A Visual History of Multi-Asset Momentum with Mean Variance Optimization In Good Times… and Bad

Transcript: A Visual History of Multi-Asset Momentum with Mean Variance Optimization

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Synopsis: Many Liquid Alternative strategies are struggling in 2018. In this video, we specifically examine a Multi-Asset Momentum strategy to assess:

- How it is fairing so far this year
- What type of market structures tend to be ideal/detrimental for the strategy
- Historical periods where we have seen similar market environments
- What tends to happen shortly after these periods of turmoil

Topics: Multi-Asset Momentum, Global Markets in 2018, Risk Management

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Hello everyone, Rodrigo Gordillo here from Resolve Asset Management. Today, we're going to cover a Visual History of Multi-Asset Momentum strategy with Risk Management using Mean Variance Optimization. And the real goal of this presentation is really to give people, that are thinking of investing in this multi-asset space, a good idea of the character of the strategy over good times and bad times… so that we can hopefully understand it enough, we can hold on to it for long periods of time. But before we do, let's just take a second to read through the disclaimer that has all the information that we're going to cover here in this presentation. Please pause and read through, otherwise you can download the presentation and read through it that way.

Let's talk about the data that we're going to present. We're going to show you, historical performance of a bunch of benchmark indices across the world: equity indices, commodities, gold real estate, treasuries… so we can get a feel for how those asset classes have interacted over history and periods of trending markets and non-trending markets. And at the same time, we're going to overlay the performance of a back-tested strategy – a Multi-Asset Momentum Strategy – as described in the whitepaper that we wrote called Adaptive Asset Allocation – A Primer in 2015 and published in the Social Science Research Network.

Now what we're going to do with this approach is we're going to scale it so that we're hitting a 12% volatility mandate, which is the high volatility mandate that we see that matches a balanced portfolio… a global balanced portfolio volatility type of strategy. And what we're doing here is we're going to re-balance the portfolio, 1/20th of the portfolio, once every trading day. So 20 times a month, but only 1/20th of the portfolio is traded in a trading day.

But with that, we hope that we can understand a little bit of the character of the system in periods of high volatility and trendless markets like we've seen in 2018. So why don't we get to it?

Alright, so what we want to get from this is understand the type of ingredients that we need in order to thrive in the market to provide top tier performance. And sure what we need is stable volatility regimes… and what we really mean by that, is we don't care so much about whether a market is highly volatile or not. What we care about is volatility 'phase shifts'. So if there's a lot of "low-volatility-to-high-volatility-back-to-low-volatility" type of environments, it's not going to be fruitful for Momentum strategies that apply some sort of risk management.

Moreover, what we're going to need in an ideal environment is a large dispersion. So what we want is big winners, big losers, and distance between… or differentiation between those asset classes and their trends. And the last thing that we're going to need is that, those trends that do exist through that dispersion, we want them to be as persistent as possible. And we need at least two or three of those asset classes to be doing well, and acting calmly and trending really nicely. Now these things don't all need to happen at the same time, but if you want to be in the top tier for 12-month periods, these are the ideal ingredients. And in fact, this is what we saw in 2017. In 2017, we saw pretty persistent trends… there were really no volatility shocks to speak of … you had big winners and big losers, a lot of dispersion between them. And you had a handful of asset classes that you can transition into. And so, in these types of environments, you could expect a multi-asset momentum strategy to lay near the top of the performance spectrum.

Okay, so what's the opposite of that? The opposite is when we have abrupt volatility spikes, low dispersion… low dispersion just means not a lot of difference between the winners and the losers. And then the third thing is a lack of trends, so a lot of small – by small I mean short-lived trending asset classes that move back and forth, and confuse the system.

So, this is this leads to a lot of unproductive trades and it actually hurts a multi-asset momentum system.

And what do we see in 2018? We see precisely that type of 'kryptonite' for these strategies. In the beginning of the year when the trend broke, it broke really hard, really aggressively. And when you're targeting to different volatilities… when your risk managing, what's going to happen is volatility spikes and you're going to see these asset classes go down, the system's going to reduce its exposure to these asset classes, start transitioning to things that are working – at that point it was gold, commodities and a little bit into treasuries. But the real 'kryptonite' is when that volatility reverts back and asses classes rebound really aggressively; if you risk manage, you are not going to rebound with them.

And for the rest of the period, what we generally see after these spikes, is a period of non-trending markets.

Alright, so you see commodities trending up, then dying down. Gold trended up and died down, then you had the rebound in the latter half of 2018 with US equities, which transitions the system back in there.

It’s just a lot of noise and not very long-term trends that we can take advantage of. And then once again we see a volatility spike near October that leads us to be at the bottom of the spectrum… as one would expect from periods of trendless markets and high volatility, right?

So what I want to cover now is not just what’s happened recently, but when have we seen these types of markets in the past. These are ‘kryptonite’ events for Multi-Asset Momentum. One could consider them to be almost three standard deviation of event types. They don’t happen often, but they do happen. And you would expect these periods to be the largest peak-to-trough loss that you would see in a system like Multi-Asset Momentum with risk management.

So I what I want to do is take you back in history to other periods where we’ve seen these three standard deviation events, and what the political and policy parallels are, that lead to these type of market movements. What I’m doing here is I’m going to show you four different times in history. 1994 was the first period… we’re going to show you ’94 on the top left, 2004 in the top right, 2006 on the bottom left and 2013 at the bottom right. Now, what do all these periods have in common? They all tend to revolve around a period of policy change and policy shock. For example, in 1994, Alan Greenspan saw that inflation was getting away from him… and he actually raised rates from 3% to 8.75% in a 13-month period, and a few of those times were completely shocking to the market, the market did not expect those rate hikes to happen. And what happens when you’re re-pricing cash, when cash is much more attractive, is that everything has to be discounted by that excess cash. And every asset class tends to correlate. A system that uses multi-asset momentum and mean-variance optimization, which is the basis of creating diversification to the different movements of these asset classes… when diversification goes away, then you’re going to suffer… and you’re going to suffer with everybody else.

Now you can see that, similar to 2018, we saw that leg down, a lot of consolidation, not a lot of dispersion… another policy shock, the system ends at the bottom of the barrel in 1994. Similar idea here in 2004. 2004 was another bond massacre. It was trying to break the back of the housing market (bubble) by raising rates… similar idea, at the bottom of the barrel. 2006 was the last rate hike before the great financial crisis, so one too many hikes… markets did not expect, a similar idea. And then QE… the end of QE, the ‘Taper Tantrum’ in 2013, and we’re at the bottom, right. The key to understand now is, once these shocks occur… these type of policy shocks tend to be abrupt, quick, hurt diversification… and then what we really want to understand is: does this “break the system”, or do we see diversification creep back in? Asset classes start moving differently… and what happens to trends. In every one of these circumstances, what we see is that the following year trends start to emerge, volatility dies down, dispersion tends to exist and, once again. So big winters, big losers, and these again are favorable for the Multi-Asset Momentum systems.

And you can see that in every case we end up being the complete opposite of the previous slide, being at the top of the heap in every circumstance. And know that in 2007, being at the top of the heap didn't require an equity bull market in order to provide decent returns. It got its trends from commodities, from treasuries, from gold… while equity markets were struggling. So, the important thing to understand when we look at history, is that there tends to be a bit of a mean reversion when it comes to trend and stability.

So, what I want to show you in this chart, is how the Multi-Asset Momentum system handles these types of peak-to-trough losses… and what the recovery time is when compared against just being a buy and hold investor, to any traditional asset class whether it be US equities or treasuries. In history we've seen large draw-downs and long times to recovery.

So this chart just shows the peak-to-trough loss and then correction (recovery) time for the Multi-Asset Momentum strategy, contrasting it with the MSCI All-Country World Index. So what we see is that the worst periods, the biggest drawdowns, happen to be in these policy shock events: where you can see in 1994 there was a peak-to-trough loss of 20%; in 2004, almost 20%; 2006 we're looking at 16%; a little bit during 2008, when the market started to turn around. And we're seeing it again in 2018. But the difference being that the recovery time seems to be quite quick, right? And again, this is due to the fact that we don't stay in these trends… we've clearly been dominated by the momentum in equities over the last couple of years, and now that it's turned around we're taking a hit. But if that continues, other things will emerge and we'll be able to transition out of… or rather the system will be able to transition out of it.

And so, this is a key differentiator, and important to understand, that shocks like these affect multi-asset systems very quickly, but they also tend to recover fairly quickly.

We've been looking at this situation through a microscope, looking at what happened this year, what happened last year… and in particular points in time. Now, what I want to really do is take a step back and assess whether all of this that I've just shown you really matters in the long-term context.

Every system that you're going to invest in, doesn't matter what it is, is going to have its good periods and it's bad periods. The key is in understanding the character through thick or thin, and being able to take a step back and see what this really impacts in terms of long-term performance and long-term price action. And when we look at this back-tested strategy going back to 1991, what you see is that it's very tough to really identify those periods of duress. If I asked you to point it out, and I'm sure you probably could… but even if you could, for example this is '94, it doesn't really look that bad, does it? This is the period of 2004… 2008… 2013, and this is the period currently.

At the end of the day, the strategy seems to be doing what it's doing… it's having a period in a time where we've seen it be affected negatively before. And the question is, where do we go from here?

So, we are taking a 10,000-foot view with this chart… I hope it's impactful. But why don't we take a step back even further? Let's take a 100,000 foot view. And this is based on a couple of academics – Ilya Kipnis, Wouter Keller, and then our CIO Adam Butler. We were approached by them to test out this methodology, Multi-Asset Momentum methodology. They had data – monthly data – going back to 1915. It was a monthly rebalance strategy, and the results are clearly laid out here.

The black line represents an equal weight portfolio of 39 different asset classes. The green line represents a Multi-Asset Momentum with mean variance optimization at 5% target volatility... and the red line at 10% target volatility. And as expected, we see a pretty robust outline, right? Because a lot of people might say: "well, prior to 1991, it was a different policy regime… rates have gone from 16% to what they are now, which is basically zero. It would have been different in the past…" But we don't see that. We don't see any evidence that this is just a fluke of Multi-Asset Momentum only working during a positive policy period. This clearly shows that it survives the Depression, it survives the post-war period, the 1970s and so on… with a maximum peak-to-trough loss around negative 22%. So, once again, if we take a big step back, we're seeing that this is a pretty viable approach to managing money.

So going back into the microscope a little bit, just to remind people what it is that we've seen after periods of this non-trending, high volatility shock… and really low dispersion, is that things ebb and flow. And when they flow, like we've seen in 1995, 2005, 2007, and August 2014, we tend to see the system at the top of the heap.

All right, well that's it for now. I hope you found this useful, and if you do have any questions please do not hesitate to reach out. You can go to the 'Contact Us' button at the top, or reach anyone in the team through social media or email.

Thank you very much and we hope to chat with you soon.

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