The ReSolve Master Class – Episode Seven

Adam: **00:00:00**

And roll. This is Episode Seven. Last session we talked about how it was more effective to add a little bit of leverage to a very well diversified portfolio in order to achieve required return targets than it is to take the traditional approach of just moving out the risk frontier and adding more and more concentration to equity risk to generate a higher return. So, distilling that concept really, the idea is to continue to increase diversification which means we want to add more bets. The good news is that over the last decade or so, markets have made available a variety of other relatively uncorrelated sources of risk and return that investors can add as sleeves to a diversified portfolio to potentially increase the efficiency. Either add to the expected return without adding any extra risk or preserving the return and reducing the amount of risk. So, that's what we're going to spend our time on today. Some people call these style premia, or factors, but we're going to discuss some of the different types of these strategies and a framework for how to think about it. Then maybe some ways that these types of strategies can go wrong for a while.

Mike: **00:01:36**

Rod, did you want to talk a little bit about the different types of factor exposures, ie: ones that are factor tilt beta? And then, moving into the pure one?

Rodrigo: **00:01:45**

Yeah. Before we begin, I think it's important to define this. As Adam alluded there's numerous names for this and it's often confounded with what institutions are doing, what individuals are doing. When we talk about factor investing a lot of times it's called Smart beta. The context of adding bets, we're not really talking about those traditional ETF portfolios that we see from Blackrock or Vanguard that are the value ETF or the low vol ETF, because what they are actually getting most exposure to are equities with characteristics that have value, characteristics that have low vol, but most of it is still beta. So, if you're trying to increase the amount of unique orthogonal bets in the portfolio, you're not going to necessarily find a lot of that, you're going to find a little bit, but 90 to 95% of the movement those exchange traded funds are going to have, will be in tune with economic growth. So what we really want to address when we talk about factor investing, … premia, are these market neutral long/short portfolios, and there's a variety of ways that each provider runs with them and puts them together. But generally speaking, you're going to have a system where you're going to go long and short, top decile, bottom decile, many different ways to skin that cat. The goal there is to eliminate the beta and capture the pure orthogonal bet. What type of style premiums are the most popular ones?

Adam:	00:03:09	You named value, betting against beta or low vol momentum, quality, sometimes low vol low beta quality are lumped under the category of defensive. Then there's newer ones like investment or ROI, or whatever. But typically, they are, like Rodrigo said, you're long a portfolio of equities, and you're short another portfolio of equities, and your long and short in equal weight. So you don't have any net market exposure. Sometimes, they add some extra dimension to this because maybe the long portfolio is, for example, for betting against beta, pure factor strategy. Well, definitionally, you're long, low risk assets and your short high risk assets. So you've implicitly got...Your out of whack in terms of your total market exposure. You've got to have more of the low risk assets to counter the extra market risk of the high risk assets on the short side.

So, there's some fanciness there. But that does speak to the fact that portfolio construction really can matter in these products. And some of the more naive construction methods may miss the opportunity to increase diversity or remove some of the idiosyncratic risk that's embedded. For example, are you sector neutralizing your portfolio? So you're going to emphasize value stocks, but you're going to rank those stocks in the context of their sector instead of just taking all stocks with good value characteristics. And then there's portfolio optimization methods, there's rebalancing frequency, tranching, all of these different dimensions make a really big difference to the long term efficiency of these bets.

Then I think it's worth distinguishing between these definitionally market neutral type of factor strategies, and other strategies where you can generate uncorrelated returns. But there's sometimes conditional correlation. So we'll sometimes call these directional strategies. Think about trend following, it's a perfect example where you're long futures markets with strong positive trends and you're short futures markets with strong negative trends. Well, sometimes, maybe three quarters of the futures markets have positive trends, and so you're long three quarters of the markets and you're maybe only short 10% because the other ones are neutral or don't really, they're not really trending. So, at any given time you could be long equity beta, or short equity beta, long bond beta, short put, long bond beta, long or short different commodities. So you're not guaranteed to be market neutral in these types of strategies. On average over time, they're uncorrelated but they're not always structurally uncorrelated to the other betas in the portfolio. You've got to understand the type of diversification that you're getting with these different types of products.

End Mini-Riff Here

Mike:	00:06:12	The other thing that's novel is the idea that if you've really done a great job of harnessing the particular style premium, when that turns against you, you're actually going to have the worst performing manifestation of exposure to that premium, because you have eliminated to the highest possible extent the noise,

and are harnessing the signal, and the signal has a negative Sharpe ratio. So that's something also to keep in mind and why you may want to have quite a number of these operating the portfolio, quite a number of bets because you don't want any one bet to dominate the other bets.

Rodrigo: **00:06:56**   Meaning that you might experience a negative Sharpe ratio period where you're capturing that so you're non correlated, you're orthogonal, you can go through a three year period where you have nothing but bad returns. And that's the diversification you don't like. And diversification works even when you don't want it to and a lot of people...

Mike: **00:07:14**   And if you're doing it best, you've eliminated the noise. The noise in that case would serve to actually reduce the drawdown.

Adam: **00:07:24**   When the sign on the strategy is positive, you will have the highest positive Sharpe ratio. When the sign on the strategy is negative, you will have the most negative Sharpe ratio. But strangely, having an extreme negative Sharpe ratio can be a demonstration of skill. So, I think the current environment actually offers a really good example of that where you've got some of the most sophisticated shops with the most persistent efficient negative Sharpe ratios. Think about Renaissance technologies, a really good example of the last little while, so they obviously offer their Medallion Fund, they are the most profitable investment company in the history of markets, on their private fund, which just really means they've demonstrated that they have skill, they know this game, they're highly competent, and yet their public funds or public factor funds have been some of the worst performers because they know how to generate the most efficient exposure to these factors. But the factors themselves have just had a negative sign for the last little while. So, that's often counterintuitive for people as they're observing.

Mike: **00:08:38**   And having some major redemptions at the moment due to this. So then you have this self- reinforcing cycle, you've had the worst performance and now you're going to get redemptions. And flows are going to start to potentially reinforce that performance for a period of time.

Adam: **00:08:57**   The worst thing is that those flows are almost certainly going to go into noise traders. They're going to move to funds that are just less efficient and by virtue of being less efficient there's more noise in the return stream, and some of that noise is just going to be positive. So, you're going to have this positive dispersion, you're going to have a rather inefficient manager exhibiting positive dispersion while the strategy is out of favor just because they have a less well constructed portfolio. So you're going to have money leaving the competent hands and going to noise traders because the noise traders look like they're doing better.

Rodrigo:	00:09:35	They are doing what you didn't pay them to do, which is they are doing somewhat better than the other all premiums similar to the markets. That's what people feel they want. How can you be losing this much money when everything else is making money? Well, it's what you paid us for. So if you're making money, that's a red flag from an intellectual perspective, from an emotional perspective. As an institution you've created a category for alt premia or alternative beta, then you're going to have to hire and fire some managers. And what we perceive the future to be is that there's going to be a lot of noise trading managers getting those allocations. But I do want to take one step back in terms of framing why we call these alternative betas, in contrast to maybe other ways of making money. I think there's a framework that has gotten a lot of buy in as to why we can expect these to continue to work and also continue to take in much more money than maybe a small alpha trader trying to run around money at 30 million. The framework is that you have identified these anomalies, whether they're risk based anomalies, or behavioral based anomalies. The characteristics that make this beta is that they've been designed in such a way where they can take in a lot of flows, a lot of money. You can actually have a large allocator, add this as part of their beta portfolios, and put billions and billions of dollars into it and expecting a non- correlated beta portfolio that creates a lot more balance, if you do it the right way.
		So that's why they become popular amongst the other framework, which is what Adam is going to walk us through right now, that has gotten a lot of buy in from an institutional perspective, from a beta perspective. And what used to be alpha is now beta, is now cheap. And you can add a lot of money to it.
Adam:	00:11:25	Yeah. Anything that attracts a lot of capital attracts a lot of scale, and therefore you get the economies of scale. So it gets commoditized. One of the professionals who've done a really good job of attracting investor attention into these types of strategies, Larry Swedroe, and he's got a good framework for how to think about which of these anomalies may be more attractive. He talks about an anomaly having economic intuition, which really just means having a compelling story. We know what generally might motivate investors to either avoid these stocks because they're risky, or demand a higher return from them because they're risky, or avoid them for behavioral reasons. Rather, they're professional or peer based, or what have you, general behavioral things. So they've got good economic intuition, they're observed to be persistent over time, pervasive. If you look across different markets, we identify the same basic structure and type of performance and that they've demonstrated an ability to perform at a sample. And we do have the strategies that we talked about, have demonstrated an inability to perform. Out of sample, there are large players in the market that have been running these factor strategies for a very long time. But the reality is that they have really suffered recently, as we've been discussing. Some of them have really suffered recently.

There may be lots of reasons for this, one of them is just crowding. The fact that they're really intuitive, and that there's white papers and the white papers are really attractive back tests, means it's really easy to convince your investment committee or your investors to make an allocation to these types of strategies. So if it's easy to persuade people to allocate capital, and there's ready vehicles available, then you're going to get flows and you may get crowding. And there's some evidence that some of the decay we've observed over the last three to five years is due to crowding. But it also may just be due to the fact that these were poorly specified to begin with, that these strategies are just artifacts of noise. If you run 10,000 back tests and you've got a 5% probability threshold as a cutoff, then you're going to get 500 strategies that look like they've exhibited skill, just purely from randomness. And it's sometimes hard to distinguish between those that are genuinely due to skill and those that are generally due to luck.

So, you do have to have a framework for identifying a potential mechanical relationship between a certain quality or characteristic or explanatory variable and price movements. But maybe the way that academics have identified the relationship between these variables and price movements is just altogether too simplistic. Maybe we shouldn't just assume that the stronger the value characteristic, the stronger the expected return in a linear fashion. Maybe that relationship is nonlinear, maybe at the very extremes, extreme value characteristics may have negative expected returns, but moderately strong value characteristics. That's the sweet spot, and that's where you expect to generate the highest returns. The tools that have typically been brought to bear by academics and published in the literature and that survives peer review only allows very simple linear relationships. Certainly over the last couple of years, we have observed that most of the really interesting and important explanatory relationships in life markets don't really have a linear character and sometimes they're counterintuitive.

Adam:	00:15:05	Yeah. One that came to mind while you were chatting is that, remember years ago, the idea of the value deciles. The most extreme value decile actually doesn't do the best if memory serves. As the eighth to ninth decile value does better than just that extreme outlier, which often will succumb to maybe some catastrophic event from a balance sheet perspective. And so the relationships aren't necessarily just linear where you can just, yeah, the deciles work perfectly. So we'll dig into that a little bit more.
Adam:	00:15:39	Yeah, there's also interactions too. Maybe value does really well in a linear fashion as long as you're dealing in small cap stocks. It doesn't work at all in large cap stocks, and so on the condition that you're in a small cap universe value is very effective. In the condition you aren't, then it's not effective.

Rodrigo:	00:15:57	I think this is a differentiating factor between beta and alpha. Why are these considered betas, because you can create a general theory of understanding here that can take in a lot of money, that it has a linear relationship. The stronger the trend, the more I want to allocate. The stronger the momentum, the more I want to allocate. And if it's pervasive across all market environments, if it's persistent just broadly speaking, what's happened is you've gone from traditional beta, going one level lower, saying there are some anomalies out there that we can capture by this simple linear relationship, if they meet these criteria. You "mister institutional investor", if you can get behind that, then we're good to go. We don't have to get any more complex. Because the more you go down those layers, yes, the more value you find, but the tougher it is to explain in a single slide.
Adam:	00:16:47	Yeah, it's not as intuitive. But then you're also locked into only using a small number of different potential explanatory variables. And you're only going to find explanatory power in those that have a linear relationship. Whereas there's so many potential factors that influence market price movements. You need a different toolset in order to be able to identify most of the important relationships out there. And I think that's where we're going to go next.
Rodrigo:	00:17:14	Just to put the episode together, here is the economic intuitions that follow through with this framework. You can capture some value there. Of course, when they were discovered and identified 20 years ago, 15 years ago, 10 years ago, and very little amount of money was put into it, you actually observe that a sample Sharpe ratio that were pretty high because that was enough at that time. Just identifying the linear relationship. As more money's piled in, we've seen an overcrowding that possibly has led to a momentary negative Sharpe ratio for these as a group. But as people leave, we're likely to see not everybody leave, there's going to be more money than there ever was 10 years ago and that money is going to try to extract that linear risk premia with the expectation there for adding those allocations to your respective portfolio will not be the one and a half Sharpe's that we saw in some of these historically in back testing, but it'll likely be more like the equity risk premium, 30 basis points. And if you have a Sharpe ratio of 30 basis points, then you're going to have these years of negative performing just like you do with equities, just like you do with bonds, and as we've seen over the last few years, they aren't uncorrelated. So it continues to create that imbalance.
Mike:	00:18:24	That's a function of flows versus the opportunity set. So when you start, you have no assets chasing it. You've identified the anomaly, and now you're going to have flows go into the area which are going to meet the opportunity set, they're going to meet the opportunity for arbitrage, and then they're going to get popular, and they're going to overexpose the opportunity for arbitrage, and extend in fact the excess return beyond the area of arbitrage, simply due to the flows that are going into this area. Then there's going to be a realization, the last dollar is going to go

into this area for a period of time, and then there'll be a reversal of those flows out and a new equilibrium will be achieved. This happens over and over again across asset classes across many strategies. So it's not new. But you have this discovery phase, you have early adoption, then you have mass acceptance, and then you've got to reach a new equilibrium where there's some Sharpe ratio there that's achieved, and likely meets all of those criteria that Swedroe lays out at some new equilibrium. So as an allocator, you have to decide where you want to fall on the continuum of chasing these different types of pursuing, enhancing the portfolio with bets, where you're going to fall on that continuum of comfort to uncomfortable, and from early adoption to late adoption and that sort of thing.

Rodrigo: **00:19:53**   Right. So you start within the permanent portfolios we started has three bets then you expand it to a risk parity portfolio, a traditional one, we can have five bets with if you're trying to put it together with a bunch of exchange traded funds. If you can do in the future space, you're looking at 13 bets. If you identify these different style premia, you can increase that by 15, 16 bets. Again, not expecting them to solve all your return problems, they're just going to bounce off your portfolio better. So expanding the efficient frontier and increasing the expectation of Sharpe ratio and going forward. The question is, can we go a step deeper and continue to expand that frontier with going down a couple of levels lower? And that'll be a topic for the next episode.

Mike: **00:20:36**   Cue the music.