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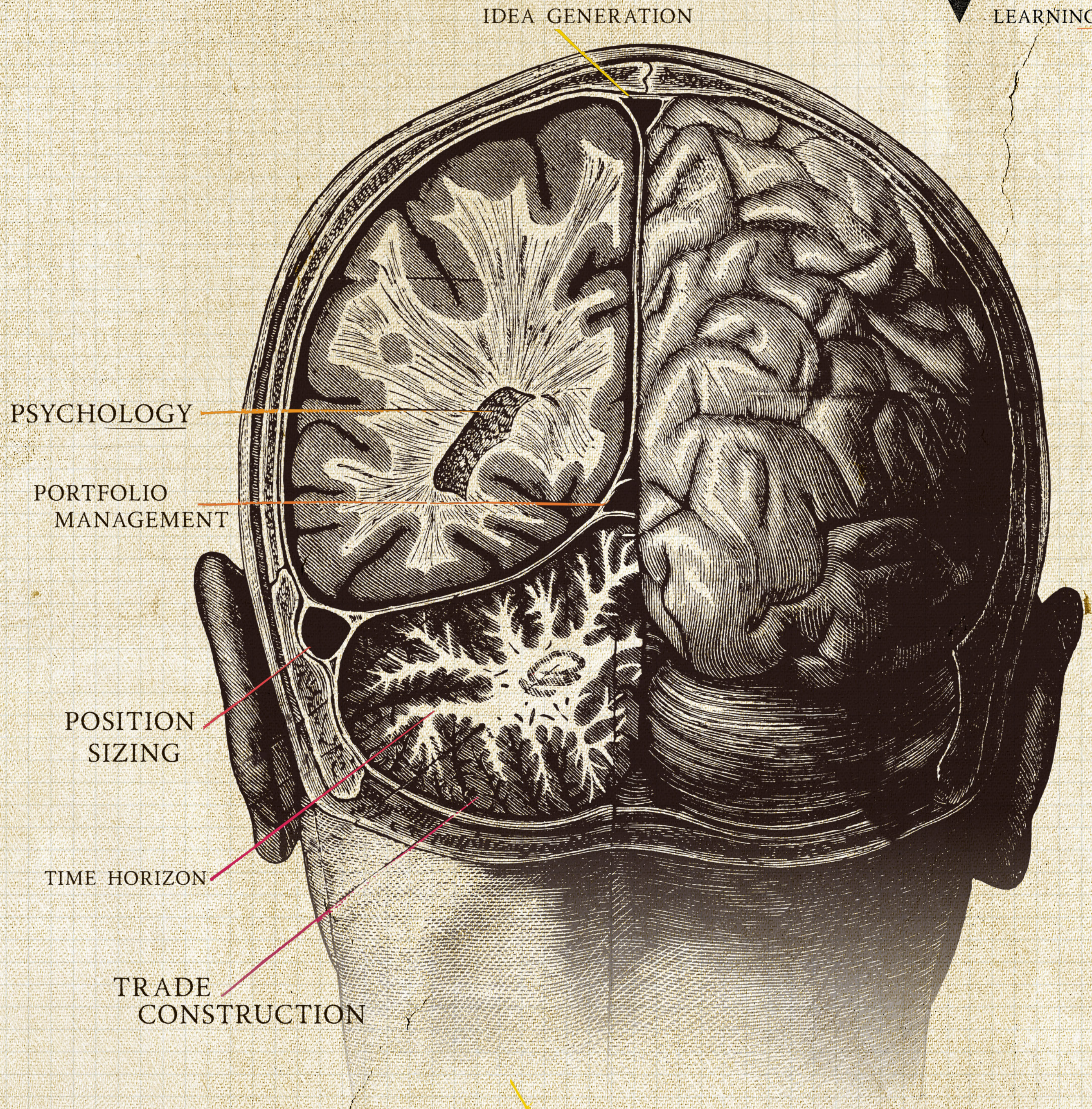

INVESTOR MASTERCLASS

WITH ERIC CRITTENDEN

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*This is supplementary material to the 'Investor Masterclass' with Eric Crittenden. To get a complete picture of Eric's framework, please use the notes below alongside the **actual interview.***

Eric Crittenden co-founded Standpoint Asset Management in August 2019. He is the chief investment officer and a portfolio manager for the firm's flagship multi-asset fund.

Eric has over 20 years of experience, having started his career in 1999 as a quantitative researcher in the family-office industry before becoming the Director of Research at Blackstar Funds in 2003 and CIO of Longboard Asset Management in 2010. He graduated summa cum laude from Wichita State University in 1999 with a BBA in Finance.

You can find more info about Eric and Standpoint Asset Management on their ***website.***

PART 1: BACKGROUND AND FRAMEWORK

LESSON 1: YOU CAN'T PREDICT, BUT YOU CAN PREPARE

"I always shied away from the prediction aspect. It was more [like], can I learn empirically through the data about how to react, how to protect myself, how to survive, how to earn my place in the ecosystem."

So many investors focus on using analysis to predict future outcomes and position themselves accordingly, but this isn't the only way.

While Eric started out in meteorology, a field most often associated with prediction, he was not drawn to the forecasting aspects but rather disaster preparedness. Yes, knowing if it will rain, snow, be hot, or freezing in the next few days is helpful, but that's very different from predicting the timings and magnitudes of dire events. This is also true in markets - often, the biggest and most important events catch even the most successful forecasters by surprise.

Because of this, Eric concluded that forecasting would not make one a successful investor, but that the preparedness that comes from studying past disasters would translate well into investing.

In a wonderful memo from late 2001 titled ***"You can't predict. You can prepare"*** Howard Marks argues the same thing through the prism of the business cycle:

"In my opinion, the key to dealing with the future lies in knowing where you are, even if you can't know precisely where you're going. Knowing where you are in a cycle and what that implies for the future is very different from predicting the timing, extent, and shape of the next cyclical move. And so, we'd better understand all we can about cycles and their behavior."

LESSON 2: FIND THE STRATEGY THAT FITS YOU

"I thought the job was going to be to help them build a diversified sustainable family office... I was dead wrong. It turned out they didn't want any help diversifying - they wanted help getting more leverage in tech stocks. So, we butted heads for the entire two and a half years I was there."

Getting the dream job at the prestigious firm isn't all it is cracked up to be. In Eric's case, after he started working at the large family office, he was tasked with implementing strategies and portfolios that he fundamentally disagreed with. That's going to take its toll on anyone - even with great pay and reasonable job security. Worse again is when you find yourself trying to implement strategies in your own portfolio that don't fit.

This is well-worn territory in the ***Investor Masterclass series***, but a great strategy implemented by the wrong person can fail if their emotional reactions prevent them from making the right decisions.

Conversely, not every strategy that fits your personality is a good one. Take value investors: many people simply cannot bring themselves to buy high companies with high multiples because of their world or market view. Over the last decade that has proven to be a losing strategy, and a decade of poor returns is not something most investors can tolerate.

They probably would have benefited from implementing a different strategy – even it was against their nature as an investor. Let's informally call this "hold your nose" investing...

LESSON 3: UNDERSTAND YOUR EDGE

"This industry that we are in is the only one where it is acceptable for you to not understand where your profit margins come from... And I just don't understand how people sleep at night when they don't understand why what they do works."

Eric spent a significant period of his career at Blackstar Funds, a fund of funds where he was looking for quality managers in the long-short equity and ***CTA*** space.

As a fund of funds manager, these other managers viewed Eric more like an allocator who they needed to pitch. Eric struggled to find good managers for using systematic trend following strategies for equities, but he was able to find good CTAs.

The problem was that even though these CTAs were able to produce enticing returns they didn't understand how they were able to generate them.

You might say, "Well, who cares? If they can produce good returns you don't need to understand the source."

But it becomes an issue in two main circumstances:

1. If the market environment changes and the strategy stops working. In that scenario the investors who don't understand why their strategy worked are blind to tweaking anything because... Well, they don't understand why it worked.

2. Making tweaks that don't help. If said investor decides to tweak blindly anyway, it's a crapshoot as to whether the tweaks will actually help or not.

This is exactly what happened to Eric's colleagues when they implemented elegant machine learning and AI only to suffer poor performance as a result.

Because of his experience working for a commercial hedger, Eric believes he understands the core source of alpha for his strategies. We will touch more on this later, but without that knowledge Eric may also have fallen into the same traps of unnecessary tweaks and an inability to adapt when needed.

For individual investors, this is perhaps even more true. Professionals can misunderstand their source of alpha, tell a great story and raise capital on it while individuals can only risk deluding themselves.

LESSON 4: NOT ALL ALPHA IS ATTAINABLE

"These are not investing strategies. They are benefiting from some sort of advantage of an anomaly or an inefficiency or something that isn't scalable to everyone else in the world."

Eric is quick to point out that the systematic strategies that he implements should not be conflated with strategies implemented by the likes of Renaissance Technologies (RenTec), Millennium, Caxton, etc.

There are many headline-generating, return-generating participants in markets that use strategies that don't come close to resembling what the average person would consider to be investing. That doesn't mean these aren't good strategies - in fact, they are often great strategies - but they are benefiting from either their position within the broader ecosystem or some form technology or infrastructure advantage that they have built over time.

Most investors aren't trying to compete with these firms at their own game, but the sentiment Eric puts out here is valuable in a broader context...

In Lesson 3, we talked about the importance of understanding where your edge is coming from, but here we are more focused on understanding where your edge won't come from.

The first day you open a trading account, you're immediately participating alongside institutions with decades and in some cases over a century of institutional knowledge.

Before implementing a strategy, every investor should survey this landscape and try to understand how the other players fit into the ecosystem - and how they could affect your strategy. If you find yourself trying to compete with well-established professionals, it's almost certainly not a good move.

You are much better off like Eric, finding an area of the market where even some of the most successful investors don't even understand why they make money.

Please refer to previous episodes of the Investor Masterclass series to find out how other top investors have found their edge in the market.

PART 2: HOW DOES MACRO TREND INVESTING WORK?

LESSON 5: COMMERCIAL HEDGERS DRIVE CTA RETURNS

"In the futures markets... there are 3 types of participants. You've got hedgers, large speculators and small speculators, and there is only one group in there that you can possibly take enough money from to run a business around."

Eric's hypothesis on what drives the returns of CTAs (or what he likes to call macro trend investors) is simple. Commercial hedgers are one of the largest participants in futures markets, and for the most part their business benefits when their hedges do poorly. That's because so much of what drives their business is happening outside of the futures market.

Eric gained insight into how these commercial hedgers think when he worked as an accountant for a commercial aircraft manufacturer in Kansas.

Let's use them as our example:

- Say they need iron ore as an input to their final product...
- Too much volatility in the price of iron ore could make their potential outcomes more uncertain and thus their business riskier...
- It is in their best interest then to take advantage of the futures market to lock in prices and increase certainty when it is most beneficial to the business...
- So, when the price of iron is falling, they are going to take advantage and lock in some of that cheap iron by buying futures.

To a speculator, this trade is a loser if the price of iron keeps falling - but that doesn't really matter to the hedger because they are already making more money on the aircrafts they sell from the increased margins. This certainty about the price of iron ore inputs can also reduce the debt financing costs for the business, allow for more aggressive strategies, and a whole host of other benefits.

That illustrates an incredibly important point in investing in general – **make sure you understand fully the context behind someone's position before you go and implement it in your portfolio.** Different investors have different objectives and incentives.

In short, hedgers want to lose money on their hedges because it usually means business is booming and Eric believes he can benefit from this by acting as the counterparty and liquidity provider.

There are many other examples and not all hedgers are hedging commodity exposure. Institutions like pensions funds hedge things like interest rate risk and equity exposure and some just engage in predictable behavior that although not truly hedging, mimics hedging.

LESSON 6: TREND FOLLOWING DOES WORK ON EQUITIES

"The index strategy underlying the S&P 500 is really just a big dumb trend following system."

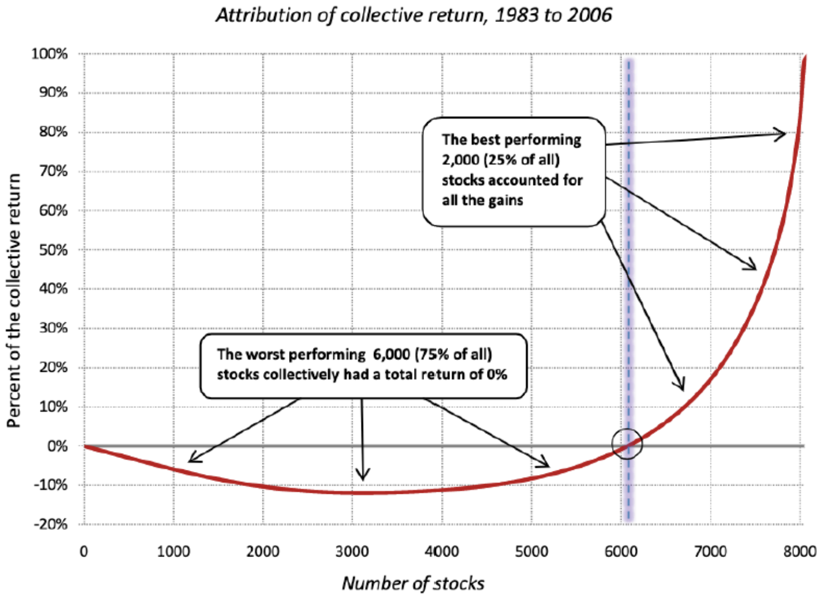
So – Eric was uncomfortable with people not understanding where trend-following returns came from.

But he was also unhappy with the common (and unproven) belief that trend-following did not work on stocks.

As he has done throughout his career when faced with a hypothesis, he did the work and ran the numbers. All investors can take a note here about the value of doing your own research (DYOR – so important it's an acronym), not taking commonly held beliefs as truths, and letting data drive decision making.

In his research, including *"Does Trend Following Work on Stocks?"* and *"The Capitalism Distribution",* Eric shows that:

1. Trend following does work on stocks
2. The returns of equity markets are driven entirely by the top quartile of stocks (see chart below)
3. Trend following actually works better on sectors than it does on individual stocks.



Commercial hedgers don't really exist in the individual equity world or sector world but, as alluded to in Lesson 5, there are large market participants who act similarly.

Institutions with billions of dollars make up a huge section of the equity markets in the same way commercial hedgers do in futures markets. They aren't exactly hedging to protect a core business, but they do behave similarly. Institutions like to sell high and buy low whether that be an individual stock or an entire sector.

In many ways, Eric's research gives credence to passive investing - or at least as it is done by most indexing strategies. At its core, the S&P 500 is just a market cap weighted trend-following strategy. If a stock performs well enough, it will be added to the index and the momentum of continued good performance will mean it's bought more. If a member performs poorly, it will be sold and eventually the trend will reverse and it will be removed from the index entirely.

LESSON 7: ROBUSTNESS BEATS ELEGANCE

"When you have so many rules and filters and conditions its really easy for the future to give you some data that is different than anything you've seen in the past. If you've curve fit, or made your system really elegant but fragile, it will fall apart on new data."

Eric ran an equity strategy based on his research up until 2018. When he left with a non-compete clause, he decided to go back to school to better understand machine learning and AI and how these techniques could be implemented to improve his macro trend strategies.

After studying up and layering in these elegant techniques, Eric was left with something that on paper looked better than what he had before, but he knew he was sacrificing much of the robustness of his strategy that allowed it to perform well in future unforeseen market environments. Eric began to strip away everything he added in and realized that when left with only 3 variables: entry, exit, and risk budget.

Many of Eric's peers were not so lucky. CTAs began to struggle in 2011 partially from implementing many of the same techniques that Eric decided not to include in his own strategy. In some cases, this was just an error in judgement, but in others this may have been driven by a desire to market to allocators. Volatility targeting and high Sharpe ratios were what allocators wanted most, but the elegance that comes from layering the number of variables that produce those types of returns in the back test creates the scenario of unforeseen future environments.

Jerry Parker, a legendary CTA and a previous Investor Masterclass guest, talked about a similar phenomenon. He prefers having a larger sample size and decent back test versus very smooth results based on many conditions, which reduce sample size significantly. ***Check out Lesson 5 in the notes from his Masterclass.***

PART 3: THE ONLY 3 VARIABLES THAT MATTER TO ERIC

LESSON 8: ENTRY POINTS

"It's really just a preference issue. I like breakouts because it is really easy to estimate your risk when you are using breakout systems. Moving averages and moving average crossovers require tautological factorial math… and unnecessary complexity."

When it comes to macro trend trading there are multiple ways to skin a cat when it comes to entry points. Eric uses the phrase **"zone of robustness"** here, highlighting that for entry points the zone of robustness is much larger than for exits. What he means is that there are many ways to systematically enter trades - using breakouts, moving averages, moving average crossovers, and many more - that all hold up to Eric's standard of a sufficiently strong back test with low chances of being thrown off by different data in the future. That said, he likes to keep things simple and uses only breakouts.

So, what's a breakout?
A breakout is any point where a security is now trading above or below some extreme point in a historical look back period. This could be the 1-week extreme, 1-month extreme, 1-year extreme and it could be shorter or longer. For long positions this would be a new high and for short positions it would be a new low.

For diversification of entry point techniques Eric tested what Jason calls **"an ensemble approach"** of using a basket of indicators like the breakouts and moving averages discussed earlier back in his brief machine learning days.

But this didn't produce any meaningfully better results and came at the cost of simplicity. This doesn't mean that diversification of entry points doesn't matter.

What Eric says does matter is diversifying across your look back periods so that you can incorporate short, medium, and long-term trends in your portfolio. This acts to smooth returns, often at the cost of the big years. This is especially important for Eric, who is focused as much on growing his business as he is on producing the best absolute returns over the long-term.

For individuals with greater tolerance for drawdowns and periods of underperformance, this criterion may be less important. Eric's heuristic is 1/3 allocation to short, medium, and long-term trends.

LESSON 9: EXIT POINTS

"Exits are a little different… you can't mess around with those. The zone of robustness is still wide but not nearly as wide as it is for entries."

There is an old saying in finance:

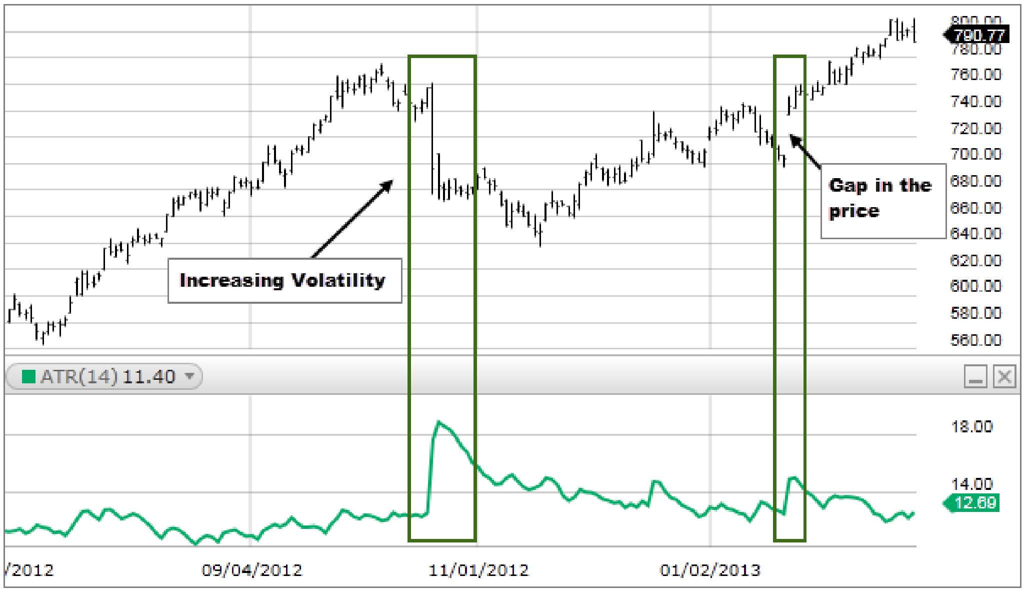
"You always have to make two trades. First, you have to get in, but then you have to get out."

There is so much focus on what to buy and when but much less focus on when to sell and get out. Eric's analysis shows that the area where a "good exit" is made is much narrower than the area for a good entry, and that almost every systematic investor should probably be honoring that zone. Of course, not everyone does.

The most common issue? Eric believes most people put their stop-losses way too close and as a result find themselves missing out on some of the bigger moves and trends.

Eric has simulated hundreds of different stop-loss/exit strategies. The ones his data show work consistently is approximately 7 ATRs (Average True Range) or 30% of the range of the lookback period. So, depending on the length of the lookback period (short, medium, long) the range will differ. If he is looking at a 6-month breakout the stop will be approximately 30% of the range of the asset over that 6-month period. This is a rather simple concept to grasp but many are not as familiar with ***ATR or average true range.***

Here is a quick illustration from ***Fidelity Investments*** of how price moves affect the average true range (ATR) of a security:



Eric's analysis has shown that using this ATR technique and a risk budget of 6-8 ATRs gives him almost the exact same range as simply using 30% of the range from high to low over the lookback period.

LESSON 10: RISK TARGETING

"For us, I like 10%. What that means is if I'm just dead wrong on every position, all of them, and they go all the way down to their stop losses and I have 0% winners and a 100% failure rate... my estimate is that was about 10% of whatever the equity was at the time the drawdown started."

Risk targeting has two main components:

1. Your risk budget for your overall portfolio
2. Your risk budget for an individual position.

Eric starts with the big picture and sets his overall risk budget at 10%. This means if everything goes against him, the maximum he is expecting to lose is 10%.

Why 10%?

Eric has chosen 10% not because a wider risk budget doesn't work. In fact, it works just fine over the long-term. But he is in the business of trying to bring in clients. The reality is that over 80% of the money has gone into strategies that have 10% or less maximum drawdown.

This highlights the divide between what a professional money manager can do and what an individual or proprietary investor can do.

If you don't have to attract client money the same restrictions don't apply, and you can have a larger risk budget if that suits you.

On individual positions, Eric is not vol targeting or reducing position sizes based on their individual volatility. In the past, he was a proponent of this idea of rewarding lower vol positions. The same is true for rewarding "uncorrelated" positions with larger sizes. The theory says it works, but the empirical data conflicts with the theory.

In theory, rewarding truly non-correlated positions is great, but in *reality*, the time it takes to recognize correlations or correlation breakdowns makes implementing this dynamic sizing extremely difficult.

Plus, when big trends really begin to dominate, often correlations between assets begin moving to 1. This means that a lot of the returns for macro trend traders are occurring in periods where this sort of dynamic sizing would have you de-risking your portfolio if you followed the theory.

Remember those hedgers we talked about earlier? They come back into play here in relation to position sizing. Eric believes the risk premium he is capturing is coming from hedgers. The more the hedging the higher the chances he will be able to capture that risk premium.

What this means is Eric is using the liquidity via open interest as a metric for gauging how big his position should be. He doesn't care what the market is as long as he can legally trade it in the US and as long as it is one of the 75 most liquid futures markets. Eric estimates that this makes up about 96% of the futures liquidity he can legally access. In reality, most of the profits come from the top 30 most liquid markets like energies, bonds, stock indexes, metals, and some of the grains. Eric updates this list of 75 most liquid markets once a year.

A good alternative rule of thumb is to only trade futures markets that have an active options market. This liquidity weighting is especially important for Eric because he has the lofty goal of being able to handle $20 billion in AUM. For individual investors with less capital, other less liquid futures markets may be perfectly suitable.

PART 4: THE FUTURE OF MACRO TREND INVESTING

LESSON 11: PERFORMANCE IN FUTURE REGIMES

"It's like the displacement principle in physics. If you want to know the mass of a monkey wrench you drop it in the water and see how much the water rises. If you want to know the "mass" of the bonds just remove them from the portfolio and rerun."

One of the common arguments against CTAs is that their historical performance benefitted from the backwardation of the curve in bond futures over the course of the 40-year bull run.

Proponents of this argument are saying that the additional yield generated from rolling long positions on a backwardated curve can explain the performance of CTAs. If this were true and we are entering into a regime where bonds can't continue to trend like this than it could have a major effect on the returns of Eric's strategy.

As always with a hypothesis, if Eric doesn't know the answer, he is going to run the numbers and test it. To do so, he pulled bonds completely out of his strategy and reran his back test. The results did show a slight deterioration in performance but "nothing meaningful."

As well, he highlights that having positive returns when bonds do well is a dime a dozen. Almost every manager does well in those periods and even if the returns aren't as good if bonds trend down and the curve remains backwardated, a slightly positive return is better than a negative one.

On the flipside, one of the common marketing messages for CTAs is that if we enter an inflationary environment they will perform well. For the sake of his strategy, Eric hopes for inflation as he believes it will perform better in that type of environment, but he is willing to admit that we don't have enough data to say for certain.

We've only had one true inflationary environment, specifically the 1970s. During that time CTAs thrived, but we don't know if assets will trend in the same way. This is extremely important for investors to consider not just for CTAs but for any asset class or strategy. Gold is a great example. How can anyone say that gold is a proven inflation hedge when it has only traded freely for 50 years and in that period, there has been one true inflationary environment? So far it has not acted as the perfect inflation hedge many claim, showing how assets don't always perform as expected.

LESSON 12: BATTLING INVESTOR BIAS

"I've done this a million times and if people don't know what it is they always build the opposite of what they are doing in real life."

One of the most important lessons for individual investors and professionals alike is to battle investor bias. Individuals must battle their own biases, but professionals must battle both their biases AND those of their clients. The reality is the most investors have a hard time separating what they want to be true from what is true.

In Eric's academic career, he was tasked with pulling in data on a handful of asset classes and writing code to process this data and duplicate the findings of Harry Markowitz's Modern Portfolio Theory (MPT). Eric decided to go above and beyond and used his friend Bloomberg terminal to pull in even more asset classes and strategies. He produced results quite different from MPT showing 50% macro trend and 50% global equities was better.

To Eric's surprise, his professor dismissed the results as unimportant. Many CTAs make this argument to potential investors touting the benefits of adding CTA to their portfolio, but few actually combine both themselves because of the belief that nobody would invest.

When launching Standpoint, Eric even needed to convince himself that this was the strategy he wanted to implement - even though it was what he did with his own money - because of his self-doubt around investor preferences.

He has found some success by anonymizing strategies. It's the equivalent of a blind taste test. For years, no one would dare say that wine from California was as good as French wine... until a blind tasting in 1976 known as the Judgement of Paris, where California Cabernets beat the French Bordeaux in every category. Today, nobody would bat an eye if you said you preferred wines from Napa to those from Bordeaux.

By building a strong track record Eric hopes he can change investor preferences but, in the meantime, he is fine going after his tribe and working on trying to provide what investors NEED rather than what they WANT.

The data has shown Eric that this is arguably what investors need, and he views it, ***similar to Brent Johnson,*** as his job to help them bridge the gap between what they need and what they want.

This is one of the most important concepts for investors whether you are allocating to a manager or managing your own account. We all WANT to believe that we can be the next great discretionary macro investor matching the likes of Druckenmiller or Soros, but what if what we NEED is less exciting? As investors, that's a question we all need to ask ourselves - because the desire to prove ourselves can prevent us from achieving what we need: which is positive returns that help us grow and preserve wealth.

ADDITIONAL MATERIAL

If you haven't already, please read Eric's two paper mentioned in this interview ***"Does Trend Following Work on Stocks?"*** and ***"The Capitalism Distribution".***

This ***prior episode of Investor Masterclass*** featuring Jerry Parker gives another perspective on systematic trend following.

For the Investor Masterclass series Jason Buck has also ***interviewed Chris Cole*** on his systematic strategy and ***Brent Johnson*** on how his career his shaped his views on portfolio construction and investing more broadly.

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