

A Brief Walk Through Time

50 Years On, What Have I Learned?

Here, we offer up a collection of 20 market observations and market wisdoms from someone with more than 50 years of experience in trading, studying, and analyzing the financial markets. The first edition of his book Trading Systems and Methods in 1978 played a part in helping to launch the modern-day field of technical analysis. Take a walk through time and discover what long experience can tell us when it comes to looking at the markets.



time passes, we tend to forget older events in favor of more recent. I forgot how much hair I had. But there is a lot to learn by studying the past, especially for a trader. The most important lesson is about risk, although there is much more about life.

It is easy to see why we discount the past. It is best not to dwell on all the mistakes we make.

Because equity index prices are higher than in the past, the price swings are larger and seem more important (Figure 1). But if we look at the percentage changes on a log chart (Figure 2) it is very different. We see the impact of 1929, but 2008 as a much smaller

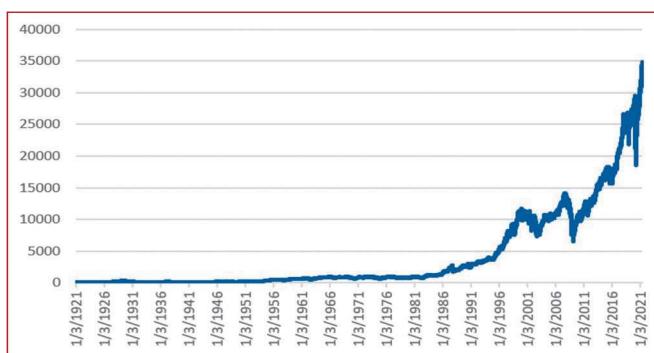


FIGURE 1: DOW JONES INDUSTRIAL AVERAGE, 1920–2020, LINEAR PRICE SCALE. When viewing a historical price chart where price changes are shown in absolute terms, the higher the index prices become, the larger the price swings appear to be. (Compare to a logarithmic price chart in Figure 2.)

event. Nevertheless, no one wants a repeat of 2008.

Unfortunately, both charts distort the results in different ways. Losing 50% in 2008 is serious business.

Instead, we can see the drawdowns by percent in Figure 3. The most recent is about 37% in 2020. That is still big.

We learn by trial and error. We take a loss trading and then decide how we can correct that. We rarely see a crisis ahead of time—and there have been quite



FIGURE 2: DOW JONES INDUSTRIAL AVERAGE, 1920–2020, LOGARITHMIC PRICE SCALE. Viewing a historical chart of index prices on a logarithmic chart shows you prices on a percentage change basis. This gives you a very different view from that of the linear price chart shown in Figure 1 for the same time period.

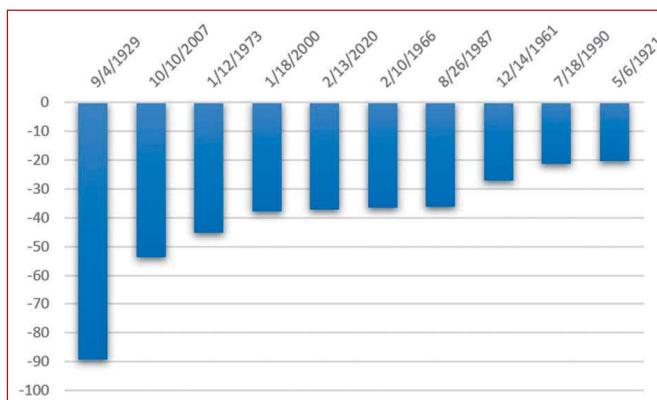


FIGURE 3: THE 10 LARGEST DRAWDOWNS IN THE DJIA SINCE 1920. Here you can see drawdowns in the Dow Jones Industrial Average (DJIA) by percent. The most recent in the list was in 2020 with approximately 37%.

by Perry J. Kaufman

a few. You will find a list of key events in the sidebars “Events You Will Remember That Changed The Markets” and “Events You May Not Remember.” With each risk event we learn more or else we do not survive. *The simplest and most effective lesson for me was to use trend following.*

With a simple 80-day moving average system you would have exited the SPY in December 2007 at about 150, 6.5% below the highs. You would have gone long in May 2009 at 83 after a decline of 39%. When the dot.com bubble burst, you would have sold QQQ at about 98 in mid-April 2000, 18% off the highs, but watched prices drop to 19.50, a loss of 84%. It is no wonder that trend following is the basis for most managed funds. *You live to trade another day.*

WHAT WAS THEN

The Federal Reserve (the “Fed”) now manages the economy. It is unlikely that a 1929 will occur again, yet we had a drop of more than 80% in the NASDAQ in 2000 (Figure 4) and a 50% drop in the S&P in 2008. *You cannot control everything.*

When I started trading futures in 1970 there were only agricultural products. The Dow Jones Industrial Average (DJIA) had manufacturing and transportation (Figure 5)—not an electronics company in sight, and the concept of the internet was more than 30 years off. The next change in Dow components came in 1976. Now they change often.

In June 2021 the five companies with the largest market caps are Apple (AAPL), Microsoft (MSFT), Amazon (AMZN), Alphabet (GOOGL), and Facebook (FB). Not a railroad or manufacturing company in the mix. Because S&P Dow Jones Indices LLC tries to maintain a balance in the Dow-30 stocks, only Apple, Cisco, Intel, IBM, Microsoft, and Salesforce have worked their way into the listing. *These high-cap outliers cause the equity index markets to be skewed in their favor and away from reflecting the rest of the stocks.*

MORE ABOUT ME

I was introduced to the floor of the Chicago Board of Trade by a young member named Marshall Stein. We cleared through Rosenthal. My first experience was life-changing. Jammed with traders yelling at each other, and young men and women running back and forth with orders, it was free trade as it should be, and incredibly exciting.

Even though I was a partner in a large farming operation, responsible for getting the best prices, commissions were \$50 per contract (down from \$100, so we thought it was a bargain), compared to \$4 now. Stock traders may remember that trades were charged 1% back then. That

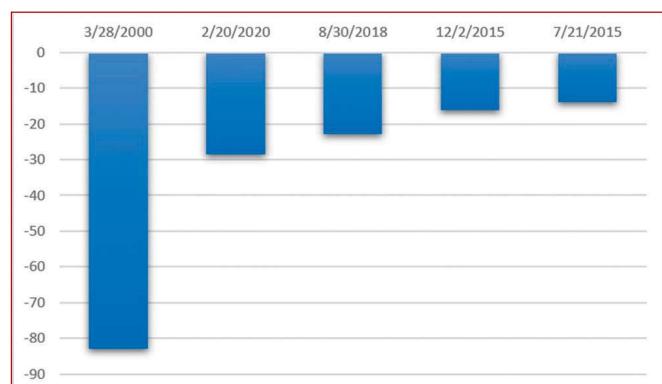


FIGURE 4: THE 5 LARGEST DRAWDOWNS IN THE NASDAQ SINCE 1998.

The NASDAQ index, here represented by the ETF QQQ, experienced a drop of more than 80% in 2000.

June 1, 1959 [edit]		
Allied Chemical Corporation † (formerly Allied Chemical and Dye Corporation)	General Electric Company	Sears Roebuck & Company
Aluminum Company of America †	General Foods Corporation	Standard Oil Co. of California
American Can Company	General Motors Corporation	Standard Oil Co. of New Jersey
American Telephone and Telegraph Company	Goodyear Tire and Rubber Company	Swift & Company †
American Tobacco Company (B shares)	International Harvester Company	Texaco Incorporated † (formerly The Texas Company)
Anaconda Copper Mining Company †	International Nickel Company, Ltd.	Union Carbide Corporation
Bethlehem Steel Corporation	International Paper Company	United Aircraft Corporation
Chrysler Corporation	Johns-Manville Corporation	United States Steel Corporation
E.I. du Pont de Nemours & Company	Owens-Illinois, Inc. †	Westinghouse Electric Corporation
Eastman Kodak Company	The Procter & Gamble Company	F. W. Woolworth Company

FIGURE 5: DJIA COMPONENTS IN 1959. In 1959 the DJIA was made up of manufacturing and transportation stocks. The next change in the makeup of the DJIA came in 1976. Today, the components change often.

would make it difficult to daytrade.

Back then we used low-flying planes to spread insecticide, and our farm used helicopters to get an even pollination of hybrid corn. We were so advanced! One of the locals, Bill Requarth, was a surgeon and aerobatic pilot. It was exhilarating and incredibly scary to go up in his Pitts 2-position (open cockpit) biplane to look over the 14,000 acres. An experience never to be forgotten or repeated!

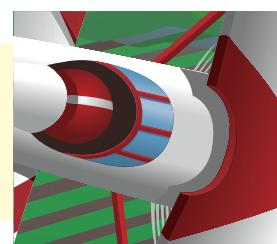


A Pitts aerobatic biplane

THE CHANGING MARKET

In 1970, leverage in futures was about 20:1 in most markets. Currencies started trading in 1972, GNMA mortgages in 1973, and the S&P in 1982, about the

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time computers and moving averages were surfacing. Everything trended. You could be a success with a 10-day moving average.

E*Trade was founded in 1991, changing the way retail traders could access the market. Commission costs plummeted. Volume increased. Daytrading surged with Toby Crabel's (and my own) *Opening Range Breakout System*. Interest rate futures went straight up. You did not need to be smart, just be there.

The SPDR ETF, SPY, started trading in January 1993, giving traders access to the broad market movement without the complication of rolling futures contracts.

The big picture is that markets are now more liquid, they are noisier, computers are faster, we can trade from anywhere, there is more opportunity for profit, and more risk. Costs are negligible, but there is more competition. *There is always a catch.*

WHAT I HAVE LEARNED

Let's look at this from a trader's point of view. I will summarize what I've learned in 20 thoughts:

ABOUT RISK

1. You cannot eliminate risk.

You can move it around. But it is like Whac-A-Mole. You push it down in one place and it pops up in another. The sooner you learn that lesson, the better you will be at controlling risk. The regulators have not learned it yet.

A trend system will have many small losses and a few big wins, while a mean-reversion strategy will have many small profits and a few big losses. You cannot have both.

If you think you have discovered a system that shows high profits and small risk, do not believe it. It just does not happen that way. And losses are likely to get bigger over time. You will probably begin trading expecting the results to be like your backtest. That will not happen. Price patterns in the future will be different from the past. Returns will be lower, risk will be higher.

In 2008, endowment funds, considered the premier investors, lost 50% along with everyone else. Rather than assessing value, they should have used a moving average.

Learn to accept risk and manage it. A simple system can do it.

EVENTS YOU WILL REMEMBER THAT CHANGED THE MARKETS

- 1990—The propagation of managed funds, led by ED&F Man.
- 1997—Amazon goes public May 15, 1997 and posts losses every quarter, Bezos laughs.
- 2000—The Internet bubble. AOL buys Time-Warner on January 10. NQ declines 85%. Bad timing!
- 2001—9/11/2001. Stocks plunge. Markets halted. A rally follows.
- 2003—Elon Musk forms Tesla on July 1. It goes public in July 2010. Prices go nowhere until 2019.
- 2008—The subprime crisis. You cannot lend money to people who cannot pay it back. It takes 5 years for the S&P to make a new high.
- 2009—Bitcoin is launched. It does nothing until 2017.
- 2019—December, Covid-19 is recognized.
- 1980 to 2020—Bond yields decline for most of 40 years.

EVENTS YOU MAY NOT REMEMBER

- 1949—William Donchian launches Futures, Inc., the first public commodity fund. A 10-day moving average was profitable.
- 1969—Telerate is founded, the first company to provide electronic distribution of prices to the public.
- 1972—The CME starts trading currency futures.
- 1973—Soybeans rally on a poor harvest combined with the Russian wheat deal. Sugar (said to be a 2¢ product), goes to 50¢. Everyone rushes to buy sugar.
- 1973—Ginnie Mae (GNMA) interest rate futures start trading.
- 1974—COMEX starts trading gold futures.
- 1980—Runaway inflation, gold goes to \$850, the Hunt brothers are blamed. Ronald Reagan is elected

- the US President.
- 1981—Fed Funds hit 19.8% on June 29, 1981. By February 14, 1983 they were down to 8.4%.
- 1983—S&P futures start trading with cash delivery, opening a new door to trading. TradeStation is formed. Algorithmic trading gets a foothold.
- 1986—Saudi Arabia bombs Iran, oil prices soar, OPEC is a major factor and fixes prices.
- 1987—The October “Black Monday crash” follows from the Fed continuing to raise rates. It was blamed on program trading, an arbitrage between S&P futures and cash.
- 1992—Algorithmic trading goes mainstream. Globex facilitates automation and 24-hour trading.

2. Only trade stocks from the long side.

In 1987 and 2008 futures traders made a lot by shorting the S&P. Analysts named that “crisis alpha.” But it only works if the market keeps selling off, only in futures where you have built-in leverage, and not all the time.

Stocks are biased to the upside. It is best not to fight it.

ABOUT TRENDS

3. Trends are long term. New markets have more trend.

Trends are created by economic policy and are intended to influence prices for a long time. Interest rates best reflect that policy. Trends in interest rates have a direct impact on currencies because money moves to the country with the highest rates net of inflation and political unrest. Equity markets react to changes in rates, but individual stock prices have other factors that are more important, so the overall market may move higher when rates are lowered, but the averages hide a lot that goes on.

In the short term, prices move on supply and demand, news articles, upgrades and downgrades, rumor, scandal, and anticipation. These moves are unpredictable, they last for shorter periods of time, and it’s difficult to capture profits during them. They are not trends.

Newer equity index markets, those just starting to trade, or “emerging markets” are usually more trending because they have less participation and those traders are often commercials with the same opinion. While they can be profitable, they also lack liquidity.

Recognize a trend as a move between 40 and 120 days, not shorter.

4. All trending methods produce similar results.

Using the same calculation period, trending results will differ in the time they hold a trade and the individual trade risk. But a series of small losses still compares to one large loss. Most important, if a market trends, all trend methods work; if it does not trend, none of them work. Figure 6 shows the results of four popular trending methods, all using an 80-day lookback.

It is more important to select markets that trend than to decide which trend technique you will use.

5. Much of the trend profits occur during low-volatility periods. Be sure to leverage up to your target volatility.

Trending markets often have low volatility. If you were

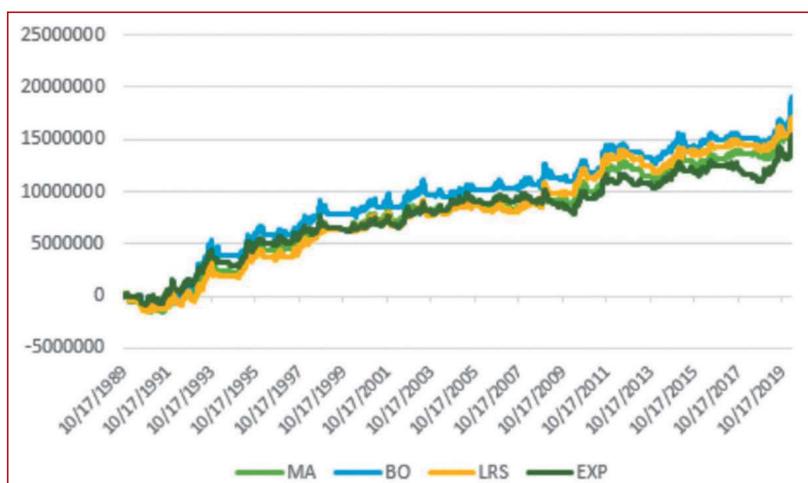


FIGURE 6: ALL TRENDING METHODS PRODUCE SIMILAR RESULTS. This shows returns of four popular trend techniques, all using an 80-day lookback applied to US 30-year bond futures. You can see the similarity in the results. Thus, for trend trading, it's more important to focus on finding a trending market than it is to decide between different trend trading techniques.

willing to take the risk equal to a target volatility of 12% and price volatility is now at 6%, you need to trade twice the size to achieve your goal.

Monitor your risk. Deleverage when it is too high and increase leverage when it is too low. You can stabilize your risk and achieve your goal.

ABOUT VOLATILITY

6. High prices do not last.

When prices are high, consumers stop buying—they find substitutes—and new companies add competition. You can only charge so much before the buyers disappear and prices collapse. Apple has Samsung, Amazon has Alibaba, copper pipes are replaced by plastic, beef is replaced by chicken. Only we don’t know when it will happen.

Take profits when volatility becomes extreme, then wait for a new trade.

7. High volatility does not mean high returns.

High volatility means high risk. It may allow for a profitable trade, but the profit will not be worth the risk.

A trend system will have many small losses and a few big wins, while a mean-reversion strategy will have many small profits and a few big losses.

*Do not trade extreme volatility.
Leave that for the specialists.*

8. Low prices can go lower.

In the early 1970s corn traded below the cost of production. It seemed obvious that there was more risk going short and more gain going long. I altered my strategy to avoid short sales below the cost of production. Why would a farmer sell his crop at a loss? The answer is *because they need the money!* Looking for a bottom, or assuming that a stock or commodity cannot go lower, is a poor assumption. Look at JC Penny now trading at \$0.18.

Wait for the trend to turn up before buying, then get out if there is a new low. Better still, follow the trend.

9. Each market has its own volatility profile.

Volatility is important but it is personal to each stock, futures market, and portfolio. Interest rates have lower volatility, crude oil much more, and cryptocurrencies extremely high. Portfolios benefit from diversification and have lower volatility.

Figure 7 shows that high volatility in the euro currency is about 10%, while it is closer to 90% for Bitcoin.

When defining high-volatility exits, you will need different thresholds for each market.

10. Cheap stocks are more volatile than expensive stocks.

It is the opposite to what they teach in graduate finance. High-priced stocks have bigger price moves but not when measured in percent. Stocks under \$10 are much more volatile and have erratic price moves.

Do not mix a stock under \$10 into your portfolio.

ABOUT COMPLEXITY

11. The more complex, the more overfit, the less chance of success.

Complexity is not the road to success; it is generally a sign of overfitting. If something goes wrong, it will be difficult to fix. It does not mean you should only have one rule, but each rule must be clear and target some broad area, such as trend, profit-taking, and volatility.

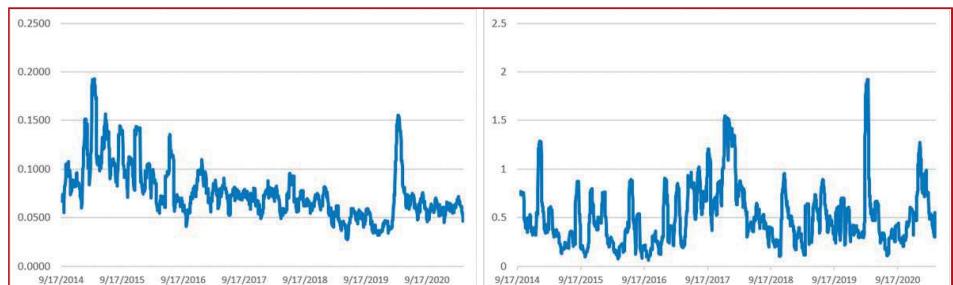


FIGURE 7: DIFFERENT MARKETS HAVE DIFFERENT VOLATILITY PERSONALITIES AND THRESHOLDS.

"High volatility" in the euro currency is about 10%, while "high volatility" in Bitcoin is closer to 90%. Euro currency volatility peaks at 20% (left). Bitcoin volatility peaks at 200% (right). This type of information is important when defining volatility exits.

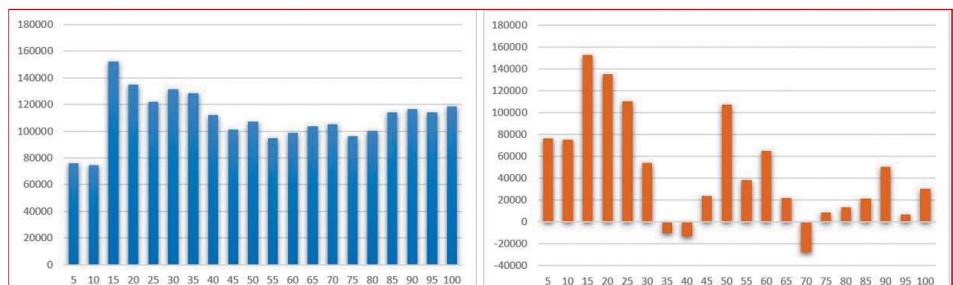


FIGURE 8: STRATEGY ROBUSTNESS. This shows a robust moving average test of the technology ETF XLK (left), and an example of an erratic test (right). Choosing the 15-day return on the right is not likely to lead to profits. The greatest chance of success is when your strategy works across a wide range of parameters.

Simple works better than complex.

ABOUT DIVERSIFICATION

12. Overdiversification does not lead to high returns.

Trade the best performers. Do not worry about using all of your funds. Adding markets that have lower returns or higher risk just because you have excess funds will not improve your results. Do not be lured into thinking that more is better.

You can make more trading less.

13. Equal weighting maximizes diversification and reduces risk.

If you put more exposure on any one market in your portfolio, that market must outperform all others. Of the 400 stocks that I trade, I have never been able to pick the one that would be the best. Higher exposure in one stock can

**System diversification is
more important than market
diversification.**



produce a loss that offsets gains in many other stocks. It is concentration, not diversification.

Best to have equal risk on each trade, each sector, each system.

14. System diversification is more important than market diversification.

A portfolio of stocks can see large losses when all stocks move down at the same time, often in a crisis. They are all tied to the economy in some way.

Strategies that capture different patterns can offer diversification that is not possible with different stocks.

PLAY IT SAFE

15. Multiple parameters, multiple targets.

You cannot count on one moving average or one profit target being the best. Prices are not that predictable, and trends are not that consistent.

Use multiple trends and multiple targets to ensure better results.

16. Robustness means lots of profitable combinations.

The greatest chance of success is when your strategy works across a wide range of parameters. Some parameters will generate lower returns than others, but if they are mostly profitable, your chances of being rewarded are much higher.

Figure 8 shows a robust moving average test of the technology ETF XLK (left) and an example of an erratic test on the right. Choosing the 15-day return on the right is not likely to lead to profits.

Do not be tempted by a high-profit outlier. Trade stocks that show robustness using your strategy.

17. Stock selection should be based on how your strategy works on that stock or futures market.

The best criterion for success is profits. It is not profits divided by risk, maximum drawdown, or time to recovery. It is not the underlying price move.

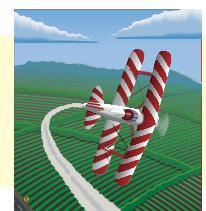
It is simply profits generated by your strategy.

18. Not all markets work for all systems.

Long-term trends need to track economic policy, short-term trading needs noise. I can separate trending from noisy markets using my *efficiency ratio*, the net change over N days divided by the sum of the individual daily moves taken as positive numbers. Higher ratios mean more trend.

Choosing the right markets for your system is essential to success.

Robustness means lots of profitable combinations.



19. Generalize.

No matter how good it looks, if a system does not work across a wide range of parameter values, it won't work. We cannot expect prices to have exactly the same patterns as in the past. *Use multiple trends, multiple profit levels, and multiple time periods to capture the most price moves.* (My wife Barbara taught me that!)

If the 40-day and 60-day trends each had drawdowns of 30% but the 50-day trend (in between) had a 15% drawdown, do not think that the 15% is realistic. It was lucky timing. *Assume the larger drawdowns.*

DO NOT FORGET ABOUT RISK

20. Accept risk, plan for it, do not overtrade.

Perry J. Kaufman is a trader and financial engineer. He is the author of many books on trading and market analysis, including the sixth edition (2020) of Trading Systems and Methods (with the first edition published in 1978 as a seminal book in the field of technical analysis), as well as Kaufman Constructs Trading Systems (2020), and the newly released book Learn To Trade (2022). For questions or comments, please go to www.kaufmansignals.com.

FURTHER READING

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