Rodrigo: **00:01:43** All right. All right. All right. We're live. How's everybody doing today?

Adam: **00:01:48** Burella.. Yeah, we're doing great.

Rodrigo: **00:01:49** All right. All right. All right. All right. Yeah, … for you.

Mike: **00:01:58** All right. Cheers. You Macconnaigh'd last night. So, you …

Glen: **00:02:01** Happy Friday, guys.

Adam: **00:02:04** Happy Friday.

Rodrigo: **00:02:04** Yeah, I *Macconnaigh'd* last night so I'm nursing a bit of a headache.

Mike: **00:02:10** Happy holidays, everybody. This is fun, coming into the last couple of conversations we're going to have over 2021, and put this year to bed. So, for those of you who tune in on a regular basis, this -- next week will be our last one for the year. And as usual, I will warn you or alert you to the fact that if you're taking investment advice, you'd probably find better advice than four dudes on a Friday talking about things during some sort of happy hour session. So, remember that this is for entertainment and educational purposes only and this is not investment advice. With that, we've got a hell of a guest. And we got lots of neat topics to talk about. So, Rod, why don't I throw it over to you?

Rodrigo: **00:02:52** Sure.

Mike: **00:02:53** You had some stuff to talk about …

SPY vs the SocGen Trend Index

Rodrigo: **00:02:54** Yeah, with our new format, right. We're going to -- we're -- as a reminder, our new format is we're going to talk about something topical for the first 10 minutes. And hopefully, our guest, Glen can pipe in if he wants to. And once we're done that, we'll get into his background, and his story and what he finds interesting these days. So, yeah, this week, I was actually a bit obsessed with -- I was playing around with some charts. And just for giggles, I decided to -- exactly -- I decided to look at SPY versus the SocGen Trend Index since inception. And I was shocked by -- I guess it happened in the last couple of weeks, but they start and end at the exact same point when scaled to the same level of risk. So, I'm

going to share my screen. I did like -- it's -- I did a little bit of a tweetstorm today. So, what do I do here to share my screen? Share and …

Mike: **00:03:51** The best thing is to talk yourself through it live on the show.

Rodrigo: **00:03:53** Well, what else am I -- You guys …

Glen: **00:03:56** This is the optimal CTA indexing you used there, Rod, rather than the trend indexing?

Rodrigo: **00:04:03** I just grabbed the SocGen Trend Index that was in our system. … Yeah. So, I levered that up to -- So, by the way, I put it in the chat if anybody wants to click on the tweet. But basically this was a little shocking here right? You start and end at the same spot. Now again, this is assuming the same -- we're running at the same level of risk. I think the SocGen Trend Index runs around 13%. When you scale it to SPY vol, you get that. And what I find interesting …

Adam: **00:04:34** We should pause a little bit Rodrigo just because some people might be going well yeah, I mean, if you lever it. But they may not connect the dots with the fact that this is a futures strategy and therefore you can lever a futures strategy and the margin cost is built in. So, you know, you can scale this effectively as much as you like, and the results are equally legitimate.

Rodrigo: **00:05:00** Yeah, it's incredibly efficient. It's incredibly efficient to lever it. So, there'll be a lot of like, scaling to the same volatility discussion throughout this tweetstorm. So, indeed, Adam's right. And I'm sure we'll get into the details of this with Glen later on. But scaling exposure to futures is possibly the most efficient way of doing that than any other security that you can get your hands on.

Adam: **00:05:24** Yeah, because you're going to borrow at the rate that is the lowest marginal rate that the institutions in the market are able to borrow at. Right? So, you're taking advantage of the fact that very large institutions are participating in this market. And they're driving the borrowing costs down to the thinnest possible margin, and every investor that gets to take advantage of that.

Rodrigo: **00:05:47** Exactly. So, that's pretty shocking.

Mike: **00:05:51** With high liquidity across a broad set of differentiated markets, I mean, there's layers and layers of stuff to jump into there. But**,** let's hope that the audience can trust us that this is a scalable process and or process. And really …

Glen: **00:06:11** It's an interesting chart though Rod if you pull it open, you view it that way. I mean, same start point, same endpoint. Should it tell us that maybe we shouldn't be so reactive to these one day sell off, these smaller events that are -- they're going to be there over time. Maybe we should focus on the longer term, you know, look at our portfolios' long term horizon.

Mike: **00:06:35** I knew it would be profitable on a rolling five-day process, what do you mean?

Glen: **00:06:38** … protect for yesterday sort of …

Rodrigo: **00:06:40** Yeah. Well, listen, I'm with you. And we've been with you for years. This chart here is a depiction of a ski and bike store that we -- there's a paper that we wrote, *"Skis and Bikes, the untold story of diversification"*. And it's this concept that you want, I mean, this seems so obvious, right? You want things that zig when others zag, because when you put them together, you get a nice straight equity line, right? But it was just amazing to see if -- when you got those two equity lines, what if we put them together, right? Can life -- Can we -- Can it imitate art and in this slide, what I show is, again, combining them at the same and scaling up to the same level of risk as the S&P 500, you get that ski and bike type example. Right? It's a much straighter line than either one or the other. And I also include the table … or I guess, the yearly return's fairly compelling results. Right? And the drawdowns are much lower.

Mike: **00:07:44** It's probably worth just recognizing that the tracking error is still tough, as beautiful as that line looks. The tracking error from …

Rodrigo: **00:07:57** Yeah. No, this is …

Mike: **00:07:58** The market lows is, you know, it's unfortunately, the experience that we've all had, I think, in competing with passive markets. It's undeniable that folks will look at the returns from the bottom of the 08 crisis or the bottom of the COVID crisis and think that the other strategy or the SocGen Trend Index should somehow keep up with returns from the bottom or the trough of an equity market cycle. And the point is that that's not, and I'll make the leap here. That's not the position of the skis and bikes store owner. The store owner of the skis and bike store would like to normalize the revenue stream of the store across several seasons, as should the investor who is trying to plan for retirement or trying to find obligations that need more regular funding is that they should be thinking about that through the seasons, rather than trying to fall prey to some sort of …

Adam: **00:09:05** I mean, what if there's no snow one winter or terrible skiing conditions? Or what if it's a rainy cold summer, right, and no one wants to go biking? So, it's the exact same principle, right? You could go through long periods of time where one or the other strategy, whether you know, just holding stocks, or allocating to diversify trend goes through many years of not very exciting returns, maybe a large drawdown in there as well. But when you put them together, the likelihood of the portfolio going through a long period of, you know, near zero returns, and having intolerable drawdowns goes down very dramatically.

Glen: **00:09:46** Exactly. And I think that's a key point you made there, Adam, in terms of sometimes it's very easy to get bogged down in the single line items, and you look at a single thing and you judge another line item by the previous line item, go, oh this one was up. But this one wasn't up as much. Not so sure what this strategy was doing then, instead of looking at the combination, looking at the portfolio as a whole, and when you see the statistics here and your previous chart, in terms of the drawdown and the volatility, you really see where it benefits the portfolio. You know, I wonder who sleeps better at night here? Probably your ski owner here.

Rodrigo: **00:10:27** Your ski and your bike. Yeah.

Adam: **00:10:29** Yeah. To Mike's point, right, the irony is that you would think, right, and we've chatted with Eric Crittenden, for example, on this topic, you'd think that the investor in the diversified strategy would sleep better at night, and that the advisor with clients in the diversified strategy would think better -- would sleep better at night. But you do have to battle this tracking your potential, right, which may cause you to lag emotional benchmarks for several years at a time. And then you got to continue to defend this idea of diversification. Because as they said, I think it was Brian Portnoy who said that diversification works, whether you like it or not. And so you need to be prepared for that, as well.

Glen: **00:11:12** Exactly. I think one of the crucial elements there is just the education about it. Like, I'm, as much as you guys are quantitatively driven, logically minded all of this, and I like to be informed by the data of what does the science and what does the research say? And sometimes it can be hard to look at it and say, oh, yeah, of course, with hindsight, I would have done this and I would have stuck to this strategy. You know, it's easy to say that. When you're living through it, it can be a bit more difficult. But if the data points a particular way, and the statistics are in your favor, I think that's the sort of strategy I'd pursue.

Rodrigo: **00:11:51** And look, that 33% drawdown of the 1.5X SocGen Trend Index, happened at a time where the S&P wasn't losing 33%, right. So, that tracking error is not just

like, oh, maybe it's losing less than the drawdown. It's probably losing money when equities are going up. And that's really ultimately the painful part. But you put it together and this chart just shows the Sharpe ratio almost maybe goes up 100, what is that? 40%, maybe 160%, better Sharpe ratio, lower drawdown, just overall better experience, as long as you're looking at a single line item.

Mike: **00:12:33** Go back to the picture of the two lines, or the three lines.

Rodrigo: **00:12:38** There we go.

Mike: **00:12:38** Because I think that that's where you look at that period from 15 to today.

Adam: **00:12:46** Absolutely. Yeah.

Mike: **00:12:47** Right. That is a six year period. Yeah, no, of course. That is just eating a hot garbage sandwich for six years. I mean, it's just stepping up to the table year after year. I mean, to your point, Glen, and we probably should, you know, I want to let Glen introduce himself at some point, because I think the gems he's dropping might be underestimated, given his experience and his background. But hopefully, some people know who he is. But it just is so hard. And like you said, Glen, it should be obvious, this should be easy, but it's not. And in that lies the opportunity to understand that, hey, trying to achieve these types of risk adjusted returns is not a free lunch. Like they say, diversification is a free lunch. And I'm like that lunch is not free. It's absolutely categorically a lunch that you pay for in tracking error and behavioral FOMO. It's not free. When they say diversification is a free lunch, I'm like, no, I don't think so.

Adam: **00:13:58** Okay, let's press pause and let Glen actually introduce himself before we go any further, because I agree that …

Rodrigo: **00:14:03** We should have done that in the beginning. Sure. Yeah.

Adam: **00:14:05** Agreed.

Glen: **00:14:06** Yeah, I was just going to add to that bit before, Adam. Mike, was -- we should also when we're looking at this chart, acknowledge the past decade. What sort of a decade that has been pretty for SPY? It's not your average decade for SPY. So, we have to put that into context as well. And I know, we'll come back to this later on in the show and everything else. But you know, just to have that reference point as well.

Mike: **00:14:32** Good point.

Backgrounder

Adam: **00:14:33** That's a really good point. Glen, just give us a little bit of background on your intellectual history and your professional history so that we can recognize the authority that you bring to this discussion.

Glen: **00:14:43** Wow. The pressure's on there now. Well, I can give the short version or the long version. But we have all types of …

Adam: **00:14:52** You choose.

Glen **00:14:54** Why not, why not? Yes. So, for everybody who doesn't know me and I am part of the US business development team for Abbey Capital. I'm based on the West Coast out of LA here, where the rest of my US colleagues are based out of the New York office. And then for people who don't know who Abbey Capital are, what exactly it is that we do, actually just going to reference our website here, because there's lots of hidden gems on there as well and you can't really go wrong. So, as the one liner we have up there, Abbey Capital is an Irish alternative investment manager which specializes in managing multi-manager portfolios in managed futures. So, people can prepare themselves for that discussion, managed futures. We've already looked at SocGen, we've looked at the CTA Trend Index, etc. And we're going to be talking multi-manager portfolios, how to construct them, how to perform and everything else.

Rodrigo: **00:15:53** And then we're going to be talking about Irish people for the rest of the time. I love that you guys have like an Irish multi-manager. That's awesome.

Glen: **00:16:01** Yeah. So, some of you might be wondering, like, what the hell is this Irish dude doing over in LA, you know, talking about managed futures and how did he get here? Well, the story kind of goes -- And actually, when I think about it, I'm like, where did all of this really started off and what brought me here? And yeah, I guess it's pretty much after secondary school, which I guess is the equivalent of high school over here. You finish high school and like wow, you've no idea what you want to do with your life. You're like, oh, I should go to college. But what will I do in college? It's hard to commit at that stage and say, well, if I go into this, does that mean I got to become this after all these years?

But I knew I was more, you know, orientated and leaning towards the logic sort of things and maths and problem solving, rather than arts and literature, for

example. It always bugged me out when I was writing an English essay or something like this. You know, you'd give, it's like, oh, Glen, excellent work. Well done. That's 70%. I'm like, oh, okay. It's like maybe you could tell me what the correct answer was, how I could do better. It's like, doesn't really work like that, you know? And then whereas for maths, it's maths or physics, it's like you hand back your exam, it's like, yeah, you got it, right. You got it correct. You solved the problem, you get 100%. So, immediately, I was like, okay, I think the science route is the one that I'm going to take.

So, yeah, after high school, I decided to do a science degree. And I decided to go to the local university, essentially, Maynooth University. It's about, it's roughly, I'm going to say 20 miles away from Dublin City Centre. And the reason I went there was because convenience, yeah. It's about 10 miles from my parents' home, which meant that for four years, I didn't have to live off pot noodle. I was very happy to come home to a warm cooked dinner. Yeah. Thanks, mom. And, yeah, I went into general science route. And when -- I after the first year, I completed the first year, I completed the second year. That's -- all of a sudden something clicked with me, but I'm not really sure what exactly it was. But thankfully, something did click with me. It was a case of, oh, I actually kind of understand how all this maths works now and physics. And it was just the way it was taught.

In high school, it's very much if you come across this problem, here's a formula to solve it. And it's like, just learn this bunch of formulas. And if this comes up in the exam, apply that formula. Whereas in university, it was very different. We were sort of taught about complex maths in terms of pictures and diagrams. And it's like oh, you're actually looking at this sphere here, you're looking at this area under a chart, this is a line. And people don't necessarily associate differentiation with what it looks like in practice.

But then once you start to visualize the things, you're like, ah, okay, I kind of get this, I understand this. But that's kind of what happened to me. And the more I understood, the more I liked it, and the more I enjoyed it. So, I actually, for my finals, I specialized in Applied Mathematics and Theoretical Physics. I just went down the purely theoretical route and this is what I like doing. I like solving problems. And once I understood that, I could picture it, I was like, I like this.

So, then you're at the end of your degree, you're kind of back to square one. I know all this stuff, what do I do next? What's the next step like? So, I really enjoyed college, and I enjoyed the whole experience. The group that I was in, in terms of the Department of Theoretical Physics, it was quite a small department, a small knit community and we're all kind of friends. We were friends more than

students with the lectures, you know that small. As you can imagine, theoretical physics doesn't always have the greatest draw of students.

So, I had the opportunity there to join one of the research teams or basically the programs that was running in the department. And this is, it was all based on quantum computing. And they were looking at a lot of pretty interesting things on the quantum side of stuff. For me, it was like fascinating to have the opportunity to maybe go in and do some research on this. And I was offered a PhD position there as a student. And I was like, oh, wow. And I remember what happened in the summer, was that my supervisor had actually given me this paper. And if you guys haven't seen it, or anyone listening hasn't seen it, I urge them to read it actually. It was an article that appeared in Scientific American magazine called *Computing With Quantum Knots.* You know, he gave me that, and it was kind of like, there you go. Let me know what you think about that. That's kind of how it went. I read it and I was like, oh, my God, this is absolutely fascinating stuff. You know, it's like, wow, you know, the more you learn about quantum physics, and everything else, you're like this can't be real. Is it? Is this how this really works?

So, … and eventually I did a PhD in theoretical physics, based on topological quantum computing. And if people want to learn more about it, they can look up that article, or alternatively read my thesis. But I'd say I'll spare them the headache and just give them the one liner here, is that actually what it was all about, and why it actually applies to my current role now, which is, I think the two are kind of distinct to each other, but they really aren't. Yeah, so topological quantum computing is really all about how can we make quantum computers essentially, and what do we really need for it. And in topological quantum computing, what you're really doing is just moving around particles, and you're braiding them, and you're creating some sort of a knot. And this stores the calculation at a very high level.

But they're not just any particles that you're playing around with. These are really special particles called anyons, super special particles. To put that in context, I guess, in this beautiful 3D world that we're all living in, there's only two types of particles, there's bosons and fermions. Fermions, you all know like an electron is an example of a fermion. The boson -- photon is an example of boson. But they're very interesting, but not super interesting. When you swap the positions of bosons, their wavelength, part of their wave functions basically pick up a plus one phase factor. When you swap fermions, their wave functions, pick up a minus one. So, there's not a whole lot you can do with that. It's going to be plus one or minus one, it's like, not a really effective way to store a calculation, let's say. So, enter into the frame are super special particles, anyons. These guys only exist in two dimensions, which kind of sounds a little weird. But

basically, they're quasi particles or excitations of an electron fluid or something like this?

Well, the interesting thing about them is when you swap them, they pick up a complex phase. So, all of a sudden, they're pretty complex particles. It's not they're minus or plus one like the other guys, they're a complex phase. So, you can then describe their movements by this braid group, which is just a mathematical structure. And the braid group then is the series of knots, which is what's going to contain the calculations for quantum computing. So, like, it all seems like a crazy world to say, but it's super interesting when you're on it. And even now, Microsoft have invested massively in quantum computers and topological quantum computing. Every year, we're seeing more and more results there and interesting results and everything else.

Theoretical and Practical

Adam: **00:24:20** Have you ever put that theoretical work into practice, or connected anything that you've done in financial markets to some of your academic work?

Glen: **00:24:33** Yes, I do. Yeah, all the time. I have it stored in my folder here called Top Secret. Yeah, I got -- I mean, there's so many similarities to what we do and it's why I got into finance, you know. It was a case of when I was finished all of this, and what I enjoyed during my PhD as well was the ability to teach and lecture at the same time. So, kind of like when I got the *aha moment* and I was like, oh, I see what's going on with this. I wanted to share that with other people as well and tell them, you know, all this complex stuff, it's really just this. You're just connecting these two lines on this chart here and that's all that formula is doing. They're like oh.

And when people see that, they understand it and they can relate to that. And the same happens in finance. What we're talking here about, you know, leveraging portfolios, risk adjustment, volatilities. It's all really abstract concepts. But then when you just take a simple example and say, okay, pretend we have these two assets. One is 10 vol, one is 20 vol, one is twice the other, and you can scale one to the other. And people are like oh, that's all it is. Like yeah, that's it. So, when I finished my PhD I was like, okay, I know all this stuff, let's say, what can I do with it? The natural sort of next step was try and apply it to finance.

Rodrigo: **00:26:04** What else are you going to do, make no money everywhere else?

Glen: **00:26:07** Exactly. Yeah. And I think that's kind of the idea you come with as well. There you are, you're like, oh, I know, all this physics stuff. How can I apply this to the markets? And I joined Abbey in 2014 on the research team there as a research analyst. So, I was on the investment side. And I came with the mindset, like Rod was saying there. It's like, okay, I know this, let's practice. Let's solve this. Okay.

Rodrigo: **00:26:34** That's right.

Glen: **00:26:34** Let's do this. I'm going to do this. No final finance experience, but I'm going to crack this. And then you realize, oh, that's not exactly how all of this works, Everything else, but super interesting. And then it comes to the application of these things. When I joined, the first thing I did when I joined Abbey, it's kind of like, oh, my God, what is everybody talking about? I have no idea what people are talking about. It's like a different language. And then you go, in physics, volatility is pretty much just related to ideal gasses and this sort of stuff. In terms of volatility of an asset, it's like standard deviations is generally how you talk about it. And I was like, it took a while to translate things, and then I was able to get it. But coming from a world of like, these hypothetical little particles, everything in the futures world of futures trading somewhat seemed pretty tangible.

Adam: **00:27:33** Yeah, I'm sure. Glen, do you remember any of the first projects that you worked on at Abbey?

Glen: **00:27:39** Yeah.

Adam: **00:27:40** Or any projects that you can talk about that stand out?

Glen: **00:27:43** Yeah. The very first project? Well, I joined in 2014. At that stage we just had the one product, which was our private funds. Mid 2014, as I joined, we're just in the process of launching our first mutual funds. And that was my very first project. I was like, right, we're going to launch a mutual fund, here we go. So, it was straight away involved with all the analysis associated with that -- the portfolio construction side of things, the risk management side of it, and I really got to see every single step of it. I come in late at the -- kind of late to the party, let's say. This process had started months, if not over a year before I joined in terms of the analysis, the ongoing investigations and so on. But I got to see the practice side of it, let's say. So, that really was the first major project I worked on.

And then I remember another project I worked on was just in terms of fixed income and looking at fixed income positions and looking at bonds, exposures,

and interest rate exposures. And maybe there's a better way of looking at this, if we look at it on a durational focus. You know, instead of just looking at notional exposures, maybe we should look at things in duration terms, and what was the differences there? You know, how often we'd have to scale these up? And that's all very dependent on interest rates. You know, a 10-year bond might only have a seven year duration or something like this, but that changes in different interest rate regimes, and how was your positions and exposures reflect that?

So, I kind of built out some bit of code to do that and wrote a paper on it. And that's kind of what impressed me at Abbey when I joined as well. It was pretty much just like being in college again. You know, the team was, like, we all sat right next to each other. The CIO sat next to me, he shared with me everything that he was working on. It all felt very natural in many ways. And focus has always been on innovation and education, and that is true to this day.

You know, the launch of the mutual fund was really a -- it was a big innovation. It was very few things like it available in the retail space at the time. You just couldn't get these multi-manager solutions. We said, oh, now might be a good time to do this. Yeah, it was in hindsight now when I look back at it, in terms of the timing of it, you can never foresee or predict the timing of things, but sometimes you can get lucky with it. And it was just one of those things that we got lucky with it. But it did take the guts to go out and do this first, you know, 2011, 12, 13. You know, they're kind of mixed years. So, then they decided to launch a new product in 2014. You know, it took a bit of guts to do it.

Rodrigo: **00:30:42** Good year to launch.

Glen: **00:30:43** 14. Yeah, exactly. But these are things that you don't time. But you can get lucky along the way. Yeah. And then if I think of 2015, 2016, 2017, you know, what, really shaped those years, if I look back, and it's -- I spent a huge amount of time on the infrastructure, working on the infrastructure was a big thing, in terms of improving our systems, continuously improving our processes, making everything more streamlined, smoother, scalable. And that's a super important thing when you're in the multi-manager space. And also, we spent a lot of time and effort in building out sort of the customized part of our business.

So, the customized part of our business was essentially creating custom portfolios for large, institutional clients. And that was extremely rewarding and interesting for someone like me. Because all of a sudden, you had these large clients who are like, yes, I like what you're doing on the private side, probably can't, for whatever reasons, invest in a mutual fund product. But I want something that looks like this for my portfolio, can you help me build it? And all

of a sudden, it goes back to, oh, wow, I now have a problem in front of me, like, how can I solve this problem? And it's like, interesting all the time to see, you come with -- you build something, you have a proposal, it comes back to you, what can you do on this side? Have you thought about this? Yeah, it's super interesting on that side.

And it's also very rewarding in that you feel that, oh, okay, I've actually custom building this thing for you. And it's going into your portfolio and solving this very particular problem that you wanted to do. So, that's very rewarding. So, that kind of shaped, let's say, those years. The infrastructure though was heavily involved in that and that kind of goes through very different phases, as we look at it. There's the purely theoretical side, which is something I was involved in and the research team in general, is where there is the, you look at the theory and what does it say? You write the papers and we typically write a lot of papers. As you can imagine, we have a huge amount of data. You know, it's kind of like a data analyst stream in many ways. You know, you have over 20 years of managed account data. Like, it's just a huge amount of data there.

Unfortunately, it's all super sensitive stuff, so it's not like things I can share with you. But you know, it does help shape ourselves and our own education, our own knowledge, and it just gets stronger and stronger all the time. So, it's really a case of what you can do with it. And in that period and constantly now, it's kind of a case of the infrastructure has just grown so much and also become so precise, I'd say meticulous in what we do. It's kind of keeping up with the times in many ways. It's like there's an app for everything. We build, we custom build all these things. But what we do is relatively niche. So, you can go out to providers, and then it's kind of like, oh, you have a function for this? They're like, no, but we could possibly add one in like, oh, have you thought about this, do you have a function for this? So, it's like now it's like, okay, we'll just build our own one then because we know exactly what we want.

Managing the Managers

Adam: **00:34:08** So, Glen, I'm curious why Abbey has gone the route of being a manager of managers or putting managers together rather than deploying your own, or maybe you have or do also deploy and run your own managed futures strategies. So, maybe talk a little bit about how Abbey puts those strategies together. So, how do you select managers? How do you put a portfolio of managers together? What are the qualities you look for in each manager and in a portfolio of those managers to maximize the risk adjusted objectives of the portfolio? And then how do you deploy those multi-manager strategies? Do you own the individual funds and then put the funds together? Do you run them in distinct separately

managed accounts, and then just aggregate the performance at each period? Do you co-mingle all of the futures so you get some trade netting? What does all that stuff look like? Maybe start with …

Rodrigo: **00:35:11** But start with --

Adam: **00:35:14** Yeah, start with where you source managers or how you identify prospective managers. And …

Rodrigo: **00:35:20** No, your first question, Adam, which is a good leader is, why did you choose to do multi-manager rather than running yourself?

Adam: **00:35:28** Yep.

Glen: **00:35:29** Yes. The why part of it is that it is a key thing, really. And it's also a key thing as people look to invest in managed futures and liquid alts and that sort of space, trend followers, etc. When I think about it, the reasons for it are, and you guys will know this as well, and have experience in this space as well, is we want to create solutions and products that people will easily be able to deploy in their portfolios. So, that's kind of a key thing. We want everything to be scalable, liquid, and will do exactly as it's intended to do. Now, in terms of why the multi-manager solution, what we thought to go by was one of our keys is diversification, diversification, diversification. And I don't need to sell this to you guys because you know very well how important diversification is. But that's really the heart of everything we do, and why we do the multi-manager approach. I mean, there's lots of empirical evidence out there, that there's a lot of dispersion between the single managers in the managed futures space, and very little persistence in their returns year on year.

So, if we were to run our own CTA strategy, or our own managed futures or trend following strategy, we'd follow a similar return profile, let's say. We're going to go through periods of performance, good performance, and then periods of not so positive performance. And that's just kind of a function of the space and how it actually works. And the reason for it is that there's so many different strategies out there. You know, and there's so many different environments that suit different strategies. For example, trend following has done, if you look at the CTA trend index, it's positive this year, but it hasn't always been positive. In other years it's been positive for shorter term managers, and other times it's been positive for global macro managers, let's say. So, the trading style is an important differentiator.

And then another important differentiator is in the speed of your system. Sometimes you might be a trend follower with a shorter term, or the short-term horizons suit much better, depending on the market moves. And sometimes the market moves might suit longer term trend followers. So, then the idea is, you have this space where all of these managers are highly differentiated, there's high dispersion, and there's very little persistence in it. So, what you can actually do is use some of the techniques we spoke about there, is create a multi-manager portfolio where you embrace this volatility. And what you actually do is you harness the volatility to drive your strategy, and you profit from them. Because we know and I hear at the back of my head, one of my old lecturers saying, if you can find eigenvalues and eigenvectors, you're totally fine. And the same sort of thing applies here. You know, if you can find orthogonal factors or orthogonal managers or non-correlated strategies, let's say and combine them into a portfolio, your portfolio has the potential of being very strong, lower draw downs, lower volatility and a smoother profile over time. So, … provide.

Adam: **00:39:18**

Yeah, we would definitely share the vision of combining as many different credible approaches in a solution as possible, right? I guess a bunch of things sort of fall out of this, right. One interesting thing that we've come to understand is that if you combine, for example, time series type trend strategies or moving average versus price or double moving average, triple moving average type strategies; all of these -- all of the different definitions of trend, if you were to diversify across them, then you get, they end up being a linear combination of each other. Right? And so, in fact, the average of all of the different trend signals ends up being the shape of a trend signal. Right?

And so you could, I mean, you could theoretically just take all conceivable definitions of time series type trend, all different combinations of breakout type or … type trend or breakout with vol expansion. I mean, there's a finite space of potential definitions of trend, right, that you can assemble strategies from. And then I heard you sort of talk about macro strategies, right. So, then you move out into other types of indicators, maybe you embed carry, or maybe you embed macro-economic type of series as indicators, right? But if you sort of drill down, and it's funny, because we literally just did this today. Rodrigo shared the HFRI Macro Systematic Index.

And the hope was, I think that we were going to see some differentiation between the macro index and the trend index, and the CTA index. And in fact, they essentially kind of track one another, because the macro index is to a very substantial degree, driven by trend type signals, right. So, it's this weird, like, thinking about trend and diversification in trend, when you boil it down, because all the different trend specifications if you were to allocate to all of them, and you were to give them all different weights, it boils down to just one certain type

of trend specification, right. And you could just, you could easily replicate that in one strategy, and then trade that strategy. And there are ancillary benefits to that, for example, fee netting, like performance fee netting, which we can maybe talk about, as well. But I'll let you sort of react to that idea first.

Glen: **00:42:28** Yes, no, that's a very good point. And often you will see, like, you say, when you take a bunch of so-called trend followers, or highly correlated managers, you put them together, and you're going to get something trend like, comes down on the other side. But I think a key thing to this, which might help when I describe maybe the construction of a hypothetical portfolio or something like this, a multi-manager portfolio, answer all of your previous questions as well, Adam, is managers, and return streams, and trend culture are very complex things and they're very complex strategies. And we shouldn't just think of them as one dimensional return streams either. There's a lot more there.

And I know, correlation is a great tool. It's a great thing. We use correlation a lot, we like it. But it's one measure and it's purely one dimensional. There's all these higher moments that we use as well. There's a lot of information in there. So, let's say for example, now we build a hypothetical portfolio, you guys have approached me, you're interested in managed futures for whatever the reason may be, and you want to go down the multi-manager route. And let's say you want to build a 60/40 managed futures portfolio or 60% as in trend following 40% as a non-trend. Because you've heard and you've done your research and you've said that, okay, in this way, I might get the capital efficiencies, of firstly, the multi-manager solution, rather than going the single manager route. I want a smoother profile over time, etc.

But I also want exposure to all of these different strategies. I don't want to pick one particular manager and be like, oh, in hindsight, I should have probably picked another one. Maybe I should go to an expert instead. Whatever the case may be. So, the way I look at it, and the way that it helps me, is -- the way I always kind of thought about it was like baking a cake. And I know you guys have kind of used this analogy before, which is good. Makes me think I'm not the only crazy person here. So …

Adam: **00:44:40** Far from it, man.

Glen: **00:44:41** Yeah, exactly. So, when you think about baking a cake it's kind of a three step process in many ways. The first one is you have your ingredients, and they're well-defined, and you have specific quantities of each. You then have your recipe. It's your process, what you have to do, and it's repeatable. And the last step, you have your output. It's baked, it's done. And if you think about that, in

the portfolio construction, and particularly in multi-manager construction, the first one is you guys have said you want a 60/40 portfolio, 60% trend following. So, given that I know what the output needs to look like, I should know, well, maybe I should start with getting the trend follower in there. That might be a normal thing to do.

You know, one of my ingredients, if I'm making a carrot cake, might be to start with the carrot. If I'm going to build a trend following portfolio, I might start with a trend following. That's the first step. And it's actually the thing I thought about yesterday when I was thinking about this was there's so many analogies that you can use for this. It's like building a jigsaw or putting a jigsaw together. What piece is more important in a jigsaw? They're all equally important in a jigsaw because if there's one missing, I mean, it looks completely undone, it's completely unfinished. … some pieces --

Mike: **00:46:06** Well, I would offer that the picture on the front of the box is the most important piece of the jigsaw puzzle.

Glen: **00:46:13** Yeah, your guide. But they're all equally important to each other. But some pieces are easier to find. The corner pieces are always the easiest to find, and you can typically able to work your way. And the same with the multi-manager. The first manager you put in or the first few managers are going to be the easiest to find, right, because you started with your key ingredients, and you go okay, let's start here. Okay. So, the key thing to this, though, Adam, which gets to your question really is, it's not as straightforward when you're constructing a portfolio of managers than baking a cake with ingredients. The salt is not always salt, the sugar is not always sugar. Don't take everything for what's written on the tin.

So, a strategy might be labeled as a trend strategy. Another strategy might be labeled as a macro strategy. They're kind of arbitrary labels really. What you want to do is look at each one of these strategies in huge detail, and break it down yourself into its key components, let's say. And there's so many techniques out there, and you guys have covered this in a lot of your papers as well. You know, there's like PCA, there's factor analysis, there's everything, there's loads of different techniques you can do. But essentially, you want to be able to label your ingredients. So, for manager A, you want to say that, oh, my analysis tells me it's about 60% trend, 30% some other factor, let's call it short-term or value or something. And then there's an extra, the remainder, we're not too sure what it is, but it kind of looks like macro. So, you have this, and you do that with your entire universe of managers.

So, then you know where in the space you think about this as a physics problem, or any other problem, you can label your axes as vectors. And you can say, okay, we have a trend vector up here, we have a short-term vector there. It can label them whichever way it wants. You can have a macro vector there, and you can say, this person sits here, this person sits there. So, then you know when it comes to the recipe part, or the portfolio construction, I want 60% trend, I want 40% non-trend. I then allocate to these managers in a very specific way, such that I will get that resulting portfolio. But the key is, it's not just based on the correlations of each of these managers to each other. There are different dimensions in this.

So, the correlation is one, there's the markets that are traded, is hugely important. I mean there can be trend experts that only trade financial markets, might be experts in the financial space. They might be experts in the commodity space. Yes, there are results. If you look at them, there might be both trend followers. But the combination is much more powerful than each one individually, because suddenly you have this trend portfolio that trades commodities by a specialist and fixed income by a specialist. So, there's that horizon. So, then you keep going down these different sort of dimensions, let's say. There's a trading style I mentioned, you want to be diversified across this.

Then there's the dimension within each of the managers, you want to be diversified. So, you want to be diversified across your trend managers. You want the combination of those moving average type strategies and those, you know, more breakout strategies, the momentum strategies. And then you want to be diversified at the market level. You know, some people, like I say, more commodity focused or more fixed income focused, etc. Then what you can do is, you're a big multi-manager, you have the infrastructure. So, what you can do is you have so many levers that you can now pull.

To answer your previous question, we use a managed account structure. And this is the platform we have built our own on over the past 20 years, we've kind of perfected this. And it's hugely valuable. Because we're allocating to all of these managed accounts, we have full visibility as to what goes on in each managed account, which informs us better over time. But it also means that we can scale up or down each one of these accounts. So, all of a sudden, like we're talking earlier about SPY and SocGen Index, we can scale up or down each one of these accounts.

And then let's say, for example, we allocate to each of these accounts at 20% vol. To start off, all of these ingredients are, this lot is five vol, this guy is 10 vol, this guy is 24 vol, they're all over the place. You want to normalize, let's say we

allocate everyone at 12 vol, because of the diversification, let's say that for this example, that our non-trend is .3 correlated to our trend, for example, you get that volatility reduction. We might get a 40% volatility reduction. So, all of a sudden, our 20% portfolio is now a 12% portfolio. But if you think about it, if after getting 20 managers, working for you at 20 vol to produce this portfolio, which is now 12 vol.

So, you can scale up these accounts then using, we all know notional allocations and volatility scale and all this good stuff. And you're actually getting even more for your money then because of the capital efficiencies that are involved. So, you might be getting something like, you think that you're putting in $1, and you're getting $1 out on the other side in terms of your multi-manager. If you break it down, what you're actually getting is maybe 100% into your managed futures part, or your trend following part, and something like 70% into your non-trend part. So, all of a sudden, that would have been equivalent to let's say, if you put in, I know you had $100 to spend in your budget for your diversifier, you could have bought a trend following and put in 100%. But then you would have put in 70% into a non-trend, but instead of having to do that, you can get all of that simply from the construct part of it.

Adam: **00:52:46** Yeah, I like that. That's a valuable overlay. Because if you allocate to a sufficiently diversified set of managers, then you are probably now running a portfolio at substantially below the target vol that you had as a diversifier for the rest of your portfolio. Running a managed account is nice that you're then able to rescale all of the managers to different vols in order to target a full portfolio, a multi-manager portfolio vol that is consistent with the target risk of the client. So, that is a nice perk. And I do want to talk a little about --

Glen: **00:53:24** It's extremely capital efficient as well, which is the nice part of it because on the outside, you mightn't realize this. You're saying, okay, I have this multi-manager product. Yeah. Okay, so what? You're allocating to 20 managers in this portfolio I build you. That's like, okay, so what? And I'm like, well, if you were to do the same team, and if you had the same correlation profiles between them, it would cost you probably $170 to do the same thing.

Multi-managers and Performance Fees

Adam: **00:53:55** Yeah, I always wonder how and, Mike, maybe you want to chime in here, because you often ask a question like this, this often occurs to you I know. But you've had a bunch of managers in the portfolio, presumably, they run on performance fees, because typically CPAs run with performance fees. So, if they don't, then that alleviates this problem. If they do, you've got some managers

that are up on the year, other managers that are down on the year. In aggregate, though, maybe they're down, but the managers that are up expect to get a performance fee. How do you, and Mike chime in if I'm not articulating…

Mike: **00:54:24** Yeah, no, no. And then trades that create the performance fees. So, we did talk a little bit about trade netting and I don't know if we got right into it.

Adam: **00:54:32** We haven't, yeah.

Mike: **00:54:33** Certainly on the SMA side, you could do the netting. Part of the reduction in volatility is to some degree if you're not netting and you own the funds of the different accounts, you've got one person or manager that has a long S&P exposure and other managers are short S&P exposure. And so the …

Adam: **00:54:50** The payroll costs here, your …

Mike: **00:54:51** Yeah, it's kind of a … Right, it's a false reduction in volatility to some degree that you would like to avoid as an allocator. So, yeah, we packed a lot into that, Glen, but we lay that at your feet for commentary.

Glen: **00:55:06** Yes. No, and it's a good point you bring up and it's one that we're quite often asked about as well. But if I go back to our example and a fund I just created for you guys, we've suddenly have these 20 managed accounts that live here completely segregated to each other. Managed account A trades its own trend strategy. It has its resulting positions. Managed account B, is a, let's say, global macro or whatever it is, trades its own strategy, and has its own positions. At this level here, we get the fund position, which is a combination of all of these positions at this …

Adam: **00:55:42** I guess the point though Glen is that in theory, you could just combine all of the target positions for each of the individual managers as one trade blotter. And then you'd have those that are buying today offsetting those that are selling today and you'd end up with a net value. So, I'm curious what the relative benefits or drawbacks to doing that versus holding each of the managers in segregated accounts …

Glen: **00:56:07** Yes. Understood. Yeah. So, holding each of the managers in a separate account is firstly an infrastructure thing. And the reasons why it's, in my opinion, anyway, more beneficial than having this sort of commingled structure, is that you can have a complete segregation, one for like compliance and regulatory purposes. There's the risk management parts of it, whereas if one manager blows up

unexpectedly, for whatever the case may be, a huge trade, there might be something -- they might have put in a huge order to my over-under margin usage and it pulls in all of the other accounts. This is something that you could get in a commingled solution, let's say.

Whereas in a complete segregation of it, and it's all simple managed accounts, whatever happens in this managed account, does not affect all of the other managed accounts at all. And also in the multi-manager solution, we own the managed accounts, but we don't dictate all of the signals in each account. The managers themselves are in charge of their strategies. They run the strategies, we get the output of this. We don't want to be netting their positions and putting this together, and it's going to offset this and so on. Every managed account has its own particular brokers associated with it. Again, for you know, you want this to be as scalable and as robust. So, each one has a broker, a backup broker and a future side and a cash OTC side. So, it's a huge infrastructure, it's an extremely difficult thing to do if you were to do it yourself, let's say.

The other thing that you get as well is, you have the timing of the trades, would make it extremely difficult to do that netting that you are talking about. Because if you think about the multi-manager solution, you have trend followers who might trade once a day, once every three days, once a week, whatever the case may be. And then you have short-term managers who are probably trading every half hour, every 15 minutes. So, it's like, oh, all of a sudden, we have to net this, which broker does it go through? Everybody is using different brokers. And that in itself then creates this absolute chaos.

You know, which accounts need to be funded? Oh, does the margin go into this account? Does it go into this account or is it a free for all, essentially, you know, first come first serve on the margin. We'd prefer a structure where it's very margin efficient, every account knows exactly how much margin they're allowed to use, and to stick with the strategy as defined for that particular account. That's the approach that we use there. In terms of the fee fees and the netting …

Adam: **00:58:56** Yeah, the performance fees.

Glen: **00:58:57** Exactly, yeah. That's the critical point to this is that, yes, in any fund that we're going to build, we work directly with a manager. In my example, like 20 managers there, some of these managers might prefer a flat fee solutions, some might prefer a combination of management fee and performance fee. You know, I've got to work with a manager as to see what suits themselves better

and what works best for us as well. Everybody has different Sharpe expectations for their strategies.

So, you want to build that into your discussions as well. In terms of you're paying some guys performance fee, you're not paying other guys performance fee and so on. This is a thing you take a long-term view on. We have a long-term view with our allocations and our managers. We're not in the process of performance chasing or something like this. As we said, there's very high dispersion between CTA returns and low persistence. If you are buying the winners and selling the losers, I think you'll probably be quickly out of business.

Adam: **01:00:01** Yeah. No, for sure. I guess … Yeah. So, how does that work?

Glen: **01:00:06** Yeah. What you get is this sort of preferential behavior, where some accounts are going to be in the money, some accounts are not in the money, as you would expect. Every strategy is … at the same time if they were, they're all one correlated and you've got a problem portfolio. Yeah. What we have is, what we call it is, the profit and loss carry forward, essentially. You have this -- Oh, God am I forgetting the name of it now is in terms of the staggered high water marks. So, if one person is in a 20% drawdown, say, from their high water mark, you essentially have a 20%, if not more, because if you lose 20%, you have to make more than 20% to get back to that point.

You know, if your strategy is down 50%, you have to make 100% to get back to that point. So, you essentially have 100%, free ride on performance fees from that manager. So, that is how it actually works to your benefit in the long-term. Every manager, you know, how often are you at high water mark? You might do the studies and look over time and see that, maybe 5%, slightly over 5% if you're extremely lucky. So, 90% of the time, you're probably not at high water mark. That's kind of the reality of it. If you take a long-term view of this, and you have a long-term, positive expectation for your manager, and it's playing a particular role in your portfolio, you have this to your advantage then. So, that's how it pays off.

Adam: **01:01:50** So, just let's say you've got two managers, just for the case of simplicity in the portfolio. One manager really kills it this year. Let's say there's an annual performance fee, crystallization, one manager really kills it this year. But the other manager really is in a drawdown that actually overwhelms the manager that did really well. And so the combination portfolio is in drawdown. The manager who did well is expecting to be paid a performance fee. The manager who didn't do well is obviously not expecting a performance fee. But there were no performance fees crystallized at the total portfolio level, right? Or does the

client pay the individual performance fees of the individual manager? So, this is where I'm just trying to figure out some of the math.

Glen: **01:02:46** Yeah. So, exactly. When you're building a multi-manager, the client pays for the performance of the portfolio itself. Yeah. Right.

Adam: **01:02:55** Right. So, yeah, so not the individual managers.

Glen: **01:02:56** Yeah. You don't pay for the individual managers. That's something that we pay for. That's how we do it.

Adam: **01:03:03** So, then if the portfolio is in -- If the portfolio itself doesn't accrue any performance fees, because the portfolio is not above the high water mark in this period, but one of the managers in the portfolio is at a high water mark and expects performance fees. I guess what I'm asking is, how do you pay the manager when the fund itself hasn't actually crystallized any performance fees?

Glen: **01:03:31** Yeah. So, this is something that you look at over the long-term. And you will get scenarios like you say, where one manager needs to be paid and one manager is not going to be paid on different scenarios. But you have working to your advantage in the case of a multi-manager is the law of big numbers, let's say, the more managers you put together with positive Sharpe's and everything else, the more you expect your portfolio is going to perform if you built it according to your techniques. What I was looking for earlier was a negatively accrued incentive fee. This is a term that I'm sure you guys are very familiar with. And this is precisely what answers your question over the long-term. It's the same as the chart that we pulled up there. This is how it works over the long-term, the negatively accrued incentive fee. And …

Adam: **01:04:21** So, the incentive fee is accrued if the fund, if the portfolio doesn't, hasn't earned any fees in this period, but a manager has accrued fees, then when the fund does accrue performance fees, then you'll pay that pro rata or through some formula, you'll pay fees, performance fees to those managers that have accrued performance fees over prior periods.

Glen: **01:04:48** Well, it's not doing on a look back basis, and the manager doesn't have to wait for the multi-manager to make money before they get paid. The manager will always get paid on their performance. We can't have our managers not being paid. The managers will always be paid somewhere crystallized, typically quarterly basis or whatever the case may be. And that's just a function of the multi-manager portfolio. But like I try to explain to you guys, and if you do, I tell

you, you should pull up a little example for yourself, Adam, and see how it works if you have …

Adam: **01:05:26** I think I'm tracking now. So, the total portfolio accrues a liability in the amount of performance fees that's paid to the individual managers, and then presumably, the fund then will make up for that liability as other managers go on to exceed their high water marks. And the fund generates positive P&L in aggregate.

Glen: **01:05:52** Exactly, yeah. And it's a case of, in some instances, you make -- the fund is at high water mark, the multi-manager is at high water mark and is bringing in incentive fees, everything else. And when that happens, it means that typically, the managers below are performing pretty well. Or you have a subset of your managers that are driving their performance, they are also being paid as well. They're being paid -- then there's the other instances where the multi-manager is not at a high water mark and not earning incentive fees. But some of your strategies are in incentive fee territory, or in performance fee territory and some aren't. The guys who were in incentive fee territory are still being paid their fees, and the other guys are still not being paid their fee.

Overtime, all of this equals out and it equals out because of this negatively accrued incentive fee. Because you're getting this free ride up. Like you say, if you look at the stats, how many -- what is the percentage of time that you're at high water mark? And that is what you have to consider when you're allocating to managers as well, to take the longer term approach. I mean, the approach that you described there would be a disastrous approach, if you were dropping and changing managers on a monthly basis or on even a yearly basis. Because, what are you doing?

You're essentially creating a new high water mark, with every allocation that you do. Every allocation that you put out there, and you're just constantly paying people. However, if you're taking the longer term approach, and you understand that this goes through cycles, the majority of the time, you're going to be in a position where you're getting this free ride up just as a function of how managers and trend followers and systematic strategies work. It's a very small percentage of the time that they are actually in high water mark territory.

Changing Institutional Preferences

Adam: **01:07:56** So, you guys do consulting, you create custom portfolios for institutions and large investors. I'm curious whether you've noticed a shift in preferences or objectives for investors that are coming to you for solutions over the past few years. Or any takeaways for what institutions are looking for, and how that's changed over time?

Glen: **01:08:25** Yeah. Well, one thing that we did is 2014, well, if you kind of look back at Abbey Capital and its evolution, when I started we had just a private fund. So, it's only a certain number of investors who can actually enter into a private fund. We decided to diversify our client base while sticking to what we know best, creating multi-manager portfolios. We now have the mutual fund offerings, the one that we launched in 2014, the one that we launched in 2018. Same investment philosophy, multi-manager capital efficiencies all in there. And then we also decided to further diversify our investor base by having our custom products. And the custom products is really where we get to answer some of those questions on where particular investors might want very particular things.

Now, if I look in recent times all of the news and what's on people's, investors' -- what's on investors' minds, it's constantly changing. I'm sure it's something that you guys have come against as well. If you go back a couple of years ago, it seems that quant macro was a really big thing. And everybody was like, oh, we need quant macro. We don't just need fundamental data inputs, we need quantum plus fundamentals. This is like *quantum-mental* buzzword. Oh, we need this all of a sudden. So, this is something we're interested in. And then that went through its phases, its popularity so on.

And then all the sudden machine learning shot to the fore. And I was like, oh my God, you don't have a machine learning manager or you do have a machine learning manager, we need this. This is the future. Everybody needs machine learning, you know. And it goes through phases like this as strategies evolve, technology becomes more to the fore. But what we're seeing is, and we are trying to do is educate the space on the long-term approach to it. And yes, you can have all these different strategies, doing all these marvelous things there, and there's this portfolio that you want to look at. Yeah. And what we're seeing now is quite different to what we saw at the end of last decade. What we're seeing now is all of these disinflation fears out there. Well, it started at the beginning of the year as inflation fears, I'm not sure it can be labeled that anymore. We saw the CPI …

Rodrigo: **01:10:50** Yeah, that's right. But I'd like to talk a little bit about that too.

Glen: **01:10:54**

Yeah, exactly. We can jump into that. And another thing we can jump into is commodities as well, that kind of ties in with the inflation story. I can jump into that as well. But we're seeing more and more investors come to us thinking about, oh, there's inflation out there, and what does this actually mean for my portfolio? Commodities, oh, where can I gain some exposure to commodities? And how can I do this in a very liquid way? Is there a liquid alternative out there that will give me access to this? And then you guys have covered this in your recent work.

And we can get to this as well, in terms of bonds and fixed income. All of a sudden, what is the outlook for bonds in this decade? You know, it's no longer going to be what it was in the previous decade, or at least we don't expect it to be. And what will it look like in a rising interest rate environment? So, people are coming to us with, oh, I'm not so sure of what I want to deal with this big chunk of my portfolio that's allocated to bonds or fixed income. You know, well, what have we got there? There's managed futures that sit in this as a diversified, how does this actually work? And this I think, leads us nicely into what we've seen in this current environment, inflation, everything else.

Rodrigo: **01:12:09**

Yeah. So, I actually, in the latter half of my tweetstorm, I talked about -- what I presented is something nobody's going to do or most investors aren't going to do, which is lever up to 19% volatility. So, the next phase was, what if we lever it down to some trend and some SPY to match the volatility of the Vanguard Balanced Fund? Right. And so you get kind of a similar thing as what we talked about. Was my screen yellow? That's my night guard. It's my night -- what's it called, the F Lux app that I need to take off. So, it's similar outcome, right? So, you get a better result than just investing in ... So, this is -- the black line here is a combination of SPY and trend only, against the Vanguard fund in blue, right. So, similar outcomes, much smoother results.

What's interesting here is that like you said, Glen, you have -- we have a period where people are worried about what's going to happen to my bonds, right? There's two things that I think is common and everybody's talking about, which is inflation, and then what's going to happen to my bonds. Now, this is not investment advice. But what I think -- one thing that chart showed, is that if you replace your bonds with something like macro or CTA, you get a similar outcome at a time when really inflation hasn't been a big deal. But what happens when, let's say we look forward to the next decade, and we're worried about inflation? What does worrying about inflation really mean? Well, inflation tends to be --

Inflation actually tends to be quite a volatile thing for just passive commodities. So, the yellow line in this chart is simply Deutsche Bank Commodity Index. So,

it's not a straight line in the 2000s to 2011. You know, commodities just didn't go up, they went down 30%, up a bunch, down 60%, up a bunch. And it turns out that when you look at macro, systematic or trend, they tend to do a good job at managing both the upside of commodities and the downside because it's obvious, right? Like, around half of the exposures that they can invest in are in the commodity space. So, if you're not doing well when commodities are doing well, then you're SOL, right.

And so it's interesting that when we look to the future, we see bonds doing poorly, what can you replace it with? We see inflation, what can I replace it with? Is it a passive commodity index? Or is it an active managed commodity index, or just a simple multi- like, diversified managed futures or a global macro that can navigate the future better for you, right, as a possible replacement for bonds or an adjunct to bonds or an overlay, if you can do it. In the 70s, it was the same. The chart just shows in yellow again, the commodity markets. And then, sorry, that was a loud move. Mike, you might want to turn off your mic for a second or look at my Slack with regard to your mic…

Mike: **01:15:22** I was unmuting myself. Just wondering if because the 70s is an interesting inflationary period, but maybe not quite as that analogous of a period as to maybe the 40s or something like that, where there was that sort of those transitory impulses that came, leveled up and then flattened sort of, so …

Rodrigo: **01:15:42** Well, that was a three-year period of a drawdown for the commodities space in the 70s. Right? So, it's a long -- this is when people gave up on this like, okay, let's hedge inflation with a passive commodity index. I think, for many reasons, we really obviously all like this CTA, this managed futures space. But there's something very compelling to me in the next decade of inflation volatility, which is not just inflation means making money in commodities every year, it's making a lot of money at times, losing money a lot of times. How do you manage that with a bond portfolio that's yielding 1% and an inflationary regime?

So, I kind of, you know, that was the end of the tweetstorm here is like, it seems to be a good tool here. And nobody's really looking at it. And yeah don't look at the last 10 years as like this single digit thing. How about you -- Like, let's think about what may happen in the next 10 years. And if you're investing in something whose universe is commodities, for the most part, what do you think is going to happen to the worst manager in that space? They're so likely to do significantly better than a bond portfolio or even a 60/40?

Glen: **01:16:50** Exactly, yeah. So, there's, yeah, it's really good points that you bring up there. And a lot of the queries that we're getting are based on these kind of fears in

many ways as what the next decade, what the current decade that we're in now, I guess, could hold after we've lived through the previous decade and we know what it's had. I'll break it down into two like, firstly, the commodity side of things. And then we can look at the inflation side of things, and everything more on the financial side. And the role of trend following and managed futures in these sorts of environments. Anyway, like, you guys, I am a data driven person. So, I like to look at the data and just see what the data is showing us.

You know, if I just look at -- if I start with commodities, because I know, it's something that a lot of folks are interested in. And many people mightn't actually be super aware of what all of these futures markets are actually doing, except when they go to the shops and fill up for gas. They're like, oh, my God, I don't remember it being so expensive. So, what we've really seen, yeah, we've touched across this before in terms of the SocGen Index, the trend index, and the CTA index itself, have been positive year to date, 2020 and 2019. So, that would suggest that it's a better environment for managed futures, as evidenced by them.

And another actually nice piece of analysis that you guys will be interested in is if you look at the Barclays CTA index, and … goes back quite a long time. And if you look at this rolling three-year Sharpe, you'd actually see that it hit record highs in October 2021. So, something there would say that, well, maybe it is the commodity environment that is helping these or the strategies have profited from this. So, most internally, what we do is we run trend indicators, our own sort of trend indicator, which basically looks at, I think it's 55 of the major markets across all the different asset classes; commodities, bonds, interest rates, equities, and so on.

When we look at the number of markets, either in the trend, consolidation mode, we're basically not trend. You know, based on our own research and our own methodologies, we saw that this measure was kind of at a 10 year high in March of this year. And if we break it down, year by year, we see that 2021, as a standalone year, was above sort of 30 year average of percentage of markets trending. And then if we look at this simply in the commodity space, look at the percentage of markets trending by year in commodities, we've seen that we're at levels not seen in over a decade. So, it's kind of a case of what is what is driving this?

Mike: **01:19:46** Are those -- Did you find those are persistent? Were they anomalous where this one year happened, and you're going to get reversion or did you -- does the research show that oh, in fact, they cluster?

Glen: **01:19:58**

Yes. So, what the indicator just says it just kind of detects, oh was this a year for trends and kind of counts the number and averages across the markets and so on. We have different measures, then to look at the efficiencies of these trends. You know, there's things like directional efficiency that we use, which is kind of a modified version of the Kaufman Efficiency, which looks at how efficient this trend was for a particular strategy. But what we've really noticed, guys, is the rotation of trends within the commodity space, which is something that we haven't seen, if we look back over internal analysis in many years.

And it's really been fueled by numerous uncorrelated, let's say, idiosyncratic in many ways, fundamentally different drivers. I kind of break these down into three components. We have to growth sensitive type commodities. These have increased in price on the inflation expectations, economic reopening, prospect of increased fiscal spending. And then we have sort of normal cycle of commodities, which is the demand and supply cycle. This year we've also seen all the supply chain disruptions in there. And then the third point is the weather. The weather always plays havoc with commodity prices, and is a big driver there.

And if I just pick out a few of them, because I've been looking at them today as well, just to give examples to people out there. Because I think crude oil is the one and energy in particular is one everybody's familiar with, especially when we go and fill up our cars and get gas. Like, Q1 2020, during the height of the COVID pandemic, let's say, we had this significant downtrend from about $60 to everybody remembers the big shock story of negative crude oil prices, etc. That was in Q1 2020. So, we have this nice, smooth sort of sell off there for opportunities on the short side for trend followers. And then from Q2, 2020, all the way up to now we've seen it go from those low levels of, let's say, so $20 all the way back up to $80. So, that has been a nice trending scenario, which systematic strategies, trend followers in particular, are going to profit from.

We've seen the same thing in nat gas particularly in Europe and Asia. We've seen the low supplies in Europe, we've seen hurricanes in the US hampered the supplies, and so on. So, nat gas has skyrocketed and gone -- hit some record highs during the year. Similarly, then in electricity. You look at electricity prices in Europe, gone through the roof there as well. Then we look across other sort of growth sensitive commodities. Copper, for example, record high earlier this year, as well. And it's not just the standalone commodity market either. It's what impact does this have on other parts of the economy, for example. The energy prices, we've seen the impact they've had on shipping costs. We've seen what that has -- the impact that has had in terms of the supply chains. It's now much more expensive to move goods from one place to another.

And then the energy costs, we've seen how that has impacted manufacturing, for example. The low supplies of many metals, aluminum and zinc, for example. You know, they have really increased in prices on the back of, you know, it's now more expensive to manufacture these things. In turn, that leads to trends in things like car prices are going up. This is all over the news all the time. You know, I can keep going on and on in the commodity sector. You know, we look at corn and soybeans.

Mike: **01:23:48** Yeah. Well, let's get to coffee. The importance of coffee.

Glen: **01:23:51** Yeah, exactly. Coffee is at a multi-year high now as I look at the chart there. Again, weather, it's a completely fundamentally different factor, or a different driver to what is driving equities and fixed income and bonds. And I'm sure you guys remember lumber as well, at the beginning of the year. If you're trying to build a new deck or trying to do any work in your garden you know the price of lumber. And yeah, that's reached all-time highs this year, this knock on impacts in terms of construction, housing starts, etc.

So, how do systematic strategies fit into this? Well, what we're really seeing is that higher inflation, stronger demand as the economy reopens and the supply disruptions have kind of created this positive environment for commodities. Commodity prices translate into inflation. Trading in commodities is how trend following managers and managed futures can participate in any trends in inflation. And it's something that we looked at earlier this year. You know, we have created a -- written a small paper on this as well, on you know, how a bi-directional strategy like managed futures could actually help the portfolio in this environment. For people who are interested, a lot of these papers, you can actually find them on our website.

And that's before we even get into the inflation thing. So, I'd like to just touch on that side, Rodrigo, because I know it's something you guys have done a great job of in terms of your *Return Stacking* paper. You know, it's something that we actually had written a little White Paper ourselves at the beginning of the year on, maybe now is a good time to reassess your 60/40 portfolio or your traditional portfolio. And if you look back, the 60/40 has kind of been touted as this simple yet very effective allocation plan for many investors out there. If we look at in the past decade, it's been extremely effective. The stats are pretty outstanding.

Rodrigo: **01:25:54** 99 percentile Sharpe.

Glen: **01:25:57** Yeah, exactly. It annualized at a crazy rate here on year, and also with half the volatility of equities. But like, why? Why did this happen? What were the driving forces there? Why should we not take these for granted? So, in our paper, we kind of put these three points, as fairly similar to some of your previous speakers on the shows have spoken about this. And it's kind of just stating the obvious in terms of what the data is saying. Well, the first point is the valuations. You know, if you look at the start of the previous decade in 2010, well, the starting valuations for equities and bonds were not high by historical standards, let's say.

And the second point is the market conditions. What are the market conditions at that point? You know, in the last decade, you had low inflation, steady economic growth, quantitative easing from pretty much all of the global central banks. And then the last point, which really drove the good performance in the 60/40 portfolio was the negative correlation between bonds and equities. Bonds to some extent acting as a diversifier during these equity sell offs. But really importantly, driving down the volatility of the 60/40 portfolio.

But now we fast forward to today, and we look at those three points where we are today. And it's well, the first one, let's look at the valuations. Well, we know equities are expensive. They're close or pretty much at all-time highs. We look at the bond side of the portfolio then, yields are close to all-time lows nearly. It's a very different starting point to 2010. And we know if we specifically look at the bond side of the portfolio that the starting level of yields, historically, has been an excellent predictor of the future return that you're going to get there. So, regardless of what your opinion or outlook is, on equities, you still have this 40% in your traditional 60/40 portfolio that's going to possibly produce much lower returns. I was actually just looking …

Mike: **01:28:12** Certainly on a real basis.

Glen: **01:28:16** Yeah, exactly. You read my mind perfectly there. I was thinking of the, you know, I did up the chart earlier of the US real yield. If we look at it, you know, the difference between the 10 year Treasury yield and US CPI, it's somewhere around minus 4% now, if not even lower. And as you mentioned, Rodrigo, these are levels not seen since the 70s.

Mike: **01:28:40** We don't expect them to change. There's no room for monetary and fiscal policy to allow for an increase in debt payments that would allow for a normalization in those rates. That's kind of why I think it's kind of that 40s scenario, more than the 70s scenario, in that you've got rates pinned in order to pay for something. The one case it was World War Two. In this case, it's COVID, the battle of COVID, and all of the normalization -- renormalization of the global economy. So, you

have an active player who's also the referee of the game in central banks and manipulating the bond markets. And they're going to have a sort of a mandate to have a real negative yield over the next number of years, I would think. I don't know how else you'd cope with it.

Glen: **01:29:35** And that's without even considering the correlation. I like to focus on the correlation part of it as well, because often I feel it's something that's quite overlooked. And we take the correlation profile in the last decade of equities and bonds as a sort of guarantee for what's going to happen this time. But if inflation continues and if the correlation, breakdown or breaks down between equities and bonds, well, then you can really be in trouble in terms of your 60/40 portfolio. So, I was actually looking at a chart earlier there, where we look at the 260 day rolling correlation between the S&P and the US Treasury long bond futures. And you just look at that over time. And you see that it's been pretty much negative for the majority of the last decade. You see this year with inflation on the rise, and all these trends and commodities, everything else, what do we see though? We see that that correlation has now started to turn very slightly positive. So, this is the first time we've seen that since 2007. So, that there, I think, is something that someone in a 60/40 portfolio should be aware of. And it's like, well, what can we do then? Well, diversification, diversification, diversification. I think it's at this point, I hand it off to you guys and say hit us up with your Return Stacking paper, what can you guys do? We have built these capital efficient portfolios, you guys have showed investors how to use them. You know, and this is the education of …

Rodrigo: **01:31:21** It is absolutely crazy. And when your whole career, or your whole investment life as an individual investor has been negatively correlated bonds and equities, since 1981. I mean, it's hard to find a practitioner that was around in the 70s, when bonds and equities in real terms annualized zero for a decade, and their correlation was like .68 positive, right. Like, when was the last time - we've gotten used to this idea of negative -- low -- negatively correlated assets that both make money. If inflation comes, that's going to change, and you need to have those diversifiers to help you mitigate all of that. And …

Mike: **01:32:08** I think you stated it well. And we've been at this for an hour and a half. So, we should probably wrap but I think you stated it well, in the beginning. And Adam, this is -- I think you're the progenitor of the thought is that it's inflation volatility that we're going to be facing. And again, it's going to spike and maybe it'll attenuate, but you're going to have, the spike is not going to attenuate and fall off. It's going to spike to a new level where it sort of holds I think, potentially, and you know, degrades the long-term opportunity in those safer vehicles, if you will. But we've kept you Glen for over 90 minutes. And we appreciate all the time that you shared with us.

Glen: **01:32:47** No problem at all. I really, really had a good time here, guys. Why don't I just finish off on, if I could, on word of, kind of caution more than anything else. And in terms of being a portfolio builder, you guys being portfolio builders as well, being in the education space, as well, in terms of how to use these things. You know, let's share knowledge and so on. What I'd really ask people out there to do if you're running, you're managing your own money, you're managing money for clients, or you know, big institutions, whatever it is, is understand the return drivers, which are the assets in your portfolio. You know, break them down into their components, understand exactly how they perform in different environments. Go back to Q1 2020. See how the correlations played out. Was your diversifier really diversifier and how did it perform? Then look at how these might actually perform in a rising interest rate scenario; how they might actually perform in an environment of elevated interest rates. Go back to the 70s, stress test your portfolios, you know, preparation is key for all of this. If you prepare, you know what to expect, in many ways.

Mike: **01:34:00** Yeah, preparation over prediction.

Glen: **01:34:02** So, guys, thanks very much -- I've had a blast.

Rodrigo: **01:34:04** No, thanks Glen.

Glen: **01:34:04** So, Glen, where can everybody find you? And where can they find some of the White Papers that Abbey Capital offers as a means of education so they can bring themselves up the learning curve?

Glen: **01:34:15** Yes. So, the best place to contact us is really via the website, AbbeyCapital.com. There, you'll find links to all of our White Papers and what we generally publish. I think for some of them, you might have to provide your email address, but that's just for compliance purposes. And for me you can hit me up via the website as well or just reach out to me on LinkedIn, send me a message there, happy to have a conversation.

Adam: **01:34:42** We got to get you on Twitter, Glen. We can carry on those conversations real-time.

Mike: **01:34:46** You got to get into the FinTwit universe.

Adam: **01:34:49** That's right.

Glen: **01:34:49** Yes. Guys, congrats as well on that paper. I really enjoyed reading it as well and the messages behind it. Very powerful. You could say congrats to Corey as well. I've seen him on the show a couple of times there as well and it was always good fun.

Rodrigo: **01:35:03** Yeah, it was very, it's been very useful to communicate the same old message in a different way. Just at the right time.

Glen: **01:35:10** Exactly. But I think it's one that is easily relatable. And it's something people can really grasp and get onto. It's like, oh, I see how I can have the same portfolio with a much more capital efficient managed like way.

Rodrigo: **01:35:28** Awesome. Well, Glen, thank you so much, and everybody still listening, don't forget to Like and Subscribe, share it with -- share the love with everybody else to make sure that they're getting the same education you are. And we'll hopefully see you again, I don't know. Mike, you said that we're not going back for the rest of the month. But is that true? Are we done for the year?

Mike: **01:35:45** No, I said we are -- this is the second to last. We got one more next week.

Adam: **01:35:50** Oh, it's our penultimate session of the year.

Mike: **01:35:53** Two more shows. Not the end of the show. I must have misspoken. All good. My bad.

Rodrigo: **01:35:59** Sounds good. All right. Well …

Adam: **01:36:01** All right. Thanks, guys. Have a great weekend. And Glen …

Glen: **01:36:04** Good luck, guys. All the best. Thanks.

Mike: **01:36:05** Happy holidays. Love that Christmas tree in the background too. Merry Christmas.