

A Returns-Based Approach for Allocating U.S. Microcap into Equities Portfolios

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Jim O'Shaughnessy (Jim): Hi. I'm Jim O'Shaughnessy. This is the What Works on Wall Street podcast. I'm joined today by my colleague Ehren Stanhope, and we're talking about microcaps. Ehren, welcome!

Ehren Stanhope (EJS): Thanks Jim.

Jim: Why is Microcap so difficult to evaluate?

EJS: I think that one of the interesting things about the microcap universe is just the disparity that exists between the companies that are there. It's kind of this conglomeration of companies that are everything from start-ups to companies that are sort of in this steady state to companies that may have been large, or mid, or small caps that effectively their businesses have failed and they're descending.

Jim: Fallen Angels. Right.

EJS: Exactly, exactly, Fallen Angels. When you think about a group of stocks, a universe, which is how every manager starts putting together portfolios and you look at all the characteristics, on average, they look pretty bad actually.

Jim: Right.

EJS: EJS: So, it skews a lot of people away-

Jim: Kind of like the Island of Bad Toys. What was that?

EJS: Oh, yeah the Land of Misfit Toys.

Jim: The Land of Misfit Toys.

EJS: Exactly. Particularly at a time when everybody is passively investing, you look at the microcap benchmark, which is the Russell Microcap is the most popular, Wilshire and some other companies have them ... I mean, they're very similar, stats really don't look that good and neither do the returns.

Jim: Yeah. That makes it difficult because, as you talk about the index that we benchmark ourselves against, it's kind of crazy because the Russell Microcap has what percentage of overlap with Russell 2000?

EJS: It's actually 88%.

Jim: That's insane.

EJS: Yeah.

Jim: So, basically what they're calling them, microcap index, is actually a small cap index, right?

EJS: Yeah, exactly. It's a small cap index that is a very illiquid tail-

Jim: Yeah.

EJS: ... at the end of it, which when you look at the returns, it really deteriorates the returns for the Russell Microcap relative to the Russell 2000.

Jim: Yeah. You've also come up with, and I want you to talk about, using correlations with microcap and how that might be helpful for investors.

EJS: Yeah, so when you think about putting together a portfolio, and a lot of allocator do this, one of the key things that you have to look at is the correlation assumptions. Right? When you look at the correlations of, say, the Russell 2000 with the Russell Microcap, they're pretty close because of the things that we just mentioned. It's 0.96.

Jim: Got that. Okay.

EJS: They're basically the same.

Jim: Yeah.

EJS: You really get no benefit for exposure. If you're looking at the returns, the Russell Microcap Benchmark is worse, so why even consider it really?

Jim: Right.

EJS: I think one of the leaps that can be made though is we're factor investors. Right? Over long periods of time, factors have their own correlations with each other that exist. It tends to be pretty structural. As an example when you look at different factors, value, momentum, yields, earnings, quality earnings, growth, financial strength, and you look at them and, say, longer reasonable investment horizons, so let's say 36-month rolling periods back to the 1980s so a 30+ year span, the correlations of those factors with the microcap universe, the microcap universe the way that we look at it 50 million to 200 million, it's actually greater than 0.9 and it's pretty stable. So, you have a very stable correlation structure that exists but lots of excess return.

Jim: Right. That's why investors would want to consider microcaps to begin with. Right? The alpha opportunity for microcaps is huge. Could you talk a little bit about that?

EJS: Yeah. It really is quite astounding. When you think of factors, the easiest way to think about it is taking a universe of stocks, ranking them from best to worst. Just using value as an example, cheapest to most expensive, group them in decile portfolios, and then looking at that top 10% versus that bottom 10%. So, cheapest versus most expensive, looking at the returns over multiple decades, and looking at the spread between those two returns. In the microcap universe, the spread between the cheapest to the most expensive is 28%.

Jim: Oh, my God. Just contrast that with large cap stocks.

EJS: So, in large cap stocks, it's about 12%.

Jim: Wow. So, more than double.

EJS: So, more than double for, what I think is collectively agreed, is a very inefficient space. It's exactly as we would expect, but it's a really great proxy for what an active manager can do in the space. Yeah, I think that — just from a pure excess return perspective — that is something that's incredibly appealing that most people just don't realize because they don't have the data.

Jim: Right. What about implementation costs? It's got to be more expensive down in microcap land.

EJS: It definitely is, there's no question. I think that in terms of implementation costs, a lot of the research will say that implementation costs increase at the square root of assets. So, sort of a long way of saying that in the large cap space, you can be looking at effectively free to implement. In megacap stocks, very highly liquid to maybe a couple basis points. Then as you move down from megacap to large cap and into mid cap, you're kind of looking in the 25 basis point range. Small cap might be closer to 50 to 75 basis points. Microcap can be 100 basis points. Now, if you're an effective trader, you can mitigate some of those costs, but they do exist.

Jim: Right. A liquidity screen really helps, obviously.

EJS: It definitely does. I mean, the microcap universe as a whole is incredible illiquid, and one of the very basic things that you can do is screen out stocks that have an average daily volume of less than 100,000. That in and of itself actually screens out a good portion of the microcap universe. Actually, a good portion of, if you're thinking of the microcap universe the way that Russell defines it, it actually screens out a good portion of the Russell Microcap Benchmark also.

Jim: Yeah. So, basically that's a benchmark that is very difficult to buy without just huge costs. Right?

EJS: Yeah. If you applied that liquidity screen to the Russell Microcap Benchmark, it actually increases the return of the benchmark by 80 basis points annualized.

Jim: Wow. Interesting. Talk a bit about your returns-based approach to looking at microcap.

EJS: One of the questions that we get all the time from allocators is, "How do I think about allocating to microcap?" because as we've talked about already, you look at the benchmark returns, which indexes tend to be the best proxy used for an asset class's returns, and you put that through an optimizer for asset allocation and it gives you a big fat zero for microcap and in some cases small cap also. So, the important thing is to think about moving away from the benchmark, as a proxy, for asset class returns.

You have to then dive into what a benchmark is, how is it constructed, which we've done a lot of research about benchmark and index construction and really the vast majority of them, and passive indexing is predicated on this, is they are oriented towards market cap. Market cap is a factor just like any other investment factor, whether it's value, momentum, or whatever exists, it's just the size factor, which there's tons of research on that that exists. When you're thinking about how to allocate to certain asset classes, you have to disaggregate that market cap impact.

When we think about the research that has gone into what is the prolific method of allocating assets that exists today, a lot of it actually comes from academics but at the same time they tended to be practitioners at very large investment firms. As an example, most people, when they do their CFA studies and some in business school, they study the Black Litterman method for basically just taking a benchmark, applying some analysis, whether it be valuation or momentum, and then just tilting the weights. This came about in the 1990s, and it just so happened that Black & Litterman happened to be working at Goldman Sachs.

Jim: Funny, right?

EJS: Yeah. A very large institutional asset manager that, at the time, I'm sure was trying to gain lots and lots of business from sovereign wealth funds managing 50, 100, many hundreds of billions of dollars for those institutional investors. That is a great way to invest, to look at a market in terms of its market cap weight, because market cap-weighting is always going to be the cheapest implementation to get access to a market, because you just invest the portfolio based on market caps and then as the companies rise and fall in terms of their return moving forward, your portfolio automatically adjusts to whatever the index or the market is in their weights, the way that they adjust.

You periodically have to adjust for cash flows, and dividends, and things like that, but for the most part it's minimal training. Again, so that's really great if you've got a portfolio of \$50, \$100, \$300 billion dollars where you want to really minimize those implementation costs. That's not how most people need to invest. Most people are either individual investors where they might be investing as little as \$100,000, or even mid to larger size institutions and plans that might be \$50 million, \$100 million, a billion, even say five to ten billion dollars. They don't necessarily need to invest based on market cap.

So, the returns-based view is to essentially say, "All right, let's effectively treat every stock when we're thinking about equity allocations as 'guilty until proven innocent'. Let's look at them on an equal weighted basis." So, then your opportunity set for, say, a microcap stock is exactly the same as it would be for Apple, or Tesla, or whatever your stock may be at the megacap end of the spectrum. That's really the returns-based perspective at a very high level.

Jim: That leads you to a very different allocation, right, to microcap? Let's say we have an investor whose portfolio is worth five million dollars. Using that methodology, what kind of allocation would we expect him or her to make to microcaps?

EJS: One of the nice things that a returns-based view does, is it allows you to understand better what choices you're making in terms of return and risk. Where if you just had no constraints whatsoever and you just said, "I want to maximize return on my portfolio," you can look at factor exposures for a portfolio. As an example, in the paper we put together, portfolios where we take three groups of stocks, microcap, small cap, and then large cap, within each of those portfolios, the way that we put them together is to say, "Okay, let's eliminate the worst of quality, and then let's focus in on some factor."

For microcap, we did a combination of momentum and value. For small cap, we did just value. Then for the large cap portion, or the large cap portfolio, we focused in on shareholder yield, which we use Shareholder Yield. That's effectively how we run our strategies in those spaces also. We then looked at those portfolios over time, and we looked at their exposures to various factors, value, momentum, et cetera. Then from that point, we know that over long periods of time value within microcap delivers an outperformance of around 11%. We used that, we paired it together with the correlations that exist for factors that we also talked about earlier that tend to persist over multiple decades for long periods of time.

We applied that to effectively, say, "What return do we expect that this group of factor exposures will provide on a forward-looking basis for the next 10, 20, 30 years, whatever it may be." What we found by that is when you then optimize, say from an allocator's perspective, your asset allocation based on that returns-based view, you're looking at allocations to microcap and small cap that are way larger than anyone actually implements. The suggested allocation is actually close to about, I believe it's 57% to micro and small cap, which probably isn't something that most people are going to do. What you're actually able to see from that then is effectively how risky, how much risk do I want to then take on in my portfolio.

I can scale back from that point of that greater than 50% allocation to micro and small cap, the balance obviously being large cap, and scale back from that point and see what I'm giving away in terms of return and the benefits that I'm receiving in risk and risk-adjusted returns also.

EJS: Yeah. It's kind of easy, actually, to basically take a stream of returns or return level and basically say, "Okay, I know that not everybody's portfolio is constructed in the same way. People have different levels of risk aversion that exist." What you can do is take that level of return and the volatility that that stream of returns provides, and you can effectively scale that by a factor for risk aversion. For the paper, I put one together that's effectively a scale from 1 to 10 of how risk-averse an investor is.

Just to give you an example of how that would work, if a person were completely return seeking, they wanted absolute return and purely that's what it was, say you had a risk aversion score of, say, zero. When you look at that microcap portfolio that I referenced earlier, it delivers a return of around 17% annualized over the last three and a half decades. As you then gradually scale into more risk aversion, so let's say a —

Jim: Excuse me. It delivers 17% at what kind of standard deviation of return?

EJS: At a standard deviation of return of around 18%.

Jim: Okay. All right.

EJS: At around 18%. One of the things that we found also that's definitely worth noting is that benchmark standard deviation's volatilities can be deceiving. Where the advantage to factor investing is that you get some lower correlations between the individual factors. So, momentum can be inversely correlated to value, which is great for risk adjusted returns over time. When you start putting together multiple factors in a portfolio to drive to a group of stocks, it can tend to lead to lower volatilities than you would expect that are proxied by the benchmark also.

For a microcap portfolio of volatility of 18%, most people would actually be pretty surprised by that because that's not too much greater than market level.

Jim: That surprises me.

EJS: Particularly in the environment that we've lived through over the last several years. I mean, our own microcap portfolio that we manage, it's been a pretty unique environment and volatility has been low. Volatility's been around 14% annualized over the last several years on a live microcap portfolio.

Jim: Which we should hasten to say is probably not what you should expect in the future.

EJS: Exactly. Exactly. Volatility, just like any other process or structure within investing, is mean-reverting. I think that that idea of mean reversion when you're thinking about factors, their structural correlations over time, that's a really important thing because mean reversion does exist but the timing is unknown of when that's going to occur. Whenever you think about how factors are going to perform, what you expect, how much you expect them to outperform, do not think in terms of one year, three year, five year. I mean, it's even longer than that. It's multiple market cycles. It's over ten years.

When you're looking at these factor portfolios, you really have to think about consistent exposure over time, which is one of the things that a process like ours, a consistent and quantitative process can deliver. We're not going to buy growth stocks during the next tech bubble or whatever market event it may be that causes style drift. If you start to deviate from that strategy, then this whole analysis, everything that's in this paper, is completely irrelevant.

Jim: Exactly. That's one of my huge beliefs. The moment you deviate, all of the data is worthless.

EJS: It's completely worthless. It really harkens back to how managers go about generating return, right, we've done tons of research on the individual factors and how they perform based on their absolute return, their risk-adjusted return, and their

consistency of return over time. That actually parallels pretty closely with how an active manager goes about generating return, which gets back a little bit to what we were talking about earlier. This returns-based perspective for portfolio construction, a manager generates return through really kind of three angles, the consistency of their performance, how often in rolling periods, we use base rates in order to evaluate this, how often in rolling periods do they outperform.

You can actually dial that even at a more base level of just looking within the portfolio how often do your positions win. A manager is obviously targeting for more than 50% of their trades to win. Managers that do that over time tend to win. That's one source of outperformance.

Jim: That sounds like the casinos in Las Vegas. Right?

EJS: Yeah, exactly, winning more than you lose. It's pretty simple. Right? Then sort of the third component ... excuse me, the second component then would be, is the magnitude of your wins greater than the magnitude of your losses. Clearly, if you lose more than you win, that tends to ... even if you're winning more than you lose, it tends to be a bad thing.

Jim: Yeah.

EJS: The two of them together have this really great compounding effect. The third element that we would add to that idea of consistency and magnitude would really be conviction.

Jim: Right.

EJS: ... where it's not enough to just say, "All right, I've picked the right stocks. I win more than I lose." You also have to have conviction in your winners. If you don't have conviction in your winners in terms of how they're allocated in the portfolio, you're really missing out on a big opportunity to add value also.

Jim: Right.

EJS: Whenever we see or hear of managers that just simply equal weight the portfolio, in my mind that always triggers to me, "Wow, you're really leaving something on the table." That's the easiest portfolio construction technique that exists.

Jim: Yeah.

EJS: Some people are very successful in it, but there are ways to add this idea of conviction that can be a huge addition in the portfolio. So, I do think that this idea of a returns-based approach, those three things are really critical in aligning the process to those things as well.

Jim: Yeah. Talk a little bit ... in your paper ... you talk about a penalty factor. You want to describe what that is?

EJS: Yeah. The penalty factor is ... That's really how we get this idea of risk aversion, of the ranking from zero to ten, where effectively what you're doing is you're applying to the returns and you're scaling those returns by volatility. What you do is ... It's a simple equation, but you're basically scaling up the penalty factor on volatility. So, you're making the volatility have a greater impact for the risk adjusted returns in the portfolio.

When you apply then that scale of zero through ten ... As an example, a completely return seeking investor that wanted to allocate to microcap, the microcap portfolio we had been talking about, the utility of what they feel would be just the 17% return that the portfolio spits out. As you then work into this idea of risk aversion, that scaling factor, and you have a completely risk averse investor on the other side of the spectrum, they may be getting a 17% return but what they actually feel is a 90 basis point return because the volatility is so impactful to their emotional state.

Jim: Right.

EJS: ... the volatility of having the portfolio that it actually then pulls the return of the microcap portfolio below that of large cap because the volatility of large cap tends to be lower. So, that idea of utility, I think, is underutilized in portfolios particularly on the individual side, because ... I mean, as you know, Jim, the market goes down ten percent and everybody's ready to hit the sell button. Because it's been so unvolatile over the last several years, I'm pretty sure that's going to happen after five percent.

Jim: Yeah, maybe one.

EJS: Maybe one. You know? So, we'll see how that goes. I think that idea of utility, it's facing up to the emotional component of investing, which is so critically important of needing to stay, to what we were talking about earlier, stay invested, maintain these exposures because you can't time the market. When you want to sell is usually the time that you should be adding.

Jim: Yeah. Of course, Richard Thaler just won the Nobel Prize in Economics —

EJS: Yeah.

Jim: ... for pointing out what we've known all along, which is that we are not rational creatures at all. We are extraordinarily emotional. In fact, I used to say that money was the last taboo, because people just ... they so equate it with their life, and their health, and their ability to take care of their family. What should be a dispassionate pursuit is anything but, and that's why people who can manage to be as dispassionate as possible do so much better than those who can't.

In fact, I believe ... You joked earlier that maybe they'll push the sell button at 5%. I think that the move into passive indexes, it's going to be very interesting from my point of view to watch what happens when the market index goes down 10 percent, how many of those people are going to say, "I'm out. I'm selling." Anyway, it's been great talking about this.

[Outro]

This has been Jim O'Shaughnessy with my colleague Ehren Stanhope talking about microcaps. Thank you.

And thank you, Ehren.

EJS: Thanks Jim!

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