The ReSolve Master Class – Episode Six

Mike: **00:00:00** Well, welcome back. I love that intro music. In fact, at this point in time I don't know what it is, but I'm going to love it anyway. We're back with episode six. Well, recap for us Rod.

Rodrigo: **00:00:13** Well, yeah. What we've started with in the beginning of this Master Class is understanding that we need an extra amount of money that we want to invest in this world, we have to recognize that in this narrative world it's really tough to perceive what's going to happen next and if we can't perceive, then we want to create balance. How do you create balance? You find the instruments that you can put liquid assets into and diversify globally away from your country towards global equities, global sovereign bonds, commodities and the like. And then create once you have that diversity, you want to create balance and find a portfolio that is in harmony. No, nobody's going to try harmonizing with me? So you got your nice portfolio globally diversified and balanced. The question is, why aren't more people doing this today? What are the sticking points here?

Mike: **00:01:04** Well, some of the challenges to why they aren't. The idea of capital allocation versus risk allocation as an example to why aren't they. If you think about that maximally diversified portfolio between stocks, bonds, and commodities, it's half bonds, a quarter commodities, a quarter equities which leads to a wonderfully balanced portfolio credibly stable, and an incredibly low rate of return.

Rodrigo: **00:01:34** Low absolute rate of return. We're assuming in risk parity that every asset class has a similar Sharpe ratio. So if the ambient volatility of bonds is half that of equities, then you're going to get half the absolute return than you would from equities. If you’ve got 100 cents on the dollar to invest in there and most of it is going to bonds and you can have a smoother ride, you're going to have a more balanced approach and a smoother equity line, but an expectation of a lower absolute return, which is a problem if you're trying to meet certain return expectations, return obligations.

Mike: **00:02:06** We've got obligations of the assets that we've talked about previously across decades long goals that have to meet those obligations. So, what do we do now? We've got this great Sharpe ratio, how do we eat it if you will?

Rodrigo: **00:02:20** This is where everybody says, you just can't eat Sharpe ratio, it's not worth it. Because you're not meeting your obligations. Ultimately, we have to get to that 4% rate of return or that 8%, whatever anybody has in mind, and when you have something that can show people and say, look, this has an expected return that is higher per unit of risk, they don't care if it means that the unit of risk that you're taking, as much as half of equities and therefore half the return.

Adam:	**00:02:47**	So what do they do instead? They observe 100 cents to invest and they say, if I put 50 of those cents into bonds, then I won't be able to hit my required return. So I need to take money from bonds and reallocate it to riskier assets that have a higher expected return. So what do they do? They take it from 50% bonds, 25% stocks, 25% commodities, and they go to 60% stocks, and 40% bonds and ignore commodities because there's the perception that commodities have zero return. So they just go out the risk spectrum by adding to concentration and they sacrifice diversity and balance, and what do they also do? Sometimes they also try to go into what they would describe as alternatives, which for many investors that we speak to still somehow is perceived as things like private equity, private credit, venture capital. I think what many investors miss is that private equity is not uncorrelated, it's just leveraged equity.
Adam:	**00:04:02**	I would add long only equity managers like high active share managers, are still just more beta. Oftentimes, there might be some alpha, there might be some differentiation there but you're still getting exposure to those same risks that the rest of your portfolio has.
Mike:	**00:04:17**	Well, we come back to that old problem. You've got high active share, and S&P was down 30 and you were down 22 or 25, or 30 depending on how correlated the active share was in a procyclical nature, with the market itself. There's a challenge there. So anytime you skew to these types of asset classes, it has the side effect of over allocating to success in a limited number of economic regimes. And we come back to our two dynamics and four regimes and if we're managing over decades, we know that we are going to experience all four of those regimes. You are set up by default to have pretty difficult outcomes during a couple of those regimes if you head in this direction. Counter that with the idea of well, maybe if we can get over the leverage constraint, if we can get our head wrapped around some leverage in the portfolio to a maximally diversified portfolio, then we maintain the Sharpe ratio and increase the return of the portfolio thereby achieving those goals, those funding objectives, and achieving them at the lowest possible risk, lowest possible volatility if you will.
Adam:	**00:05:34**	Let's put some numbers around that because I think this is where we often lose people as we talk about risk parity, and where risk parity gets confused with this idea of a levered bond portfolio. Sticking with Mike's 50% bonds, 25% stocks, 25% commodities example, let's say we're going to lever that portfolio up. Well, now we're going to have a portfolio that has 100% stocks, 50% equities, sorry 100% bonds, 50% stocks, and 50% commodities. The total allocation is 200%, but we're still preserving that diversity and balance within the portfolio, we're not just levering up the bond portfolio, we're leaving up the entire portfolio and

maintaining that appropriate level of balance so that, like Mike said, we've got the maximum amount of expected return per unit of risk. And we're diversified across these different economic regimes.

Mike: **00:06:30** Thereby, being robust to the various economic regimes that might manifest through those two dynamics that we talked about earlier.

Rodrigo: **00:06:39** I want to just go back to the issue with adding your alternative sleeve, adding towards private equity, VC, long only, high active share equity managers, you're throwing that balance out of whack. Oftentimes, what you're actually doing is getting implicit leverage, you're levering your portfolio without knowing it. And all of a sudden, where you should be 100% bonds, 50% equity, 50% commodities, you end up being 100% equity.

Mike: **00:07:05** Generally, people are 60/40, or 75/25 with very small if any exposure to the commodity complex.

Rodrigo: **00:07:11** So, what you have now is people observe lower yields on bonds, they're going higher and higher up the efficient frontier towards equity-like products and reaching for that return. And what they're in essence doing is they're increasing the thickness of that left tail as well, you're increasing the thickness of the right tail, you can get really lucky but you can also get really unlucky.

Adam: **00:07:34** I don't want to miss that point though that you were making about implicit versus explicit leverage, because I think people perceive moving up the frontier into equities or private equity, private credit, as avoiding the need to take on leverage. And what they don't realize is that, for example, the S&P 500 is levered itself two to one. So you're actually taking a levered bet on equities, and with private equity, you're typically taking an even more leveraged bet on equities. So you're still getting that leverage, it's just that you're getting leverage on a concentrated equity bet instead of taking leverage on a robust, balanced, diversified portfolio that is designed to be resilient to all of the major economic regimes.

Mike: **00:08:22** Well, I think even if you want to go a little bit further and just highlight what credit actually is, the components of how credit breaks down.

Adam: **00:08:28** Yeah, sure. Well, credit is a really interesting wormhole because credit is a mix of rates and a bet on equities. But you don't actually see that equity risk until the equity component drops so far that bondholders worry about their exposure to the balance sheet. Equity holders, they assume the first level of risk on the balance sheet and only when the equity is wiped out do the creditors need to be concerned about not being made whole on their portfolio, so you can break a credit exposure down into a long rates bet and a short put on equities. But you're short an out of the money put on equities, whereas you can replace that credit

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exposure by just being long rates and long equities. Because equities are essentially an at the money put on balance sheet risk. So, you've got a much higher premium, you're rolling a much higher premium promoting that at the money put on equities and rates than you get from credit alone. And if you actually go back and create a simple risk parity portfolio of rates, and equities, that is a much more efficient portfolio over the long run than owning a credit portfolio, for that reason.

Mike: **00:09:51** Right. It's balance, diversity and integration, explicitly integrating those two bets. When you have them in a credit portfolio, they're integrated for you, you don't get to separate those out, you don't get to maximize the diversification of the portfolio, they're there together. So you want to be able to explicitly recognize all of these different bets in the portfolio and that's what we mean by this integration concept as well.

Adam: **00:10:19** The other side of that is, I think actually, that's a really important metaphor for the credit portfolio because as the equity sleeve becomes more and more at risk, that short put option becomes more and more in the money which means it takes on a much, much larger value as a component of the credit portfolio and now that put option is completely dominating the risk exposure of that portfolio and you can't rebalance back. The point is, if you own risk parity exposure to rates and equities, you can rebalance that back so that the equity sleeve doesn't ever come to dominate the portfolio. You cannot do that when you want credit because they are intrinsically linked.

Rodrigo: **00:11:04** It's a sneaky exposure to a negative growth shock that you didn't know you had. Again, it goes back to what are the repercussions of levering up that way? You have a traditional portfolio at 20% alternatives, those alternatives you think are very different but in fact, they're just going to be affected by a lot of negative growth shocks. So again, you're now in a portfolio that already equity has really thick fat tails, a really thick left tail events and right tail events and you're leaning into that. So when you get hit, it's going to get hurt, when it hurts to get hurt. What risk parity does when you put together the pieces in balance is you thin out those tail events. It means that you're not going to get as lucky as you can with this concentration in commodities, concentration in equities or a concentration in bonds. But you're not going to get as unlucky. It approximates more of a normal distribution. And so what does that turn out to be from the Sharpe ratio perspective? I'm just going to use simple math here. Let's assume that equities or any single asset class has a Sharpe ratio of 0.5 and let's assume that creating a risk parity portfolio gives you a Sharpe ratio of one.

So for every unit of risk, let's say I'm going to get one unit of return for risk parity and for every unit of risk I take in equities independently, commodities independently, or bonds independently, eventually I'm going to get half a unit of return. What I can do now is make a choice. I can either choose to have lower risk and lower return than just my 100% concentrated portfolio, or I can choose to lever up a well-diversified portfolio to the point that I'm comfortable with. And today, it seems like it's 100% equities. So if you want to lever it up to 15, 16% volatility, your expectation is that you're going to get twice the return in my example. Now, in real life, what are we looking at in terms of historical numbers? Global equities have a Sharpe ratio of 0.3 and a risk parity portfolio has a Sharpe ratio of 0.5, 0.6. I just wanted to make the math easy for everybody.

Adam: **00:13:00** Just to summarize and put a pin in this thing before we move on. Risk parity is about diversity and balance, and sometimes that means that if you don't lever the portfolio, that expected return won't hit your required return. So you can do two things. You can concentrate into equities to get your higher returns or equity proxies like credit and private equity, etc. Or you can lever up the diversified portfolio and preserve your resilience to all of those different economic regimes. I guess in the next episode; we're going to talk about how we can increase the amount of diversity in the portfolio even further by going outside of those traditional long only markets. So outside of traditional equities, bonds, and commodities, and in this stuff like factors, style premia and eventually into pure alpha sources.

Mike: **00:13:56** I like that. Do you guys want to talk about at all here the whole idea of the tracking error issue with risk parity?

Adam: **00:14:03** Sure, risk parity is the maximum regret portfolio.

Mike: **00:14:07** Yeah. We've talked about some of the positives. So let's be real and talk about some of the things that make risk parity hard. You've got what they call a career and pure risk here. You've got deviation from broadly adopted, broadly accepted ways of doing business and you're going to be on a different track. So, they will often say, diversification is a free lunch. To which we will often reply, well, true diversification isn't really a free lunch. There's a tracking error payment that has to be made. There is a comfort with deviation from what might be best in your career paradigm or your peer paradigm or what the client or the end user of the assets wants. So, as always, there are challenges, but the challenges are where the excess return lies. As usual, be comfortable with being uncomfortable.

Rodrigo: **00:15:05** I just want to put a perfect example of when you summarize the benefits of risk parity, everybody's like, of course, that makes total sense. So I'm going to get one unit of return per unit of risk instead of getting half a unit of return per unit of risk and I can lever it up to 15% volatility and I'm going to outperform equities. Of course, on average, that should be the case. When it hurts is when you have a two year period where equities have gotten really lucky and you're killing it in your equity component. Your risk parity is getting killed on two thirds of the

		components, has the same level of risk and the allocator is saying hold on a second, I'm taking the same risk here between your risk parity and your equity, but the equity is crushing it and you're not. So you were saying something about it being better? Explain that to me. It's the fact that you're smoothing out the luck factor that creates that. And of course, it's great when you have a 20, equities go down quite drastically just barely does better, then you're a hero. But in a massive bull market it's a problem.
Mike:	**00:16:08**	Yep, there's always something killing it and there's always something killing you. And that is the price. It's the “I'm Always Sorry” Portfolio.
Rodrigo:	**00:16:17**	Exactly.
Adam:	**00:16:18**	Very true.
Mike:	**00:16:18**	Okay.