



FINDING DIAMONDS IN THE ROUGH

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FINDING DIAMONDS IN THE ROUGH

Diamonds are forever. Diamonds are a girl's best friend. Find a diamond in the rough. The clichés that began as subliminal marketing messages have worked their way as almost lexicon into our daily lives. What is it about diamonds that is so special? Well for one, they are really shiny. But only after you pull them up out of a cauldron of a shaft where they are found deep beneath the earth and polish them. But as the substance of pure ultra-compressed carbon is so hard, it can only be cut with another diamond so it has industrial purposes as well. The truth is, beyond serving as drill tips, cutting mechanisms, or adorning those who wear them, their practical value is limited. Yet, everyone is looking for figurative diamonds in the rough all the time, whether they are spouses, that rare find of a classic car deeply undervalued, or a gem of a stock that is ripe to double or triple before anyone knows about it.

Diamonds are actually not as rare as you have been led to believe; in fact they are quite common here on earth. In space, believe it or not, there are white dwarf stars that have diamond cores. The biggest diamond known in the universe is believed to weigh 2.27 thousand trillion tons. That's 10 billion trillion carats (a 1 followed by 34 zeros). Back on earth, De Beers¹ just did a great job at controlling production to keep prices elevated over the years! 20% of diamonds are jewelry quality. The other 80% are for industrial use. The reality though, is that diamonds are difficult to mine. Miners face danger every day oftentimes for little or no wages - sometimes just for the hopes of a cut of a big find. Days are hot, long, grueling, and dangerous. The mines can reach temperatures of 140 degrees Fahrenheit.

FINDING SUPERIOR STOCKS

It is one thing to romanticize the stories of otherwise unaware, unassuming pedestrians ambling along and stumbling upon a million dollar diamond in the rough. It is another to develop a method to systematically identify, retrieve, cultivate, and monetize diamonds regularly. To do that consistently over decades in diamond mines is rare, but to do that over decades in the stock market, now that is almost mythical. Yet, a rare few managers actually do accomplish that. How to accomplish that typically requires a time-tested process.

If you are at all familiar with Navellier & Associates, you will know that the cornerstone to our approach is quantitative analysis applied to the stock market. We have the view that a systematic quantitative approach to selecting and investing in equities can produce alpha (return in excess of a

¹ Please note: Jason Bodner does not currently hold a position in DeBeers. Navellier & Associates does not currently own a position in DeBeers for any client portfolios.

comparative benchmark) over time. We believe it is possible to “beat the market” over the long haul. Navellier employs a quantitative method for selecting stocks with superior fundamentals. We have different outlooks for different portfolios. While we are well known for growth, we have many different products for investors with different objectives. Of course we do look for stocks that exhibit powerfully growing sales and earnings. Yet we also manage a potent portfolio of dividend stocks, with a mind on income. We have portfolios of international stocks, small caps stocks, large cap stocks, ETFs, a bond business, and even gold. The point is, we apply our quantitative mindset on all of our investment products, and each has its own associated threshold of acceptable volatility.

Picking winning stocks can be achieved with consistency as many longstanding managers can prove. But what if you trust and invest your hard earned money with an investment manager who has superior stock picking skills, but she or he achieves her or his alpha with heavy volatility? That is to say, the road to achieving your investment objectives leaves you feeling like you just got off consecutive rides on the world’s most feared roller coaster. For many investors, the lifetime of an investment is more about the smoothness of the ride than being the biggest winner. Investors oftentimes want to know that the value of their portfolio fluctuates within an acceptable range of volatility.

Therefore, the money manager now needs to not only select stocks with explosive potential, but also needs to construct a portfolio of stocks that will exhibit an acceptably low amount of volatility along the way. Is this possible? And even if it is - what about those systematic events like the Brexit backlash or the fear driven markets in the wake of scares like Ebola (we jokingly referred to the Ebola scare as the Zombie Apocalypse)? Remember that?

VOLATILITY, STANDARD DEVIATION, AND VARIANCE IN REAL TERMS

Before we get to how we set out to accomplish this, perhaps it would be beneficial to get a primer on volatility and its associates. Aside from being a feared word uttered by the media with abandon recently, volatility is not always synonymous with “stocks going down.” Volatility is functionally the historical or expected ranges of price movement up or down, in an underlying asset. It is actually traded as an asset class by professional traders using listed and over-the-counter derivatives. “Vol” funds exist as do derivative trading desks at the largest investment banks in the world. Derivatives became a ‘dirty word’ in the wake of the 2008 financial collapse, when bank desks were thrust into the limelight for the role that they played. It is worth noting that according to the World Bank the global

equity market cap is just over 61 trillion dollars. And as big as that number seems, the equity derivatives market dwarfs that many times over. In fact, the worldwide derivatives market (all asset classes) is estimated to be more than \$1.2 quadrillion (that's the first time I ever said quadrillion) according to Investopedia, but no one really knows.

First, I will give you some more technical concepts followed by an easier way to grasp them.

TECHNICAL: The classical way to think of volatility in finance is that it is the degree of variation of a trading price series over time as measured by the standard deviation of returns. Standard deviation is the square root of the variance - being the average of the squared differences from the mean. Got that?

UNDERSTANDABLE: Volatility is how fast a stock price falls or rises over a given set of days. It is measured by calculating the standard deviation of annualized returns (closing prices) over a given period of time. Stocks that have prices that move up and down rapidly have high volatility. Stocks that hardly move at all have low volatility. Let's discuss standard deviation, which is represented by the Greek letter sigma (σ). The easiest way to explain σ is that it is a measure of how spread-out numbers (closing prices) are around their average. Variance can be thought of as the average distance of each price from its mean.

What does this all mean?

It may help to go through an example: let us suppose there are the following 5 people in a room. Someone wants to analyze their heights. We will find the mean, standard deviation, and the variance.

	Height Inches
Jerry	70
Marge	63
Al	75
Luigi	59
Nicole	65

The mean is the average. This is simple enough to calculate:

$$\frac{70+63+75+59+65}{5} = 66.4$$

Now we can find the difference from the mean for each person:

	Height Inches	Difference from Mean
Jerry	70	3.6
Marge	63	-3.4
Al	75	8.6
Luigi	59	-7.4
Nicole	65	-1.4

From here, to get the variance, we take each difference, square it, and then get the average of that result:

	Height Inches	Difference from Mean	Difference Squared
Jerry	70	3.6	12.96
Marge	63	-3.4	11.56
Al	75	8.6	73.96
Luigi	59	-7.4	54.76
Nicole	65	-1.4	1.96

Now we average to get the variance:

$$\frac{12.96+11.56+73.96+54.76+1.96}{5} = 31.04$$

The standard deviation is just the square root of the variance:

$$\sqrt{31.04} = 5.5714$$

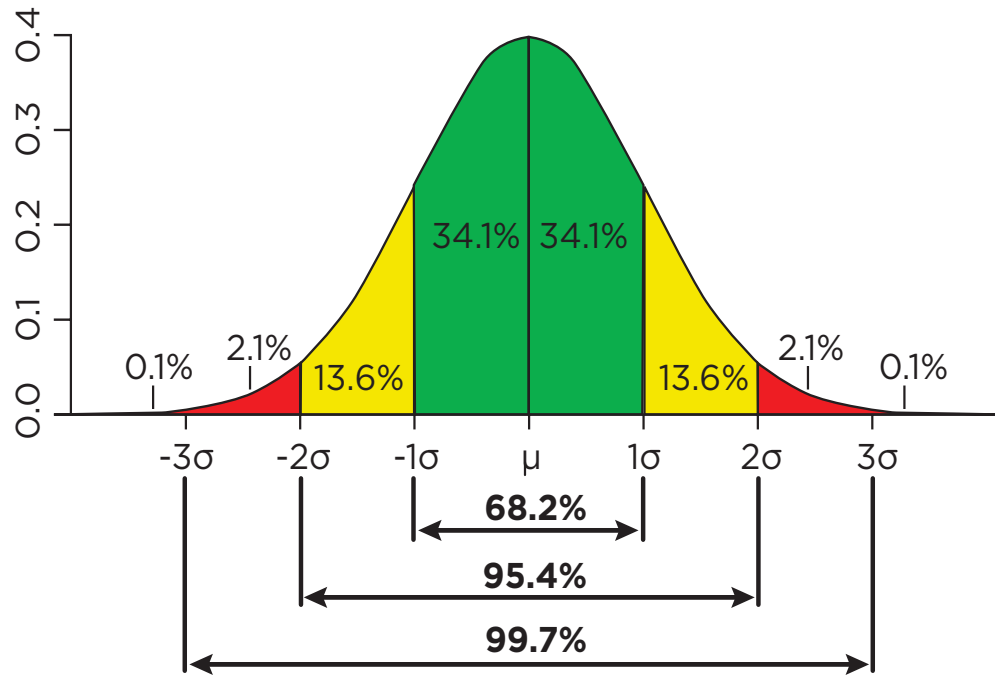
Great! We got the standard deviation! It's 5.57! What does that mean?! Well, it means we now have a standard to know what is normal. Now we can compare heights to a standard. So if our average height is 66.4 inches then one standard deviation away is plus 5.57 inches or minus 5.57 inches. Our upper boundary is 71.97 inches and our lower boundary is 60.83 inches. This is our normal range of height. So Al and Luigi fall outside our standard deviation or normal height range. Everyone else is comfortably inside the range.

THE NORMAL DISTRIBUTION CURVE

You may be saying right now, "You're talking diamonds and heights of people, what on earth does this have to do with stocks?" If you can think back to days some of you may have hoped to forget, namely your statistics class, this may ring a bell. Enter the Normal Distribution curve - also known as the "bell shaped" curve. (Get my pun?)

The normal curve is often how a set of data returns distribute themselves around a mean or average. We tend to get this bulge at the center, which

represents our most commonly returned value. In the case of a stock, think of its daily returns for a year. If most days it does nothing then we would expect a big bulge near zero % return. If some days it's up 2% and some days it's down 2%, then at these points on the curve we would see some returns, but way less than the numerous returns around zero. And if eight days out of the year the stock is up or down 10+%, we would see very few returns on that part of the curve - also known as the tails. It looks like this:



Source: Kanbanize

Now the green part of that graph is 1 standard deviation or sigma. It means that 68.2% of all returns can be expected to be observed within that range of normal we talked about before. So if the room were now 500 people instead of 5, 68.2% of the people would be between 60.83 and 71.97 inches tall. If we go out another standard deviation to two-sigma (yellow part of the graph), 95.4% of the people would fall in the height range of 55.25 and 77.54 inches tall. We just added another 5.57 inches to the upper and lower boundaries defined earlier. 3 standard deviations or 3σ would account for 99.7% of all observances (the red part of the graph). This means that in our room of now 500 people, 99.7% or 498.5 people would fall within 3 standard deviations of height. We now add another 5.57 inches to the upper and lower boundary. So 99.7% of all people would be taller than 49.69 inches and shorter than 83.11. We may expect 1.5 people to fall outside that range. These results would be the tails.

If we think back to volatility of a stock, an easy way to think of volatility is like this: If a stock has an implied volatility of 20%, that means one year from

now, we should expect our standard deviation of that stock to be 20% higher, or 20% lower than where it is today. If we divide that by the square root of available trading days (most professionals use 252: $252=15.875$) we can find out how much the market expects the stock to move up or down in a single trading day. In this example $20/15.875 =$ an expected move of +/- 1.26% per day.

DIAMOND MINING IN INVESTING

So we have determined that we believe we can identify diamonds in the rough. We think we can find stocks that have potential for powerful appreciation. But how much risk should we take mining for those diamonds? We don't want to risk our proverbial lives trying to earn return. Excessive risk for small incremental return is not desirable in an investment portfolio.

We seek to identify potentially winning stocks with low volatility. We do this by scoring the Alpha/Standard Deviation. We defined Alpha as return above and beyond a benchmark, and we have effectively defined Standard Deviation functionally as volatility. By this we mean beta (systematic risk or risks common to the entire class of assets – let's say **all stocks**) + residual variance (unsystematic risk or risk associated to the circumstances of one specific security – let's say **one stock**) = standard deviation.

The main point here is this: **stocks that score high on this scale are stocks that we feel have the potential for a powerful move upward, but may be shielded from market volatility.** This whole paper could have been this one sentence; don't kill me for that! What we are saying here is this: we believe we have identified a way to find "diamond" stocks without taking life threatening risks "mining" them.

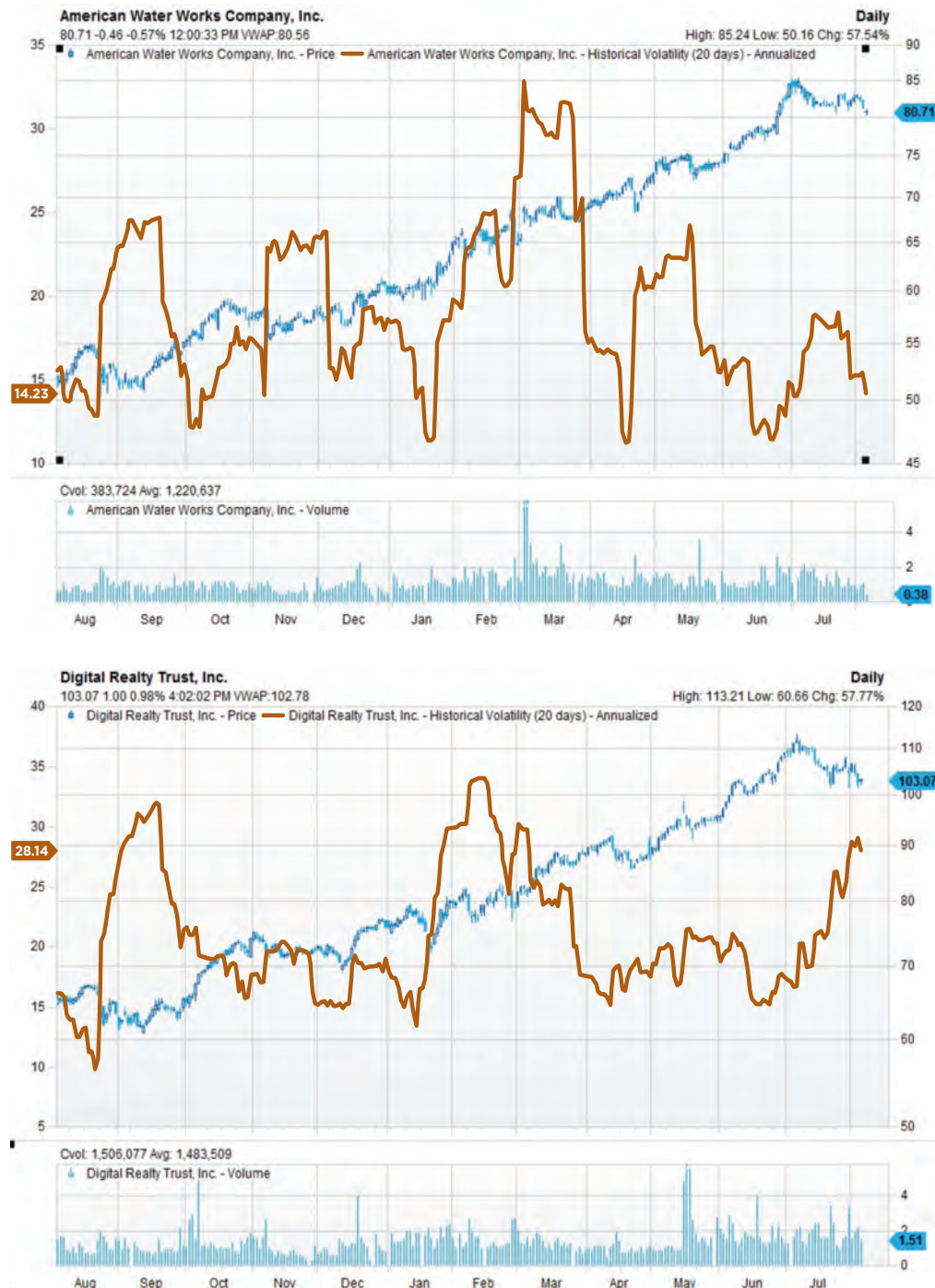
REAL WORLD EXAMPLES - BRINGING IT ALL TOGETHER

What do these diamond stocks look like in these systematic events like Ebola? Recently Brexit was the most notable systematic risk event to the market. We have prepared a few examples from holdings on our Blue Chip Growth stocks list. What you will see in the following graphs are two plots on each graph. First we will see the prices for one year in blue candles. In green, however, we see the 20 day historical volatility figure annualized. Each of the following graphs was sourced from FactSet.

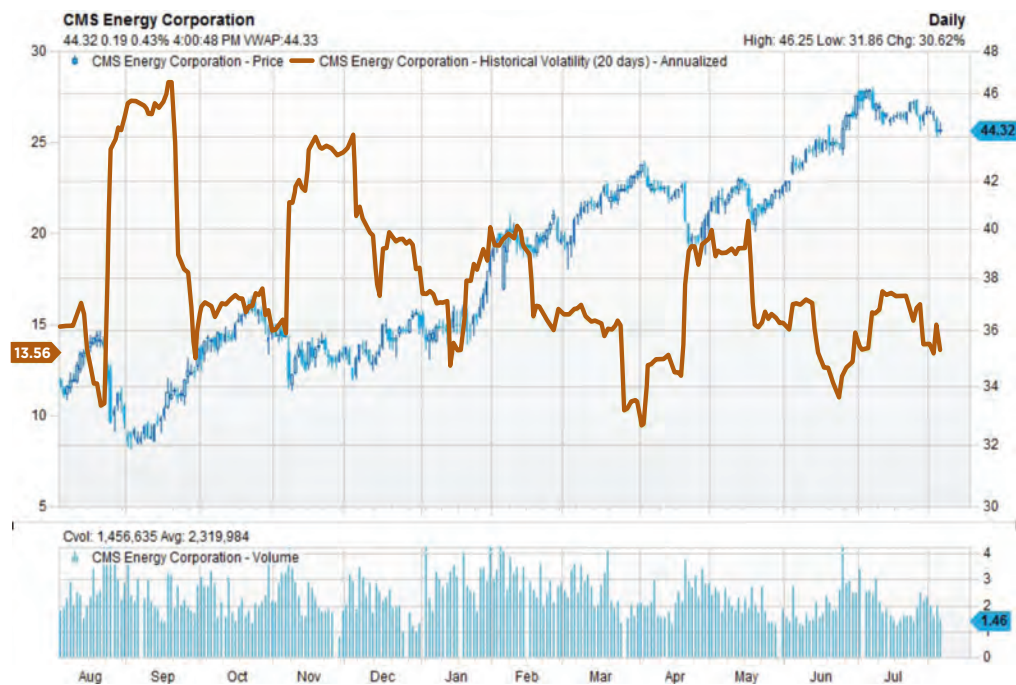
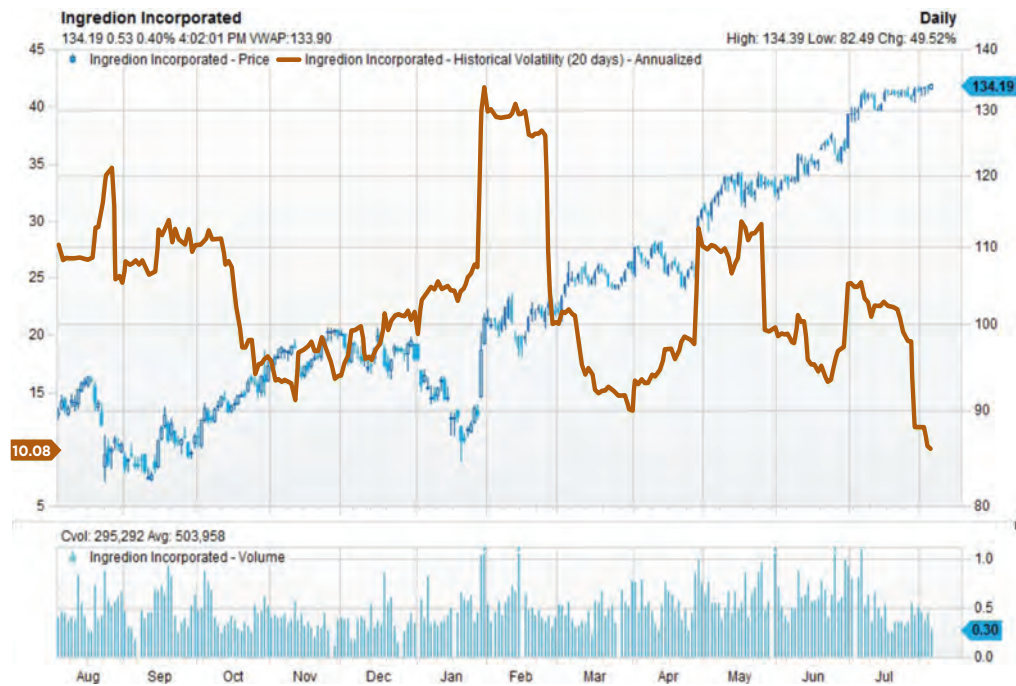
What these graphs show is that the way we select stocks, through heavy quantitative and fundamental screening, we are able to isolate diamonds with low volatility. Don't let the spikes and troughs in green scare you. The values of volatility are what are important. Remember from above, for quick "back of the napkin" math, divide the volatility figure by about 16 to get a daily move in %. So for AWK, 14.23 vol. divided by ~16 gives us a daily move of just under 0.90% per day.

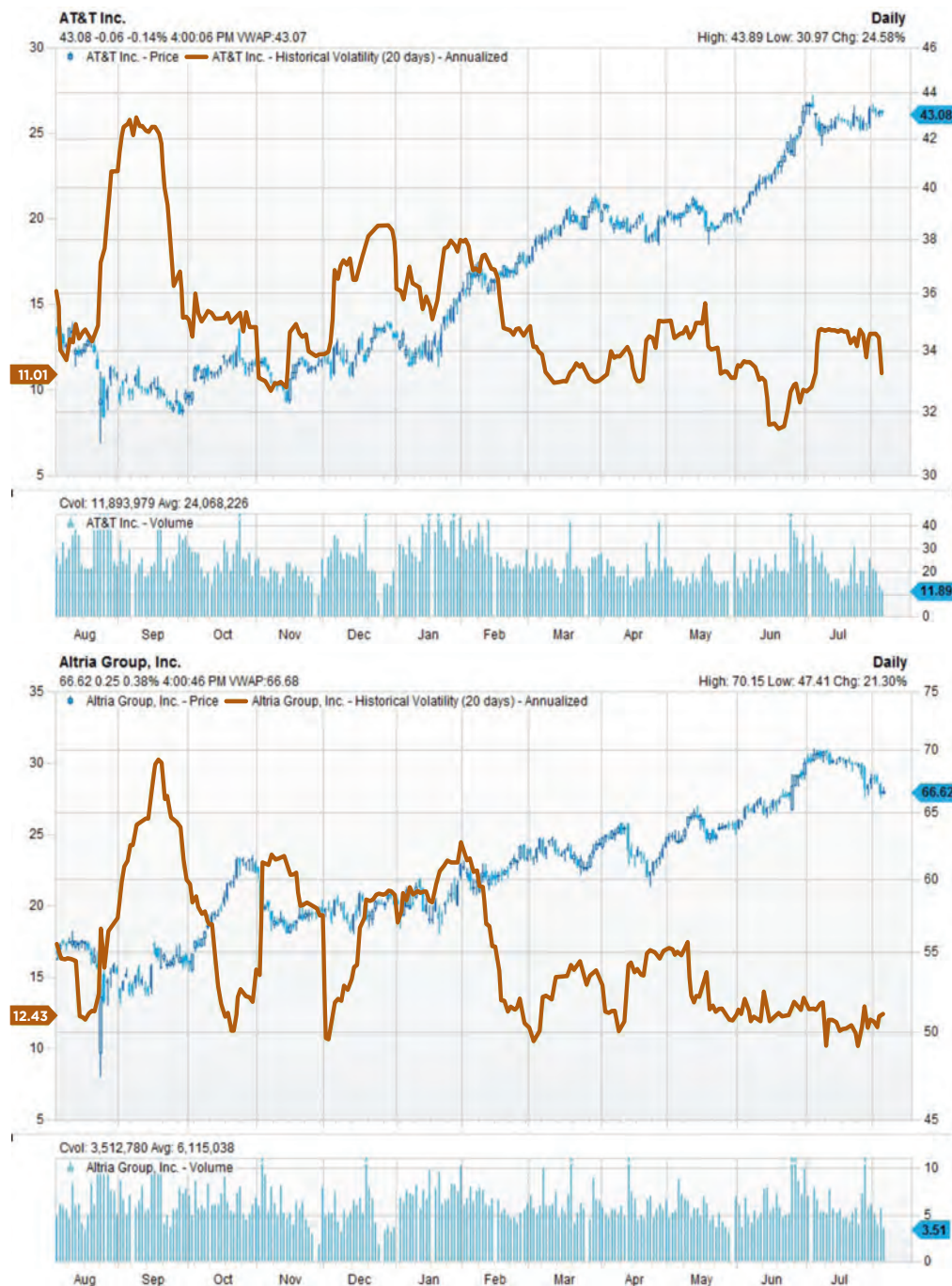
The following stocks have an ultra-smooth chart with low volatility²:

- AWK
- DLR
- CMS
- INGR
- T
- MO



² Please note: Jason Bodner does not currently hold a position in AWK, DLR, CMS, INGR, T, or MO. Navellier & Associates does currently own positions in these stocks for client portfolios.

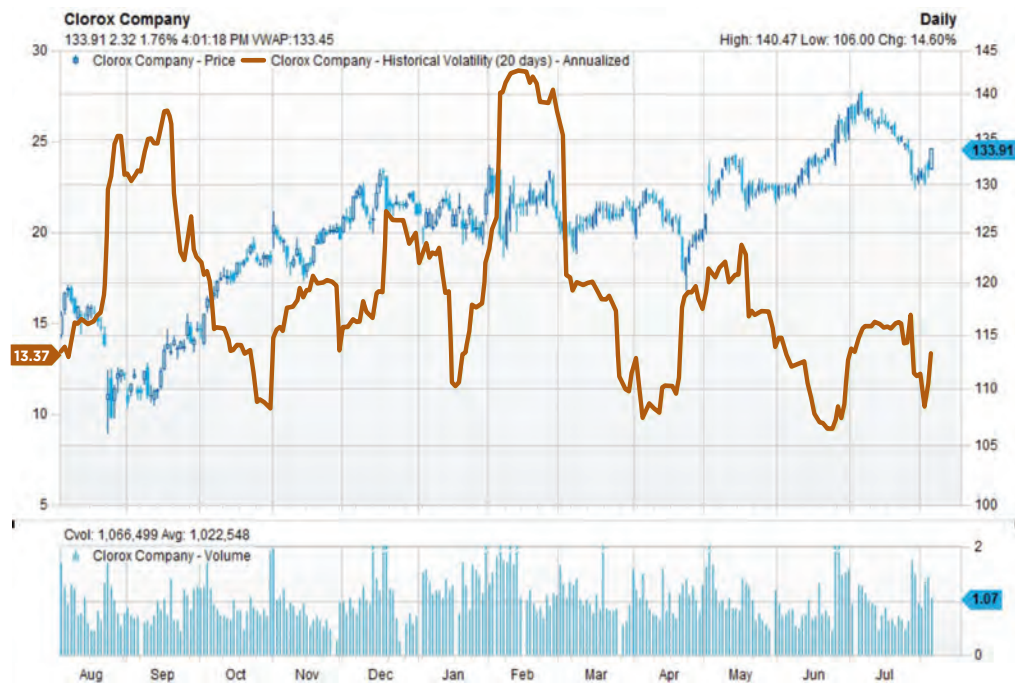
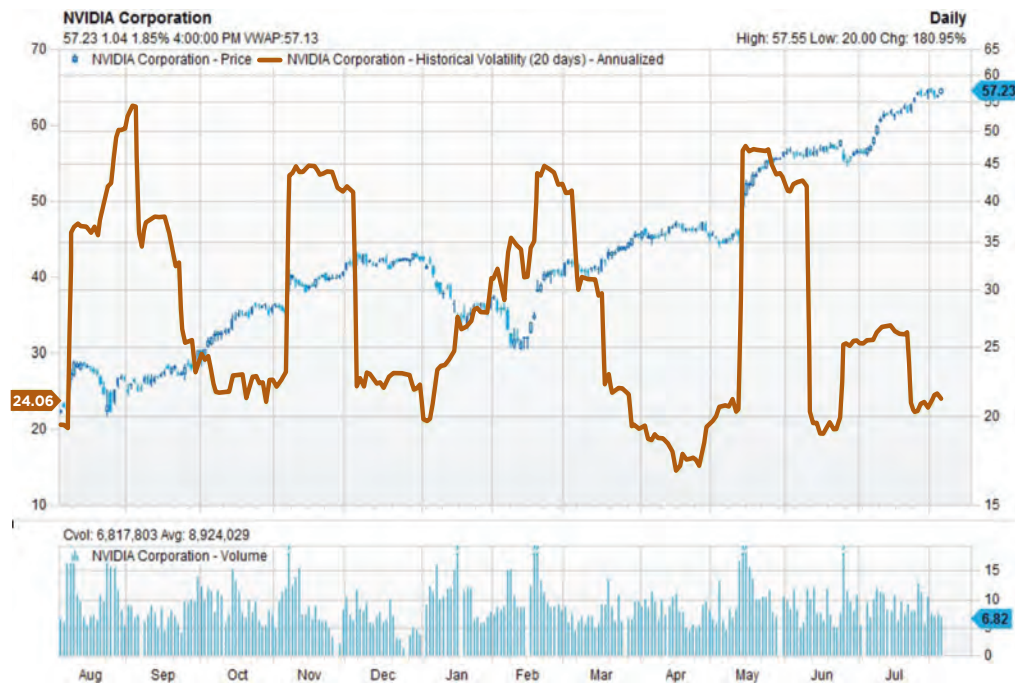


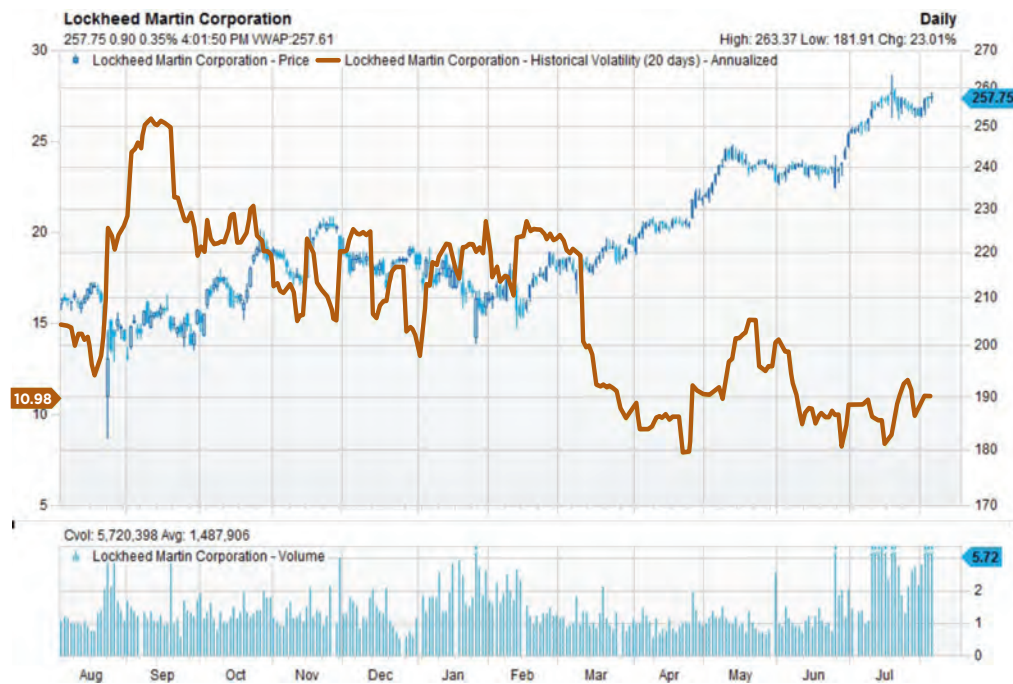


Here are more powerful stocks that are more volatile, but still have “relatively smooth” one-year bar charts and reasonable volatility³:

- NVDA
- CLX
- LMT

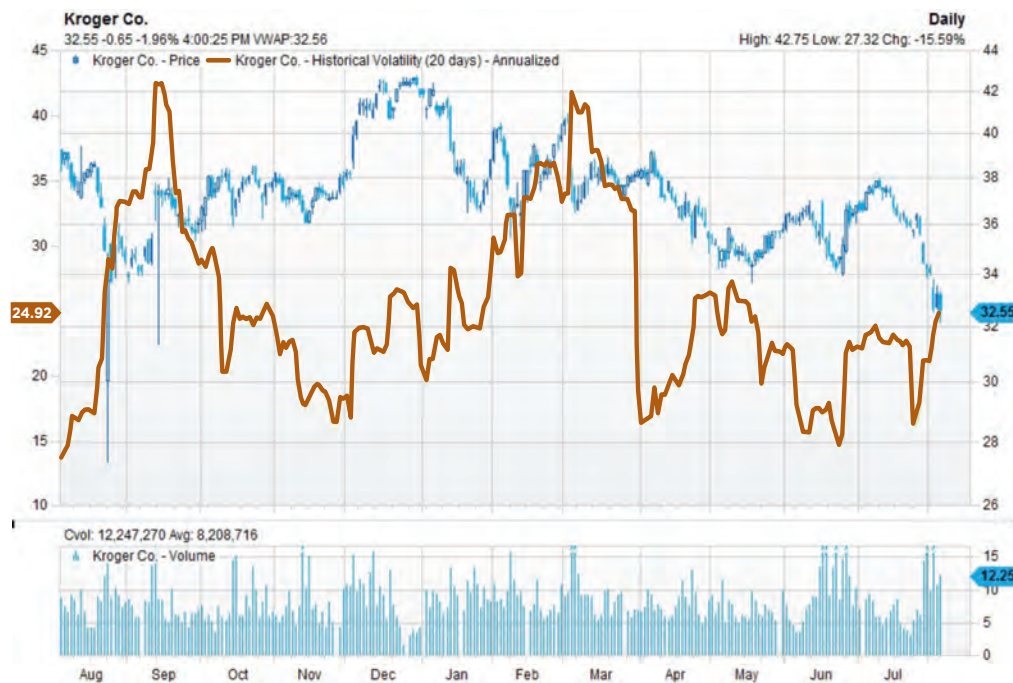
³ Please note: Jason Bodner does not currently hold a position in NVDA, CLX, or LMT. Navellier & Associates does currently own NVDA, CLX, or LMT for client portfolios.





These stocks became too volatile and got sold⁴:

- KR
- ALK



⁴ Please note: Jason Bodner currently holds a short position in KR. He does not own ALK. Navellier & Associates does not currently own KR for client portfolios. Navellier & Associates does currently own ALK for client portfolios.



The following stock, Teekay Corporation, failed both our quantitative and fundamental screening and would never have been bought. Note the bumpy ride and the massive volatility. The latest entry of “near lows” volatility was 65.86. If we divide that by 15.875, we get a nearly 4.15% daily move! The peak volatility of 350 indicated a daily move of 22.00%!

- TK⁵



⁵ Please note: Jason Bodner does not currently hold a position in TK. Navellier & Associates does not currently own TK for client portfolios.

CONCLUSION

Navellier & Associates is obsessed with risk and finding ways to mitigate it. Through our proprietary process of quantitative and fundamental screening, we feel we can identify stocks with the potential for significant appreciation with low standard deviation. This means we believe we can find alpha with low volatility. This is particularly important in times where systematic risk comes along and rears its ugly head. A prime example of this was the Brexit temper tantrum the global financial markets had. The charts above show that despite the event being unexpected and nauseatingly volatile, our process stayed true to its purpose. We found stocks that exhibited alpha with low standard deviation. Now that you have a finer appreciation for diamonds and hopefully a better understanding of volatility and its components, you can appreciate what this all means. Not only is it difficult to find the diamond stocks in the rough. It is even more difficult to have them become polished gemstones. It is even more unusual to do this consistently over decades in the stock market. It is yet even more unusual to do this with such an obsessive eye towards avoiding excessive volatility and risk. When it comes to pulling diamonds out of the earth, it's risky business. Finding the diamonds in the stock market can happen while taking a quantitative and fundamental approach to keeping treacherous volatility at bay. Investing in stocks always carries risk, but perhaps Confucius put it best when he said, "Better a diamond with a flaw than a pebble without."

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