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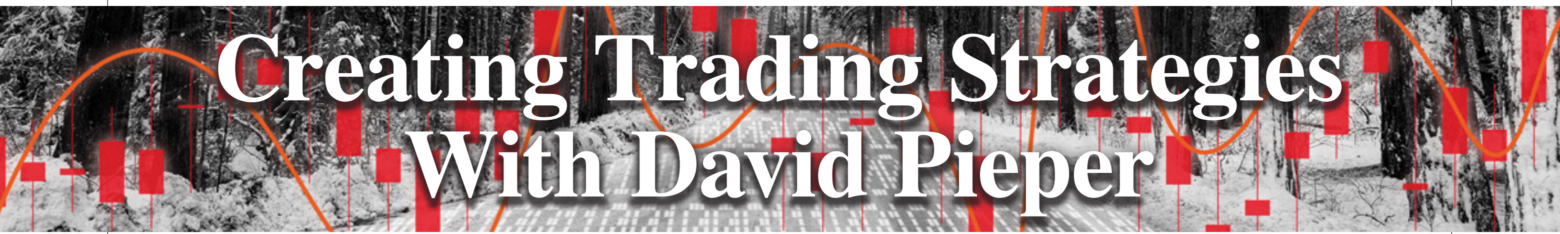
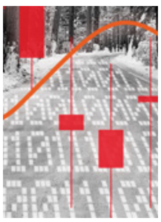
Separating The Signal From The Noise



Creating Trading Strategies With David Pieper

David Pieper lives in Germany and has 20 years of financial market experience. After earning the designation of Certified International Investment Analyst (CIIA), he spent several years in investment research at a major German state bank. He is currently a senior technical analyst with Tradesignal Ltd., where he provides consulting and training for institutional clients in the energy and financial sectors. His passion for technical analysis and trading is evident in his published articles and at the blog www.welovealgos.com. *For his private trading decisions he relies completely on technical analysis and systematic trading strategies that he has developed over the years.*

STOCKS & COMMODITIES Editor Jayanthi Gopalakrishnan spoke with David Pieper on March 18, 2019 about how he goes about coming up with a system, what is important when testing it, and what it takes to succeed with it.



> **I want to find a consistent, measurable, and predictive pattern. I don't want to trade on noise because noise won't bring me money.**

David, tell us about your background. How did you got interested in the financial markets and especially technical analysis?

My interest in the financial markets started when I was studying business economics. That was at the end of the 1990s, so it was in the middle of the dotcom bubble. Before that, I didn't know much about stocks. My parents didn't invest or do anything with stocks. But in the classroom everybody was talking about the next technology stock or the next hot stock. Just about everybody bragged about how much money they made. And this was among students. It was a really crazy time. For school I did a kind of dual study. I worked in a bank for three months and during those three months, we had the theory phase. I was going back and forth between studying and working in the bank.

In the dotcom bubble in '98 to '99, even 90-year-olds were moving their savings accounts into very volatile stocks just because the stock had a ".com" in its name. When I saw all this happening I bought my first stock. I lost everything because I invested based on a hot tip and I had taken my small student salary and invested it in that one stock, and then it was all gone.

After 2000, the markets crashed and that led me to get curious about how the markets work. I wondered why nobody saw this coming and why there had been so many positive research reports being put out even at the top of the bubble. Why didn't all the analysts know the crash was coming? That's when I first started to look at fundamental analysis, because that was part of my studies.

However, for me personally, the visual approach was more logical. It was clear that I just have to look at what happens in the market. If the market goes down, it's providing a message. I don't have to look into a company's balance sheet. So from the beginning I had a bias towards technical analysis. And after the crash, I was even more convinced that technical analysis was the way forward for me because all those beautiful 50-page reports the fundamental analysts produced didn't give any clues about the crash. And yet even a simple moving average would have been a help. That was the starting point for me, and of course, once you start down that road, there's no end to it.

I started with simple things and then got into indicators. Then a friend tells you that, say, Elliott waves are a better way, so then you look into those more. You try different things. It was a matter of reaching out into the jungle and trying to find what could work for me. And it was a really long journey.

Given that you can keep going and going and finding different technical analysis tools you can use, how do you look at all these various things and pick the ones that work for you? Is it necessary to find something that matches your personality or is it something quantitative?

I never thought that if I had good quantitative or mathematical skills, that there might also be individual or personal issues I would need to master to become a successful trader. In the beginning, you don't think about psychology and how to weather drawdowns. You just think

Robustness is a very critical part of it, because that shows you whether your strategy has the probability to survive in the future or not.

about how to make profits and which indicators are best to use. And that's why I love the financial markets. For me, it spurred new interests and made me reach out to books on psychology, decision-making, behavioral biases, and all that stuff. I don't think I would have ever read any books on psychology if I wasn't interested in trading and technical analysis. I would have concentrated on my 9:00-to-5:00 job.

So no, it's not just about chart patterns. You have to find and trade a system that's the right fit for you.

There are a lot of things you just can't see in the beginning. And I didn't have a real mentor. If I did, I think that could have shortened the learning curve because I had to go through all of it on my own. But I'm thankful for that because it opened me to a lot of new interests that I wouldn't have otherwise had. I always say there's a market full of psychology and there's your own psychology, and if you put them together, it can get complicated! You have to know how other people's minds work, how your own psychology works, and what kind of person you are—your strengths and weaknesses.

For example, I found out that I'm an impatient person, and that made an impact on how I trade. And when I changed that behavior, it improved my trading. I realized that just because someone else may trade a system well, it doesn't necessarily mean that I will trade that same system well. But realizing that took a long time.

In the beginning, I didn't understand this. I read some books and they would all say that I have to find out who I am and I have to understand my personality. I wasn't interested in that! I just wanted them to show me the best indicator to use. I didn't want to learn to meditate. I just wanted to make money. But that was my impatient personality talking. And 10 years later, I laugh at this and say to myself, that guy was right. He was more experienced and he was right. And now I tell the same thing to others. I tell them it's not about the best indicator; it's about you, the market, and the strategy based on quantitative studies. It's a big puzzle. That's what I really love about it. For me it's the most interesting topic in the world because there's so much involved and all the components have to be adjusted in the right way.

It sounds like it took you a long time to build the confidence to trust yourself. Is persistence a characteristic that's necessary for confidence-building in a trading system?

I would say that what is important in the long term is that you don't focus only on making money because it's not likely you'll run the extra last mile for that. You have to be interested in the topic itself or you have to be interested in your own psychology, that is, your own strengths and weaknesses. If that's the case, then you'll do a lot better than somebody who is just interested in making money.

I think, for me, the biggest step I took was to find out in hard facts what works and what doesn't. I didn't have the patience to keep a trading journal, but over the years, the biggest step I took was to write down what my trading strategy is. Even this step is difficult for many traders. If you were to ask a trader, "Do you have a trading strategy?" Most will respond "yes" and will most likely want to backtest that strategy. But if you want to backtest a strategy, you have to be 100% clear what the strategy looks like. You can't tell the computer, "If the market is strong and you have a good feeling about it, then buy."

First, I managed to find out how technical analysis works, and that was a long journey. The second round was trying to come up with answers to so many questions that I had. Say you want to use the RSI to make trading decisions. How do you do it? What can you combine the indicator with? Which parameters should you use, which markets should you apply it to, and which timeframes should you use? There are so many questions once you start learning about it.

Then I found out there are still some subjective components. I wanted to remove as much of the subjective part from technical analysis as possible and call it systematic trading, or quantitative technical analysis, or evidence-based analysis. For me, that was what played the biggest role in gaining the confidence in what I do. I could easily separate ideas that never worked from those that did. There's no reason to follow ideas that never worked. It may be difficult to accept because you may have thought they would work but tests show they don't.

That is a behavioral bias because in your mind, you may remember an idea working perhaps three times. Yes, you just remember the good things. But then when you test it, you find out it doesn't work. On the flip side, you'll find out that simple things might work better. This was eye-opening for me and it reduced a lot of stress in the decision-making process. I didn't have to stare at one chart for 20 minutes and keep rethinking it. I just had one chart, like a template, and the computer would let me know if my condition was met or not. That's it. If not, I can move on to the next one. It's much easier now than it was maybe 10 years ago.

When you create a trading system, how do you start to put one together? And how much time does it take to test it and determine how well it works?

I have different ways of doing this. One way is when I see something interesting, I write it down. If I notice something such as a pattern, I write down everything that comes to mind about it. For example, maybe I notice some price action in the S&P, or notice that when there are five red candles, the market reverses. I write down all significant observations and then test them. I'm not a programmer but I can do simple things like backtesting simple patterns. So that is one source of inspiration.

I also started to read every book on technical analysis and system development and I would take all the ideas I read about. I don't invent anything new. Everything I try is already there but I try to understand those already-existing ideas and try to replicate them.

And as I'm trying to replicate them, I may find that I need to make some modifications. This way, new systems can be developed, but the main foundation has to make sense to me. I'm old-school. I want to see what kind of behavioral bias or types of things are behind that pattern. If it's statistical or a very complicated pattern that I can see no logic behind, then I'm not going to be able to trust it.

There are software programs where you can press a button and it will show you 10 strategies that make money. I would never use that kind of feature. I need to understand the logic behind what I see. If the market is in an upward trend, and there is a short-term panic and I see a bullish candle pattern, then to me it's clear that it's a retracement and the uptrend is still intact. In the deepest of my heart, I'm a technical analyst.

Then I move on to the indicators. As an example, what kind of indicator can I use to describe that short-term panic in a long-term bull market? I then test the indicator. I use the technical analysis philosophy and try to quantify it with indicators. Most of the time, the indicators are fixed rules or fixed formulas and they're easy to program. That's why I don't use, say, head & shoulders patterns, because if you want to program this, it'll be complex and you may need 100 pages of code and even after all that, it still may not be objective.

So one source of inspiration can be to just to look at the markets and get ideas based on what you see. You can also get ideas from reading books or articles. The point is, it's a never-ending learning process, which is what I like. I don't like to stop. I'm always curious, always trying to find something that might be interesting.

Sure. So once you find an idea and program it, the next step is to make sure it works the way you want it to by testing it. There are different opinions about backtesting, that is, that it's a reflection of the past and may not accurately reflect the future. What are your thoughts on backtesting, robustness, and optimization?

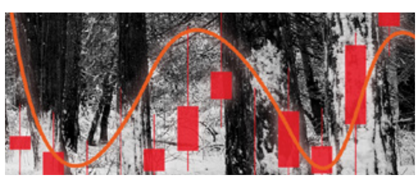
Yes, it's true that backtesting uses past data, but isn't it that way with anything that has to do with predicting markets? The fundamental analysts look at company balance sheets, which is the past. If you analyze Apple or Tesla stocks, and look into the balance sheet or the P&L, it's all in hindsight…it's the past.

If I make a prediction of what the weather might be at a certain time, I can only use past data to make that prediction. This is true for all disciplines and I think what is critical is that within the data, you always have *signal* and *noise*. What I want to find are the signals. I want to find a consistent, measurable, and predictive pattern. I don't want to trade on noise because noise won't bring me money.

It's difficult to find a signal and to find real patterns in the market instead of just noise. And here's where the circle starts to overlap with robustness. If you just overoptimize a system and perfect it and maybe use some new software that allows you to create billions of strategies and pick one that works, then you probably have found a noise strategy. If you test billions of crazy ideas and strategies with a thousand parameters, then I would agree with those who criticize backtesting. This type of strategy isn't based on a pattern.

So that's why I try to first think of the logic and then look for the pattern instead of telling the computer to give me logic. The logic comes from *me*, and then the machine validates whether there is a pattern or not. That's why I think robustness is a very critical part of it, because that shows you whether your strategy has the probability to survive in the future or not.

That's why I'm always skeptical of black boxes that show you beautiful equity curves, because most of them disappear after three months. If you look online, you'll see that most of these nice systems don't work after three months. Always be skeptical and make robustness checks. Use the right data and don't use too many parameters. My strategies are very simple. I think the strength is in combining different approaches. I think this is a better way than looking for one single holy grail that doesn't exist.



You may also find that if you look into published systems, many of the approaches there really don't work when you do a backtest. Many authors just show you the best-optimized version of it. So you have to be critical and you have to do your own work. If done correctly, backtesting is the best and most powerful weapon when it comes to trading systems.

Do you recommend having different systems for different types of markets, or is it better to stick with one?

If you separate, for example, trend-following and mean-reversion strategies, every system is going to have weak market phases or times when it doesn't work that well. Say you have an adaptive system where you build into the system something like, "When the trend strength is very high, then I'll use the subsystem for trend-following and when the trend strength is low or when the market doesn't move much directionally, then I'll use the mean-reversion system." You will never find the optimal system because you can only see it in hindsight. You will never know when a trend starts or ends.

Everybody's looking for the perfect system but you don't need the perfect system. I think if you do well in the trending part, say 60% or 70% of the time you just take good signals, then it's enough. And the same applies to a sideways market. If you see there is a sideways market, or even better, if you trade single stocks, it's even easier because you can screen for such stocks. So, for example, if you are a trend-follower, then you screen for stocks that are in a trend. You don't have to look at stocks that aren't trending.

Here's what is interesting. It always comes back to the question of how well you

My strategies are very simple. I think the strength is in combining different approaches. This is a better way than looking for one single holy grail that doesn't exist.

know yourself and what your strengths are. Ultimately, you have to follow the system. I found out that for me, it's difficult to be patient. I would have liked to have been invested in Netflix 10 years ago but I would have never made it through a drawdown of 60% during that uptrend. I would have been too nervous.

What is important is that the trading system has to fit your personality and then of course, you can decide whether you want to trade all different markets or just specialize in one market regime. You could say, "I only trade in bull markets, or I only trade when the volatility is low, because I can't handle high volatility." That's important information because then you can stick to the system. I think that's the hardest part for many people. The thing with a system is that if you give it to 10 people, everybody will interpret it a little differently by leaving out trades or increasing size or changing the parameters. So it depends on what kind of person you are.

And if a trader does find a system that works for them most of the time, does it mean they'll succeed or can they still fail? What I mean by that is, will discipline come into the picture even if you have an automated trading system?

If you read articles or books, they will tell you that if you apply algorithmic or systematic trading strategies, there are no emotions involved. That's not true because there's always a human factor involved. And there are many ways traders can fail even if they have a system. One reason is they may have an unrealistic risk tolerance beforehand. Say you look at a backtest you see that there have been drawdowns of 30%. You think that's fine and is something you could handle. But if you are in the midst of a drawdown with real money, it's completely different. You know your system works but now you can see that you lost money on your first trade, your second trade, third trade. That's three in a row! Should you take the next trade? That's when emotions come in.

Say you stop trading after some consecutive losses or you increase your risk because you had a winning streak. You'll go against your system or omit trades after you have a losing streak. Perhaps the market has changed so you change your parameters. This is also the wrong thing to do. The worst thing is you have a system that is broken and you still traded it. So not only do you have to define your trading strategy, you also have to define when it should be turned off. For example, if the strategy had drawdowns of 20% in the last 20 years, but then had maybe five or six losses in a row, which now exceeds this threshold maybe by 50%, you have to admit that something could be wrong with your system. Maybe the market regime has changed so significantly that your system doesn't work anymore. Then you have to turn it off. But in order to turn it off, you have to define when you will turn the system off.

That's why it's good to have multiple systems. I believe it's good to have two, three, or maybe up to five different systems. That way you don't have to rely on just one trend-following system. You have different systems. Emotions are still involved for as long as your money is involved and as long as you are looking at your P&L.

David, tell us a little bit about what you do now at Tradesignal.

I'm a technical analyst with Tradesignal Ltd. We serve institutional clients with a software for backtesting, optimization, and so on. For me, it's like a hobby that transitioned into a job. I work with traders of European companies. They could be banks or energy companies. In the energy sector, there is a lot of trading going on right now. They trade gas, coal, power, etc. and apply technical analysis. Our team consists of programmers, quants, and analysts like myself. We serve our clients to help them improve performance by using systematic trading strategies. So that is my main job.

And of course, I trade stocks, mostly US stocks and ETFs. I think the US market is the best market for traders because it's so big and gives us so many interesting stocks, patterns, and signals. And it's very liquid. I love to trade US stocks and ETFs based on systems I created and for the most part, it's not complicated. It's more about logic and robustness.

Any words of wisdom you'd like to share with our readers?

I would motivate everybody to write down your strategy. Try it. Even the first step is a good exercise because you have to write it down. After you write it down, pass it to your neighbor or friend who should be able to understand your strategy and trade it. Otherwise, it's not clear enough.

The second thing is, invest more time on learning how to backtest and program your trading strategies. There's no need to spend too much time drawing trendlines and other things on charts. Over time, this will free up a lot of time spent in your process. For example, if you have defined some of your patterns and you run a screener, you can screen 3,000 stocks for your pattern. I just boot up my computer in the morning and in one minute, I can see everything I'm interested in on my dashboard.

I can spend my time reading books on psychology or I can spend time learning more about the markets. I like to motivate people to formalize their strategy and try to test it, whether it's programming or using predefined modules. It's a lot of effort, but if you can't code and don't want to code, just take a few charts and find out whether your idea works or not. That will save you a lot of money and a lot of stress.

Thank you for speaking with us, David.

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