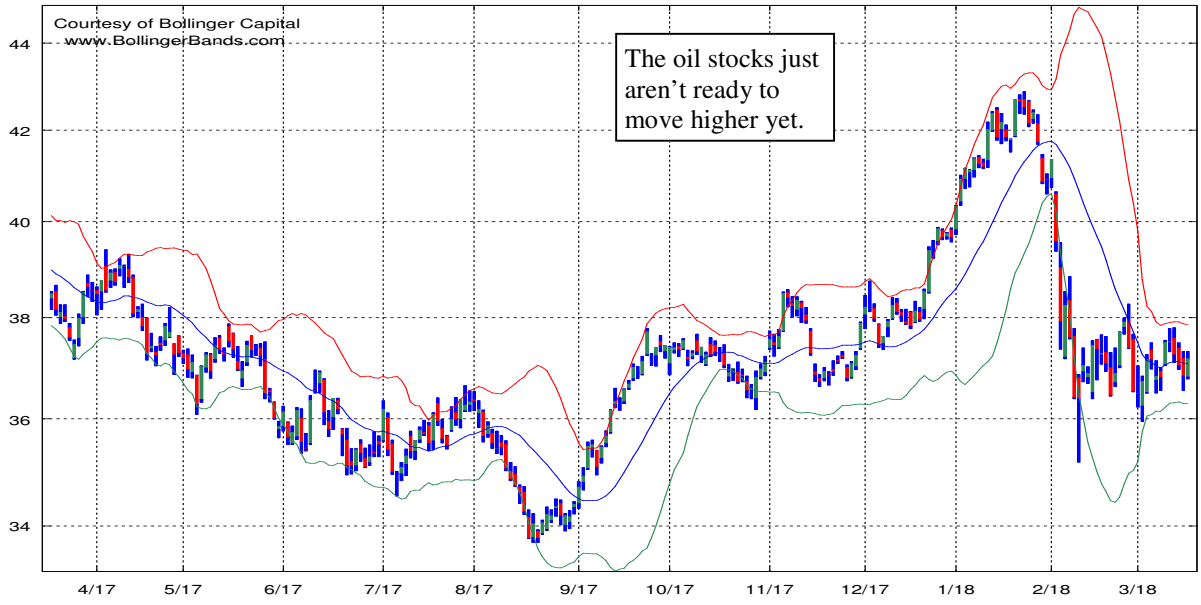
Crude Oil ETF — USO — One Year

of relative strength punctuated by pullbacks. One favored sector would be Basic Materials on pullbacks.

View from the Beach

The quote at the head of this letter should not come as a surprise to readers. I have warned time and again that these sorts of things, which I call volatility events, would happen. We have now seen several major occurrences and a raft of smaller events, and I fully expect to see more.

This isn't anything new; the problem has been around for nearly as long as I have been involved in the markets. It started with the birth of stock index futures in 1982. The Kansas City Board of Trade's Value Line futures were first, but the troubles didn't start until after the Chicago Mercantile Exchange listed their S&P 500 contract later that year. The problems arose because the futures didn't track the index perfectly; sometimes they traded at a premium, sometimes at a discount. It didn't take long for traders to figure out that they could sell the 'rich' futures and buy a basket of 'cheap' stocks earning a low-risk profit when the futures traded at a premium



Oil Stocks — IYE — One Year

large enough to exceed the cost of doing the trade. Of course when the futures traded at a discount traders could buy the 'cheap' futures and sell a baskets of 'rich' stocks, again earning a low-risk profit. Soon they figured out that you didn't have to buy or sell all 500 stocks in the S&P, a sample of as few as 30 would do and stock -index arbitrage, as it became known, got going big time. In theory this arbitrage was supposed to reduce volatility, but in practice it proved to be an accelerant. Program trading became such a market moving factor that I invented an indicator to track it, the Premium, PREM, which appears on CNBC to this day. In fact when CNBC bought FNN, it was one of the first things they asked us to transfer to them.

Into this environment came some wags selling the concept of portfolio insurance. The idea was simple, as a stock-market decline got going portfolio managers should sell index futures to hedge themselves. The bigger the decline, the more they should sell. So they set the stage for the Crash of 1987. The decline got going late in the week before the crash, so by Monday the insurers were selling index futures in size. The problem was neatly encapsulated by the old quip, "Sell? To whom?" Floor traders and other pros saw prices turn down and momentum build and instead of buying as they were "supposed" to do, they stepped aside or worse, piled on selling whatever they could. A perfect storm; all sellers, no buyers. And so Tuesday became the worst day in stock market history. Eventually the CME saw the light and changed the settlement rules, putting more risk into the trade and things quieted down a bit, but the cat was out of the bag and couldn't be put back. Program trading, as it was known then, was here to stay.

As technology caught up to the reality, the developments came fast and furious. Automated trading to take advantage of differing prices on different exchanges. Then electronic market making, the machines relentlessly tightening the bid and ask spreads of stocks. Pairs trading, then arbitrage based on historical relationships. And so on, the flavors quickly exceeded Baskin Robbins. Firms like Renaissance brought in mathematicians and scientists to up their game. Algorithm writers sucked up technical and fundamental techniques looking for an edge. Along the way institutional traders got in the game with advanced trading methods such as dark pools. Machine learning became popular and finally artificial intelligence joined the game. Today it is thought that more than 70% of all stock trading is this sort of thing. Another way to look at that is that less than 30% of stock trading involves an investor.

The power of these new mechanisms is awesome; they can move markets effortlessly and destroy completely. Witness the annihilation of two popular volatility ETFs, XIV and SVXY, in just a couple of hours of after hours trading primarily in dark pools. Or witness the recent 'correction' where the stock market was pushed into free fall by AI programs pursuing strategies nearly identical to the portfolio insurance madness of 1987--and we thought that lesson had been learned and we were done with that.

My question is, what are there markets for? Are they

Commodity Prices — DBC — One Year

mechanisms to enrich a few hedge funds, Wall Street banks and trading firms, or are they for investors? The CBOE chair was out the other day disingenuously asserting that VIX futures don't add volatility to the markets. That's just absurd, they are the greatest volatility accelerants we have ever seen. Of course he has to talk his line, there are huge profits tied to volatility trading, but investors need to talk their line too. They are being mercilessly abused and it is high time that stop.

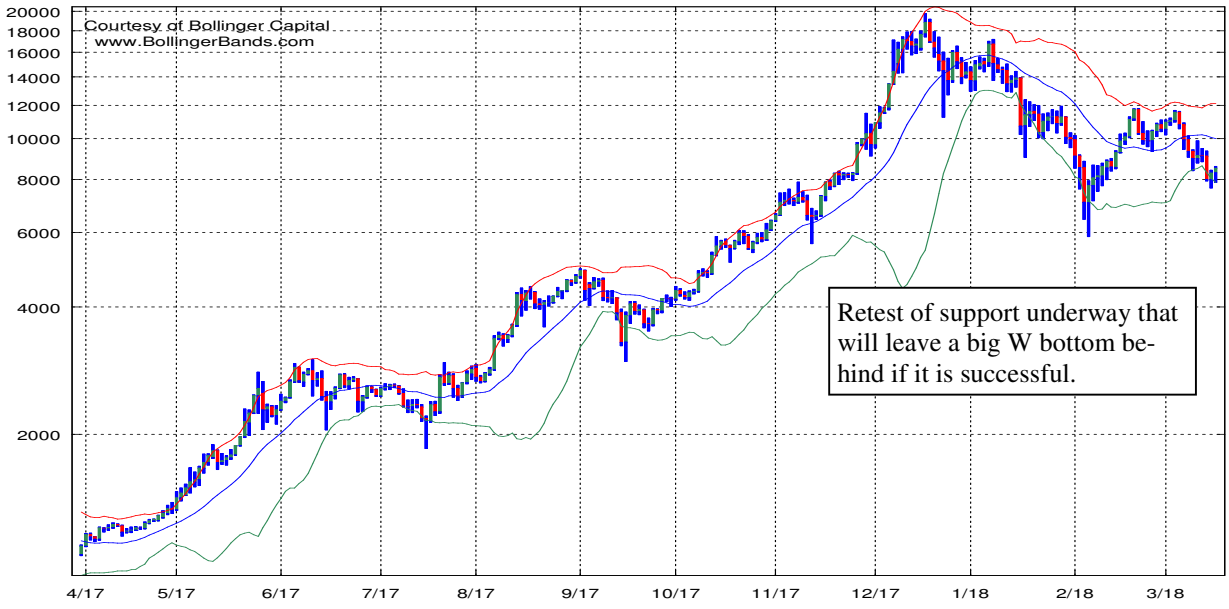
I offer no solutions here, other than to suggest that we all enter a broadly encompassing dialog focusing on what our markets really are for, and what types of related behavior ought to be tolerated.

Speaking Engagements

TradersEXPO, Chicago, IL
July 22 – 24, 2018
https://conferences.moneyshow.com/tradersexpo-chicago/

ETF Portfolios	Symbol	Date	Purchase	Current	Dividends	Return	Rank
		Selected	Price	Price			
Style							(# in 21)
Core Growth	IUSG	4/24/2017	46.87	57.47	0.19	23.02%	2
Russell 1000 Growth	IWF	2/10/2017	111.06	143.10	1.48	30.19%	4
Russell 1000	IWB	1/27/2017	126.69	153.39	2.44	23.00%	9
International							(# in 24)
Austria	EWO	1/20/2017	17.26	25.37	0.50	49.89%	6
South Africa	EZA	9/1/2018	73.69	70.41	0.00	-4.44%	10
Malaysia	EWM	2/16/2018	35.45	35.09	0.00	-1.00%	1
Sector							(# in 27)
Technology	XLK	11/10/2017	63.41	69.61	0.24	10.16%	7
Financials	IXG	12/8/2017	69.07	71.57	0.65	4.57%	12
Consumer, Disc.	XLY	12/1/2017	97.96	105.18	0.33	7.71%	8

ETF Portfolios



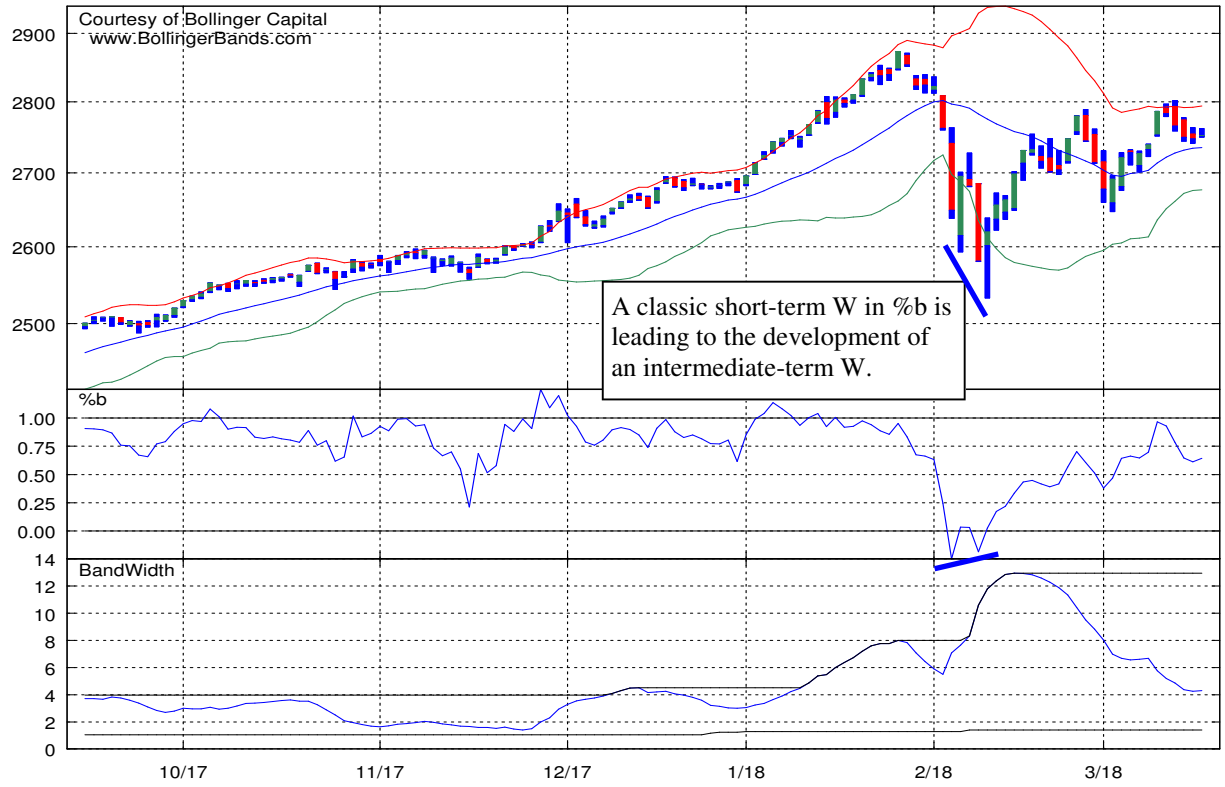
Bitcoin — Daily — One Year

Portfolio

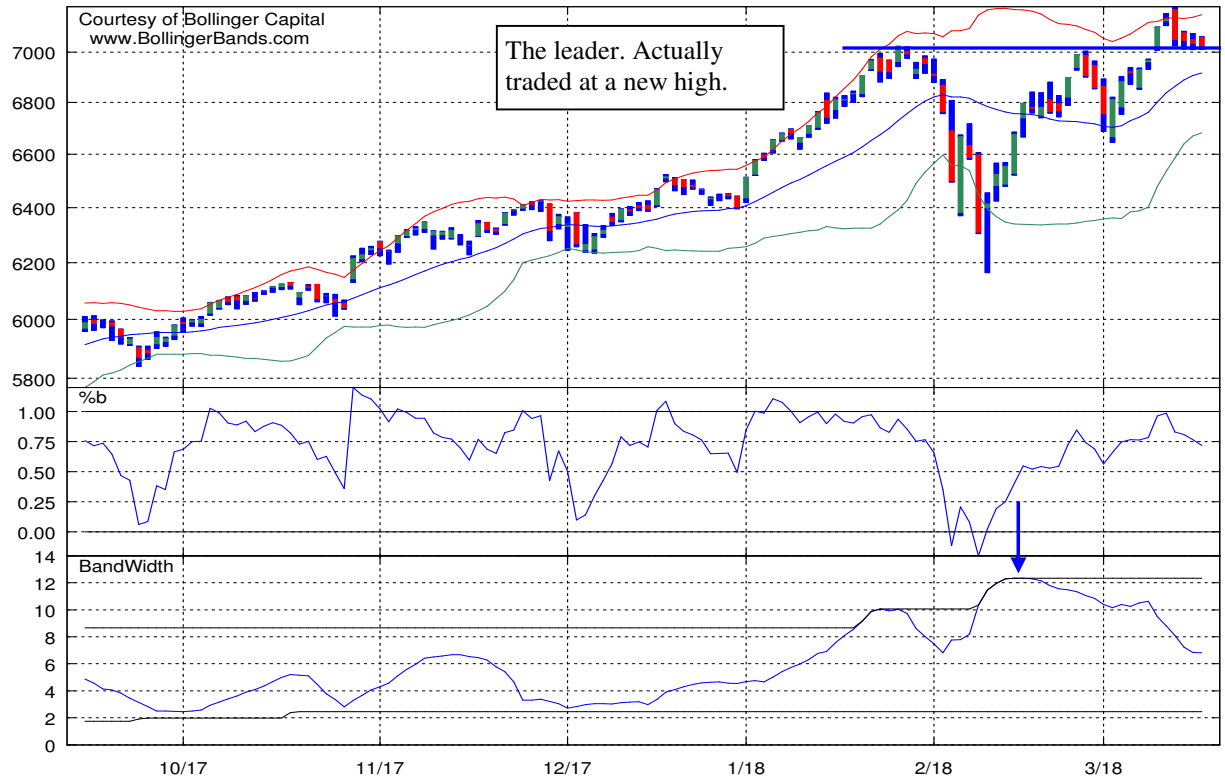
Slot	Name	Symbol	Entry Date	Entry Price	Current Price	Divid.	Total Return	Mental Stop	Action
Core Portfolio - US Equities									
1	S&P 500	SPY	10/19/15	203.20	274.20	10.55	40.1%	253.00	Hold
2	Russell 2000	IWM	11/02/15	118.21	157.80	4.28	37.1%	142.00	1/2
3	S&P MidCap	MDY	04/18/16	267.64	351.57	18.91	38.4%	320.00	1/2
4	Finance	XLF	10/08/16	19.75	28.87	0.52	48.8%	26.50	Hold
5	Russell 1000 (Equal)	EQAL	12/05/16	26.81	31.37	0.54	19.0%	28.50	Add
6	Healthcare ETF	IYH	01/14/17	147.28	181.52	1.46	24.2%	167.00	Hold
7	S&P Small Cap	IJR	03/17/17	69.35	79.71	0.72	16.0%	72.00	1/2
8	S&P 500 Growth	IVW	03/17/17	131.81	163.47	1.22	24.9%	145.00	Hold
9	Royal Dutch A	RDS.A	05/26/17	54.63	62.17	2.72	18.8%	58.00	Hold
10	Apple	AAPL	10/23/17	156.25	178.02	1.26	14.7%	152.00	Hold
11	Basic Materials	XLB	02/17/18	60.10	59.15	-	-1.6%	56.00	Add
12	Telecomm	VOX	12/09/17	86.39	87.74	1.09	2.8%	82.00	Hold
Core Portfolio - International									
1	Japan	EWJ	12/14/12	44.99	60.69	1.81	38.9%		Hold
2	World	VEU	10/19/15	45.53	55.22	2.48	26.7%		Hold
3	Int'l Property ETF	WPS	05/26/17	37.43	39.20	1.22	8.0%		Hold
4	Germany	EWG	02/17/18	33.02	32.63	-	-1.2%		Hold
Core Portfolio - Gold+									
1	Gold Miners	GDX	02/17/18	22.07	21.43	-	-2.9%		Hold
2	Bitcoin	BTC	02/17/18	10,380.04	7,814.99	-	-24.7%		Hold
Core Portfolio - Yield									
1	Barclays High Yield	JNK	02/20/09	29.17	35.97	22.86	101.7%		Hold
2	iShares High Yield	HYG	02/20/09	69.98	85.80	46.05	88.4%		Hold
3	PS Finan. Preferred	PGF	03/13/09	8.35	18.71	12.89	278.5%		Hold
Cash									
1	Doubleline Low Dura	DBLSX	09/15/17	10.09	9.98	0.14	0.3%		Hold
2	Vangaurd Short Tern	VCSH	09/15/17	79.79	78.31	0.92	-0.7%		Hold

Portfolio Notes: The relative strength of small stocks is trying to turn higher, while growth stocks continue to lead value by a solid margin. With the Value Line Geometric Index at 564.37, the Value Line Plan remains in the market with a Friday sell stop of 555.59. There are no changes to the ETF portfolios this week. We are holding two Ice Breaker positions for each of the five monitored ETFs. There is one losing position and nine winners ranging from one to eleven percent. Our outlook for stocks remains positive. One important factor is the performance of the various advance-decline lines we follow, all of which are strong and leading stocks higher. We are adding to XLB, the Basic Materials ETF in the Core Portfolio. We moved VOX to the Core Portfolio to replace the Global Telecom ETF we sold last month. We are recommending adding to EQAL to make a full position. The next few weeks will be critical as the averages try to establish new highs. Expect crosscurrents and a choppy market. Be careful out there.

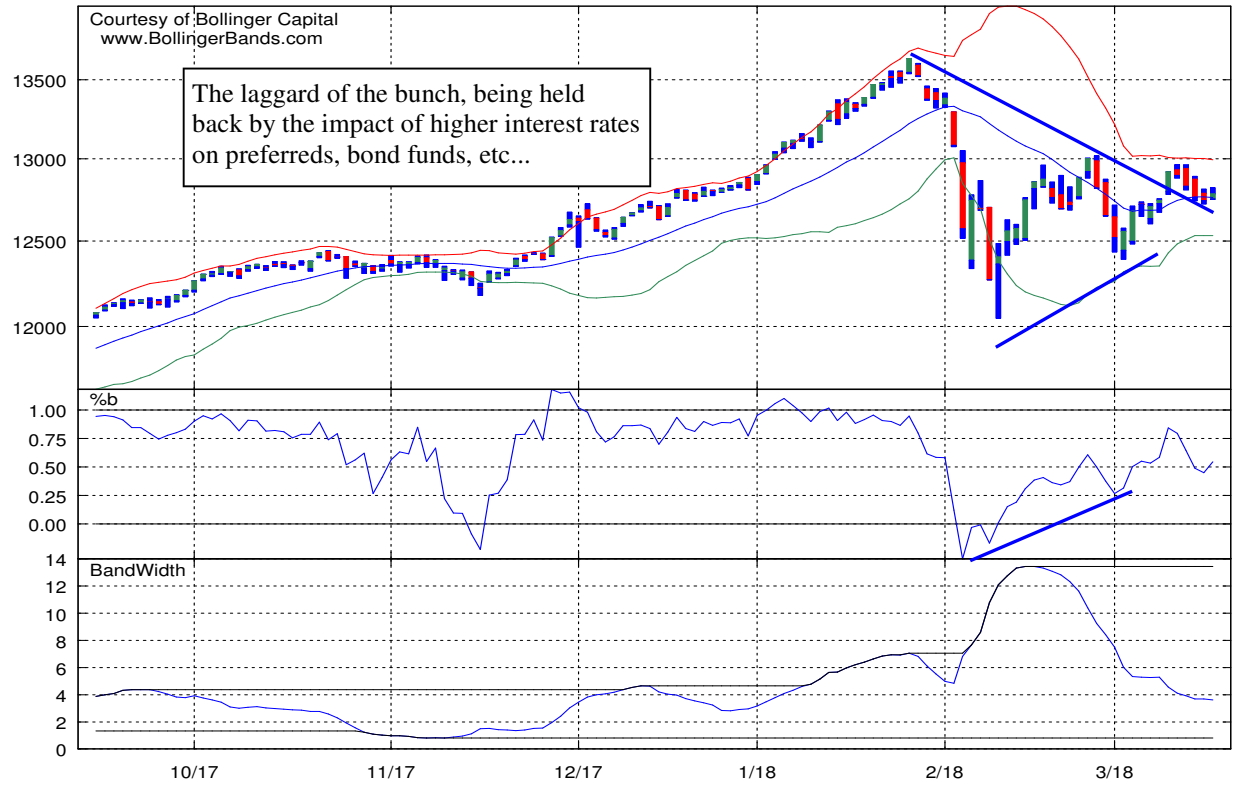
John Bollinger's Bollinger Bands Letter is published monthly by Bollinger Capital Management, Inc., P.O. Box 3358, Manhattan Beach, CA 90266.; Phone: (310)798-8855 Website: www.BollingerBands.com E-mail: BBands@BollingerBands.com Subscription rates: $39/month, $419 a year This newsletter contains information obtained from sources we fully believe to be reliable; however we do not guarantee accuracy. Although opinions expressed herein are based on sound judgment and research, no warranty is given or implied as to their true reliability. The responsibility for decisions made from information contained in this newsletter lies solely with the individual making those decisions. It should not be assumed that recommendations made in the future will be as profitable or equal the performance of the securities in this list. Officers of Bollinger Capital Management, Inc. may at times have positions in securities mentioned.



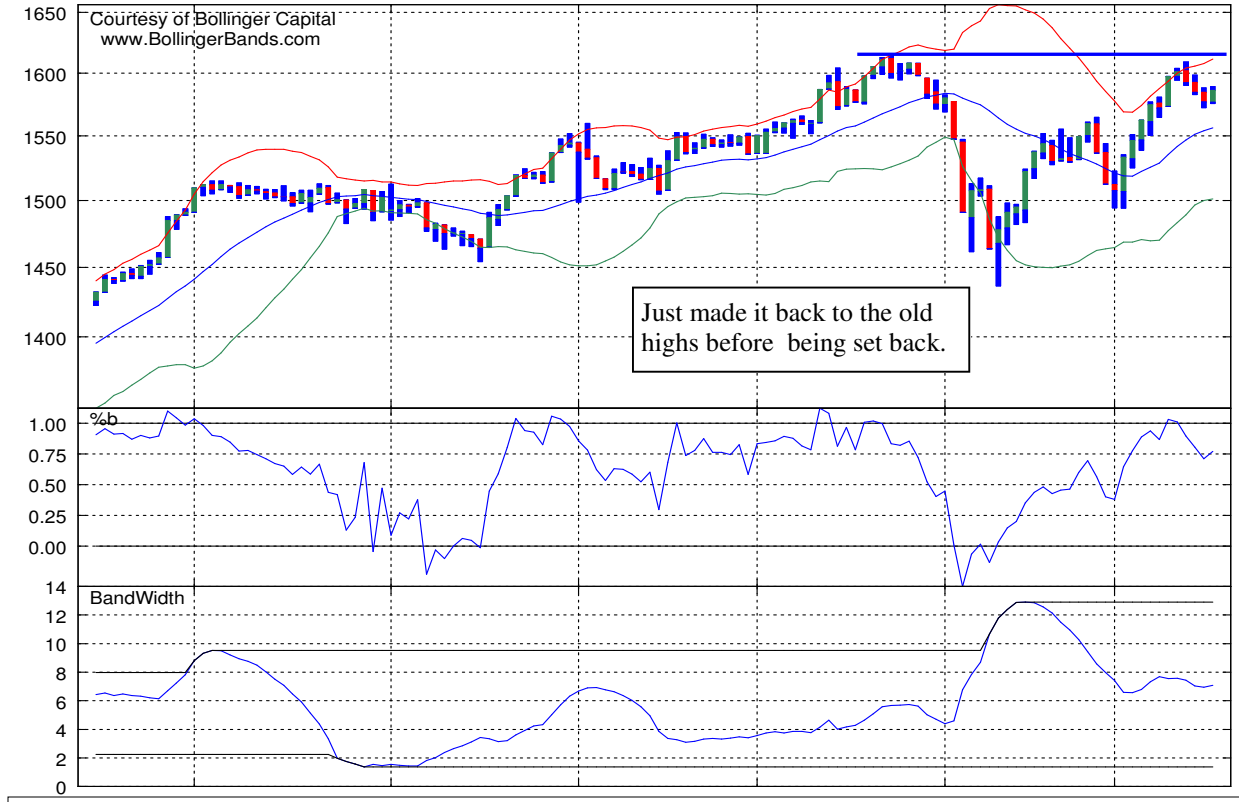
S&P 500 — Six Months



NASDAQ 100 — Six Months

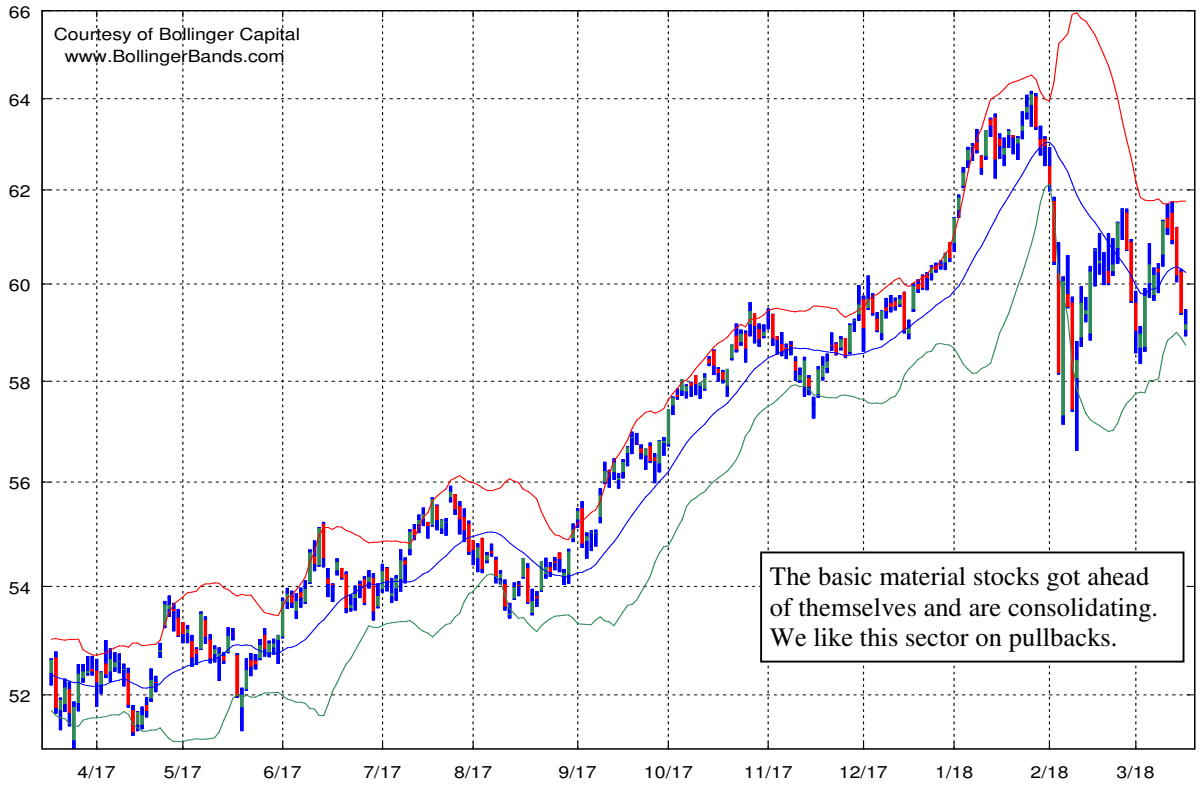


NYSE Composite — Six Months



Russell 2000 — Six Months

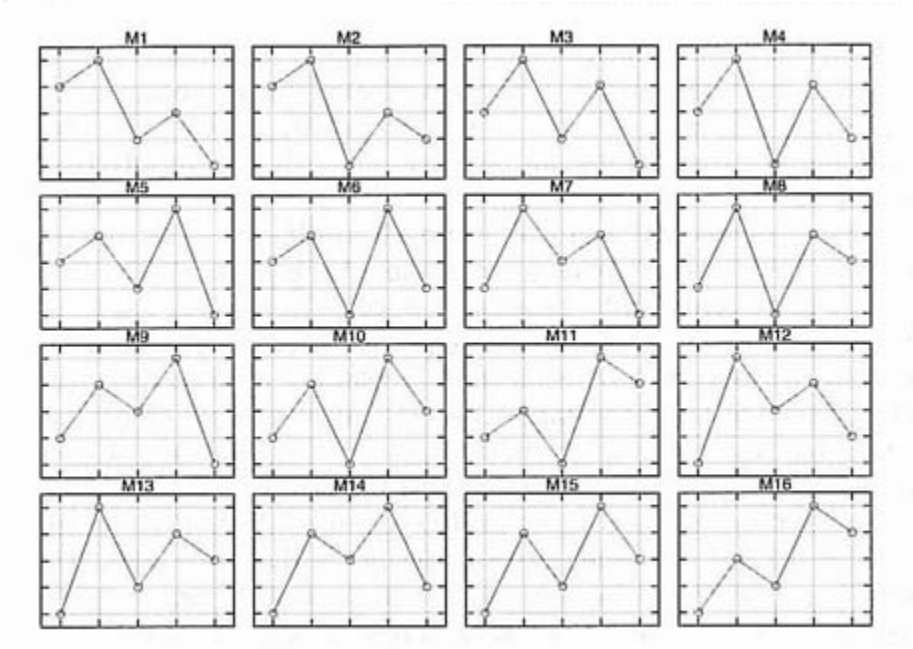
FAANG — One Year



Basic Materials — XLB — One Year

Uptrends: M15, M16, W14, W16
Downtrends: M1, M3, W1, W2
Head & Shoulders: W6, W7, W9, W11, W13, W15
Reverse H&S: M2, M4, M6, M8, M10, M11
Triangle (narrowing): M13, W4
Megaphone (broadening): M5, W12

M & W Pattern Classifications



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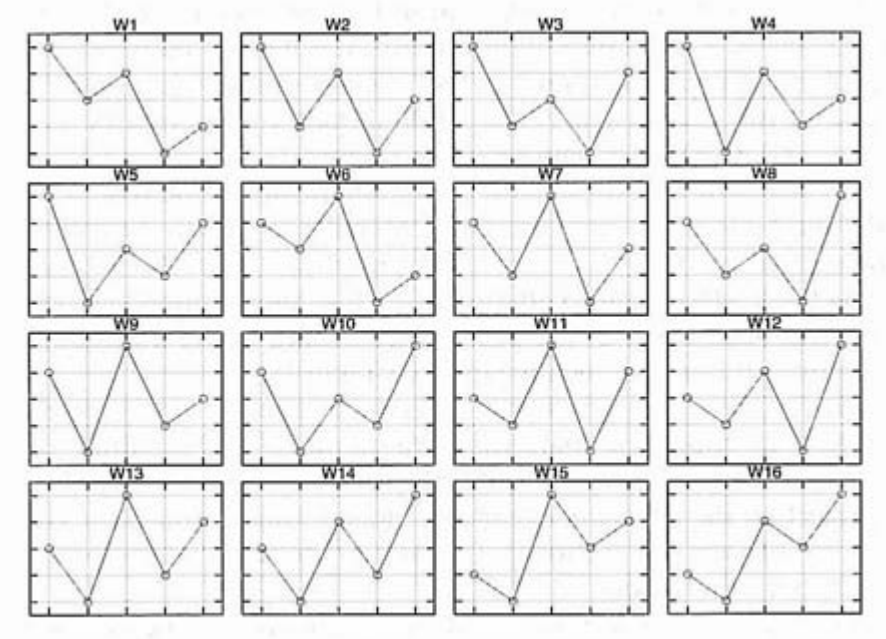

Ws