Rodrigo:	00:06	Hello everyone and welcome to ReSolve's 12 Days of Investment Wisdom mini-series, where Michael Philbrick, Adam Butler, Jason Russell, and myself, Rodrigo Gordillo, will explore timeless evergreen principles that will help you and your clients achieve long-term investment success. From the importance of asset allocation, thoughtful portfolio construction, and maximum diversification, our aim is to offer you a comprehensive framework for a more thoughtful investment approach that may change the way you view the complex arena of investing altogether. We hope that you enjoy the series as much as we enjoyed putting it together.
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Rodrigo:	01:10	Alright, ladies and gentlemen, we are in day two and what we're gonna do is do a little recap of what we talked about on day one. See if we can parlay that into today's topic. Mike, why don't you take it away?
Mike:	01:21	Welcome back, everybody, and what we talked about was this idea of asset allocation versus security selection that markets are micro-efficient but macro-inefficient. We've got this opportunity provided to us by the inability for large pools of assets lacking portfolio agility and mandated flexibility. Let's take advantage of those opportunities. So, so, we established that asset allocation is a very important opportunity for us, and we want to think about that. Now, I am going to turn it over to you gentlemen, and we're gonna talk about tactical alpha. Is it worth it? How might I attack this opportunity? How might I think about this opportunity in the context of security selection, and what's the truth here?
Rodrigo:	01:59	So, one of the ways we think about, or everybody should think about, the portfolio construction process is what do you want to maximize? Well, you want to maximize your return per unit of risk. Also known as the Sharpe ratio, so for every unit of risk you take, you wanna get more units of return. And the way we break this out is that there are really two components to this. One is the edge that you have in selecting your securities, and the other one is the amount of diversity that you can get from the universe that you're gonna apply your edge on. Let's define what edge is. Edges can be anything. Edge can be picking stocks based on value, picking stocks based on momentum, picking stocks based on quality. That's your edge. So, an example would be that, well let's say we were talking about momentum. What is momentum? How can we apply an edge?

Momentum is, we're gonna grab a bunch of securities in the S&P 500. We're gonna rank 'em from best to worst. We're gonna pick the top performing stocks, hold them for a period, and then rinse and repeat. Re-rank, hold the top for a period, and keep on doing that over and over again.

Now, the edge that we can see from that momentum strategy can be anywhere between 52, 54 percent. So, that's your edge. It's a huge edge to have a 54 percent of the time that you're making a selection to be positive. Now, that's on the securities selection side. In fact, from asset allocation, you can do the same thing. You can grab not 500 different stocks of the S&P 500, but maybe 12, 15 different asset classes. You can rank those from best to worst, hold them for a period, and rinse and repeat. And get that same 54 percent edge.

So, if I'm getting the same edge on both universes, how is that I can improve, or how does it differentiate my Sharpe ratio, my risk-of-rate adjusted, rate of return, by using the asset class universe versus the security selection universe.

Having 500 stocks, as in the amount of number of securities that I can choose from may not be more fruitful than just doing 12 very non-correlated asset classes. And so, the second part of the equation is diversity. And I'm gonna let Adam talk a little bit more in detail about what those components of the formula that we just talked about, and why it's so important to focus on that second part of the equation. Or at least as equally important as focusing on the edge.

Adam: 04:09 Thanks, Rodrigo. Yeah, the ... we're all seeking high risk-adjusted performance, as Rodrigo said. We want to maximize our returns per unit of risk, or maximize our Sharpe ratio, and to understand how to do that, we go back to something called Grinold's fundamental law of active management which is a mathematical identity. It relates risk-adjusted performance to two dimensions of the investment strategy.

The first is how powerful your edge is, as Rodrigo described. Maybe a momentum strategy, if you ranked stocks, and hold the top stocks 50 percent of the time, those stocks that you hold, because they have the highest momentum, go on to produce positive excess return to the next period. And so your edge is, call it, 54 percent.

The other dimension is the diversity of opportunities. So if you've got a powerful edge, but you don't have the opportunity to apply that edge on a time frame or as frequently as you might apply it in a different universe, or to a diverse set of uncorrelated bets, securities or markets, then you're not going to be able to produce a very high Sharpe ratio, right, a very high risk-adjusted performance. So, you-

Mike: 05:35 Can I, can I jump in there?

Adam: 05:46 Yeah, yeah.

Mike: 05:37 So, so, does that relate directly back to what we talked about on day one, or what you mentioned on day one, with those managers in emerging markets versus U.S. markets?

Adam: 05:47 Absolutely. Just, thinking about edge. So, imagine you've got two managers with exactly the same edge. Let's say, they're both two momentum managers, and one of them is operating in the domain of emerging markets, so choosing emerging market stocks. And the other manager is operating in U.S. markets and choosing U.S. stocks.

Now, imagine that the emerging market manager is harvesting a positive edge, so they're actually applying this momentum premium, this momentum strategy. Over and over again, they're rotating into the strongest stocks within the emerging markets.

Meanwhile, the U.S. manager is taking the opposite approach. For some reason, this manager's never heard of the momentum anomaly, and instead he keeps buying the stocks that have gone down the most over the past 12 months. Maybe he thinks that's analogous to a value strategy or something. But it has a negative edge. So what we showed in the last, or what we described in the last discussion, was that this manager with a negative edge but operating in U.S. securities was able to completely dominate the performance of a manager with a very strong positive edge but who's operating on the universe of emerging market securities.

To what extent? Well, just sort of revisiting the best manager in emerging markets produced about 12 percent total return over the last 12 years whereas the worst, or near-worst, managers in U.S. markets delivered about 32 percent. So just, you know-

Mike: 07:16 Wow.

Adam: 07:17 Positive edge doesn't overcome-

Mike: 07:20 Lack of breadth.

Adam: 07:21 Lack of breadth and- and a lack of opportunity. Exactly. Yeah.

It's a really, really good point to get us back on target there.

So, let's assume that there's the same level of inefficiency within a security universe for a manager who's trying to choose the best securities as there is within the asset class universe. For now, let's just assume that there's this-

Mike: 07:41 A pretty conservative assumption.

Adam: 07:42 Yeah, agreed. And we'll- we'll get into some of the reasons why, for sure, in different, in later discussions, but for now, let's assume that they're the same. The question then is, is a manager who is constrained to allocating, or applying their edge, in the asset allocation space able to produce the same risk-adjusted performance as a manager

who's operating in the securities selection space, given that there's far fewer asset classes than there are securities.

So let's assume that, you know, there's 500 securities versus 12 or 13 asset classes. Well a naïve view, just given our equation that risk-adjusted performance is equal to edge times your diversity of bets. A naïve view suggests that, well, obviously the person who's got access to 500 securities should be able to produce better risk-adjusted performance. But what that misses, and so many academics miss this and so many managers miss this, is that it's not just the number of securities that provides diversity of opportunities. It's the number of uncorrelated bets that you're able to take.

Right, you need a diversity of bets. And the reality is within a security universe, the vast majority of the risk in that universe is explained by one single factor, and that's how is the market performing.

Rodrigo: 09:04 How is the U.S. market in this particular example.

Adam: 09:07 Correct. How is this, how is this U.S. market that we're selecting stocks in performing? If that U.S. market is performing poorly, then no amount of edge will overcome the fact that, they're- the dominant risk factor is performing poorly. Within the asset class universe, you have truly diverse sources of return that are reacting and behaving in certain fundamental ways in reaction to certain macro-economic factors.

And so, even though you've got far fewer individual securities when you're talking about 12 or 13 different markets, because those markets are uncorrelated, you actually have about the same amount of total breadth from 12 or 13 markets as you have for, for, you know-

Rodrigo: 09:46 Right.

Adam: 09:47 500 individual stocks …

Rodrigo: 09:49 So, going back to the momentum example, if you have 500 U.S. stocks and you're trying to pick the best 10 percent in 2008, you will be picking 10 percent of U.S stocks going down during that period similar to what the market exhibited.

Whereas, if you're choosing 10 different global asset classes that include things like, well, you name it: gold, commodities

Adam: 10:12 Treasury bonds.

Rodrigo: 10:13 Treasury bonds, U.S. dollar, you might find yourself in a position of positive returns.

Adam: 10:17 Exactly.

Rodrigo:	10:18	Right, so this is the true non-correlative nature of asset classes versus securities selection. This idea that it's edge times 500 U.S. stocks is wrong. Alright that's not the diversity. You need to convert that 500 stocks and you need to convert those 12 stocks, identify their correlations, and come to a unified number that really gives you the true reading of diversity. So why don't you tell us a little bit about how we quantify that.
Mike:	10:46	I'd liked to see that quantified. Yeah. I'm a buyer.
Adam:	10:49	Well, we recently quantified it using data from the Ken French website, where, so, Ken French, he provides returns to a variety of U.S. equity strategies going back to the late 1920s. So, he, for example, divides up U.S. equities into 10 industries, and he provides the returns over time for those 10 industries. And you can, you can use your X-ray goggles to- to look through those 10 securities to find the number of independent sources of return there accounting for correlations. Um, what we found, over the long term, is that that produces about 1.9, just shy of 2, independent sources of return, after accounting for correlations. If you expand that to 12-
Mike:	11:33	So, so hold on a second. We got 10 different sectors-
Adam:	11:36	Yeah.
Mike:	11:38	And you're telling me I got two bets.
Adam:	11:39	Yeah.
Mike:	11:40	Okay, and that's because they're so highly correlated.
Mike:	11:42	Yeah.
Adam:	11:43	Right. Let's face it, information technology and telecom, they're gonna move quite similarly.
Rodrigo:	11:47	No, no. I'm- I'm putting my- my fact-check, uh, my fact-checking hat on. And it's actually 1.5, 1.45 bets per 10 sectors.
Adam:	11:54	You're right. Yup, for 10 sectors yeah.
Rodrigo:	11:56	Twenty-five, 38 different industries, right. So- take it - 38 industries within the S&P 500 ... is that S&P 500 or global industries?
Adam:	12:04	U.S. total stock market.

Rodrigo: 12:06 U.S. total stock- 38 different industries. That's the idea of 38 different line items has a to a whopping 2.92 diversified bets.

Adam: 12:13 Mm-hmm (affirmative). Yeah. And then compare against 12 diverse global asset classes. So for example, U.S. equities, Asia-Pacific equities, emerging equities, treasury bonds of a couple of different durations, gold, a diversified commodities basket, global REITs, emerging market bonds, etc. Well, when you look through those using the same X-ray goggles and account for the correlations. How many independent bets do get? We get five. Five independent bets.

So more independent bets from 12 or 13 global asset classes than we're able to achieve from 38 industry groups within U.S. total stock market, and I think we actually analyzed 49 industry groups and discovered that there's about three and half independent bets, or 3.7 independent bets from 49.

So, you know, we can sort of extrapolate out and think about all of the stocks in the S&P 500, and think about all of their correlations to one another and we've done some research on this and you can find in our tactical alpha paper which we're gonna link to. And what we discover is that there's about the same number of truly uncorrelated bets in 500 stocks as you're able to achieve in 12 or 13 major global asset classes. So you get exactly the same breadth.

So, holding the edge constant, momentum works exactly the same in individual securities as it does across global markets, and then holding the fact that the diversity, or the number of independent bets is also approximately the same. So, now you just sort of have to ask yourself, "Well, what is the probability that those edges are gonna persist?"

And what we talked about in our first discussion, was that we strongly believe, for reasons that we got into in great detail, that the magnitude and persistence of those edges are substantially improved in the asset allocation domain relative to the securities selection domain. And if you're confused by that, I encourage you to go back and listen to the first episode here because it really closes the loop.

Mike: 14:17 I think- think there's one other point that maybe, uh, Rodrigo, you can talk about, which is this concept of what's the weakness with the momentum side of the security selection, as an example from the diversity perspective, versus, so we've got the 500 stocks. We're doing some stuff. We're adding some skill. We got the breadth.

Versus, that same skill applied to the 12 global asset classes. Even though they have about the same unique bets, what's the danger in there?

Rodrigo: 14:48 Well, the danger is how highly correlated they can become in a short period of time. So, we're in the business, when we're looking at 500 stocks, we're in the business of picking a better tree in a forest. Which tree is looking better from a momentum perspective?

Whereas asset allocation is in the business of picking better forests. And in '08, that S&P 500 forest is burning down. You could have picked the best tree in the forest, in a burning forest, and not done so well. And if you, what you- where you'd rather be is have an opportunity to get that helicopter and start choosing forests that are thriving.

So, diversification, based on real underlying economic factors that differentiate these asset classes, TIPs are gonna be different than gold, gold's gonna be different than certain commodities- another commodities, and commodity basket is gonna be very different that 10-year treasuries, allows us to have a more consistent equity line.

Mike: 15:43 What I'm hearing is that in a moment of crisis, that it's much more likely that an asset allocation portfolio derives-

Rodrigo: 15:50 For sure. What's the biggest misconception that we hear all the time? That in 2008, all correlations went to one. And that is absolutely true. Alright, whatever diversification we had from having 500 equity stocks, most of the time, in that point in time, went to one. The diversification went away. This second half of the equation is not constant. It varies.

And '08, you went from having a bunch of bets to having one bet. One piece of diversification. Contrast that to the fact that you have asset classes and when you go to the asset allocation level, this idea that all correlations went to one is categorically false.

In fact, the dispersion between a set of asset classes, risk on asset classes, is risk on asset classes was the widest we'd seen in decades.

Mike: 16:36 Right.

Rodrigo: 16:37 You had -.8 correlation between 30-year treasuries and U.S. and emerging markets. And so that benefit of, even in '08, the- the reality being that the correlations went negative ... if you're working in the right arena, in this case forest choosing, gives you that extra edge and that ability to hold onto something long-term.

Adam: 16:59 And how did those, how did those treasuries-

Rodrigo: 17:01 Oh yeah.

Adam: 17:02 Behave in 2008?

Rodrigo: 17:04 Well, you had treasuries up 35 percent. If you bought the TLT, the IShares TLT ETF, so this is not an obscure product. This is not, you know, a- a complicated thing to wrap your mind around-

Adam: 17:14 One of the major global asset classes-

Rodrigo:	17:18	At 35 percent ... what was the number, Mike? It was outperforming 90 percent of all hedge fund managers on the-
Mike:	17:23	Oh, yeah, yeah, yeah. … You don't have to trade the underbelly of the housing derivative market to have exceptional returns.
Rodrigo:	17:30	That's right, and you had- don't have to do any derivatives - any credit, whatever, CDs. You have U.S. dollar up another 30 percent. Yeah, gold, single digit positive returns. And in the beginning of the year, commodities were making a killing while equities were continuing to go down, down, down. So, this is the benefit of living in that arena, and we're gonna get to a lot more of this in terms of portfolio construction in the third and fourth day of Christmas.
Mike:	17:53	If you really go, if you "seeked" to maximize the breadth, the diversity of opportunities in the asset allocation space and that asset space, how many, how many bets do you think you could get up to?
Adam:	18:04	Well, I think we covered it. Over the long term, 12 global asset classes produces about five independent bets.
Mike:	18:09	No, I, but what if I'm ... is there only 12?
Adam:	18:13	Oh yeah, I mean if you diversify out into 48 futures markets, for example, and we covered this in our recent article, then you can crank up your number of bets into the sort of 12, 13 range. Now you're really cooking in terms of the potential for expected risk adjusted performance.
Mike:	18:28	Yeah, what's the implication on, on your skill there then?
Adam:	18:31	Well, it'd take the same level of skill. You've got a massive force multiplier on performance because you just got this massive boost in your diversity of opportunities.
Mike:	18:41	Right.
Adam:	18:42	And we'll get into exactly what that looks like, but just to give you a taste, we found that taking a more thought approach to portfolio construction on this futures universe allowed you to increase your expected risk-adjusted performance by about 36 percent. Given the exact same level of edge.
Mike:	19:01	Right. So, skill remains constant.
Adam:	19:04	Yup.
Mike:	19:05	And you had a full, you know, over one-third increase in the risk-adjusted outcome.

Adam:	19:11	Absolutely. So just put that in context. If you're targeting a 10 percent volatility, then, and you had an expected one Sharpe from your more naïve strategy that's not taking maximum advantage of the opportunity for diversification, that strategy would be expected to have an excess return of 10 percent. But with more thoughtful application of portfolio construction, maximizing your number of bets, then that goes up to a 13.6 percent expected return for the same level of risk.
Rodrigo:	19:42	Right. I think the main takeaway of today's session is really to understand that, you know, we spend so much time trying to find that manager that has an edge. Right, how many times have we approached and, "What's your edge? What are you guys doing? What do you think that guy's edge is?" That's important, and we all strive to- to improve our edge in as many ways as possible, but nobody talks about, "Hey, what's your breadth?" (laughs) Nobody's asking, "Hey, how's your portfolio optimization maximizing your Sharpe ratio, based on the edge you already have?" That conversation is not being had at all, and I think the takeaway here is that the breadth of diversification side of it is just as important, if not more important in maximizing your risk-adjusted returns than just focusing on edges. So, that- that's key here, that's a key takeaway.
Mike:	20:37	Awesome.
Mike:	20:38	So, we had day one, asset allocation versus security selection. Today, tactical alpha. Next, true breadth via asset allocation and the construction of your bets. Tune in for day three.
Rodrigo:	20:51	That's so Mike. Oh my God.
Rodrigo:	20:53	Thank you for listening to our 12 days of Investment Wisdom mini-series. You will find all the information we highlighted in this episode in the show notes @investresolve.com/12 days. You can also learn more about ReSolve's approach to investing by going to our website and research blog at investresolve.com, where you will find over 200 articles that cover a wide array of important topics in the area of investing. We also encourage you to engage with the whole team on Twitter by searching the handle @investresolve and following Adam, Mike and myself. If you're really enjoying this series, please take the time to share us with your friends through email, social media, and if you really learned something new and believe that our series would be helpful to others, we would be incredibly grateful if you could leave us a review on iTunes. Thanks again and see you next time.