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Antti S. Ilmanen, PhD: Smart Investing in an Environment of Low Expected Returns

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ANTTI S. ILMANEN, PhD

Smart Investing in an Environment of Low Expected Returns

Antti S. Ilmanen, PhD

Antti Ilmanen, PhD, emphasizes the importance of diversification—including the use of market-neutral investment strategies—and warns against portfolios that tie up too much risk in equities. He is a principal at AQR Capital Management, where he manages the Portfolio Solutions Group, which advises institutional investors and sovereign wealth funds, and develops the firm's broad investment ideas. Previously he was a senior portfolio manager at Brevan Howard, a macro hedge fund, and served in a variety of roles at Salomon Brothers/Citigroup. He began his career as a central bank portfolio manager in Finland. Dr. Ilmanen earned MSc degrees in economics and law from the University of Helsinki and a PhD in finance from the University of Chicago. Over the years, he has advised many institutional investors, including Norway's Government Pension Fund Global and the Government of Singapore Investment Corporation. He has published extensively in finance and investment journals; he received a Graham and Dodd Award of Excellence in 1998 and Bernstein Fabozzi/Jacobs Levy awards in 2013, one for Best Article and another for Outstanding Article. His 2011 book Expected Returns *is a broad synthesis of the central issue in investing.*

In July 2016, Antti Ilmanen spoke with members of the Journal of Investment Consulting *Editorial Advisory Board about the advantages of making the equity portion of most investor portfolios less dominant, particularly in today's environment of low expected returns. Taking part in the discussion were Margaret M. Towle, PhD, editor-in-chief of the* Journal; *Edward Baker, The Cambridge Strategy; Geoffrey Gerber, PhD, TWIN Capital Management; and Mark Anson, PhD, Commonfund. This interview is the eighteenth in the* Journal's *Masters Series, which is devoted to topical discussions with experts and visionaries in finance, economics, and investments.*

Margaret Towle: Antti, thank you for participating in our Master's interview. You have been involved in many innovative endeavors throughout the course of your career. What factors helped to shape your career and bring you to where you are today?

Antti Ilmanen: Luck and effort—luck in getting into the University of Chicago for my PhD; I'm forever grateful to Ken French for that.[1] And, later, the second piece of luck, at a relatively advanced age, joining AQR, where I keep learning and pushing the envelope.[2] It's a luxury to have such great belief alignment. Maybe that's because some of the senior people at AQR were my fellow students in Chicago. Then regarding effort—spending three years writing and sharing some ideas through my book *Expected Returns*. That was time well spent.

Margaret Towle: Please tell us about lessons learned during the years you've been engaged in this work.

Antti Ilmanen: I would emphasize humility and diversification. The markets always teach you humility. Ken French told me long ago that it's better to be lucky than good. So the ex-post outcomes often trump ex-ante returns—partly because in investing, even at best, we play with small edges. Diversification allows the conversion of many small edges into a big edge, and that to me is central.

Margaret Towle: When you look back on your career, what do you regard as your major achievement?

Antti Ilmanen: I am most proud of my book *Expected Returns*. It beats my PhD dissertation, because I decided to synthesize and share my twenty years of reading as well as some of my own experiences on an ambitiously broad topic, and the effort seems to have had some impact on investors. Of course, it's been several years since the book was published, and my thinking has continued to evolve, so I have new ideas beyond those described in the book.

Margaret Towle: In contrast, what do you consider your greatest challenge?

Antti Ilmanen: Overall I've been pretty lucky, so the best I can do here is to share one of my biggest scares. When I finished writing the book, I was still at Brevan Howard, a macro hedge fund.[3] I had submitted the manuscript to the publisher, and then I received the foreword written by Cliff Asness. I knew Cliff liked going for shock value, so I opened the document with some trepidation, and the text began: "The first time I met Antti, I thought he was insane and I was right."[4] At that point, I was sweating like a pig. But then he turned the comment around, saying I'm insane in a good way, and it all worked out fine, but that was a serious scare.

Margaret Towle: Over the years, we have seen an evolving role for investment consultants, as well as a distinction between consultants who serve institutional clients and advisors who are wealth managers serving individual investors. From your vantage point, as someone with both an academic background and experience as a hedge fund manager, what do you see as the appropriate role of investment consultants, for those serving institutional clients and those serving individual investors?

Antti Ilmanen: Actually, my answers are pretty similar. I think the critical role for both types of advisors is educating clients about what's important and what's feasible and what's not. Consultants should avoid overpromising with regard to expected returns. They should also help investors avoid the classic bad habits of chasing multiyear returns, overconfidence, micromanagement, and hindsight bias. Another important task for consultants is explaining how slowly we learn from performance data. This may be something that's impossible to square, but we learn so slowly that common performance evaluation windows of three to five years are likely to hurt investors because at that horizon good performance is more likely to be followed by reversals. Cliff has said the problem isn't that investors chase returns but that they chase returns at reversal horizons. Following the multiyear performance is thus a bad idea, so at AQR we've thought hard about what to do about that. It's a difficult problem to solve because suggesting that investors wait ten years, twenty years, or more is rarely a realistic solution.

Promoting good habits—including patience, education through various means, avoiding line-item thinking, not too frequent performance evaluation—these are all ideas I would emphasize. One particularly bad habit is underdiversification. This problem can be highlighted in many ways, but I would say one, perhaps controversial, way is that most investment portfolios have too much concentration in equity risk. We are in an investment world where multiple returns or risks can be exploited, and yet most portfolios today (e.g., 60/40), have more than 90 percent of the risk coming from equities. To adequately address this problem, portfolios need to use some leverage to make other asset classes or market-neutral strategies matter nearly as much as equities. I would say the consultant's role includes challenging certain constraints, particularly if this can help long-run returns.

One of AQR's founding partners, David Kabiller, has long said that investment success requires good investment strategies and good investors.[5] So we've tried to do something on the latter front as well. Last year, in this spirit, we began an interview series called "Words from the Wise" among senior thought leaders. Many of these leaders were in your *Masters of Finance* compendium. It's still early going for us, but if the project sounds familiar to you, all I can say is that imitation is the sincerest form of flattery.

Margaret Towle: At this point, our committee members have additional questions for you.

Geoffrey Gerber: More than twenty years ago, you argued that bonds appear to have a positive risk premium but mainly at the front end of the curve; beyond two years, you noted that it was unclear whether extending duration increased expected returns at all. Given the significant decline in the bond risk premium over the past twenty years and the historically low interest rates since the financial crisis, how would you assess the bond risk premium today?

Antti Ilmanen: First, my expectations from prior decades had some micro-aspects of the shape of the expected return curve. At very short maturities, Treasury-bill buying by the central banks that lacked return-seeking incentives made the front end of the curve very steep. Then at the back end we saw liability-matching pension funds that were paying a premium for long-duration bonds. Today, there may still be some of that return-insensitive central bank buying at the front end but much less so. Overall, I think the shape of the curve could have become more linear.

But you are really asking about the low level of bond risk premiums today, and, according to many measures, they are near historic lows. We can see this from real yields that are negative, but I prefer to look at the gap between nominal yields and average expected T-bill rates over the next five or ten years, and that also is negative. They may suggest that bonds are expensive, but I think bonds may remain sustainably expensive for several years ahead.

From a financial perspective, in a low-growth, low-inflation environment, government bonds have been safe-haven assets—negative-beta assets versus equities—for the past fifteen-plus years. The capital asset pricing model then implies that bonds should be expected to earn negative returns over cash. And that is before we consider the exceptional demand that comes from pension funds, notably for liability-driven investing, and, more recently, quantitative easing by the central bank. I think all of these factors can keep bonds expensive for quite a while.

On the positive side, there still is a moderately steep yield curve, at least in some countries. You thus get positive carry and so-called rolldown gains, which historically have been better predictors of near-term bond returns than value indicators related to yield level. Overall, I can still see U.S. Treasury bond yields at 1.5–2 percent offering a pretty symmetrical outlook. It's much harder to tell a positive story for the German Bunds and Japanese government bonds at zero to slightly negative yields because you have to rely on the roll-down and assume that yields just stay at these levels for however long.

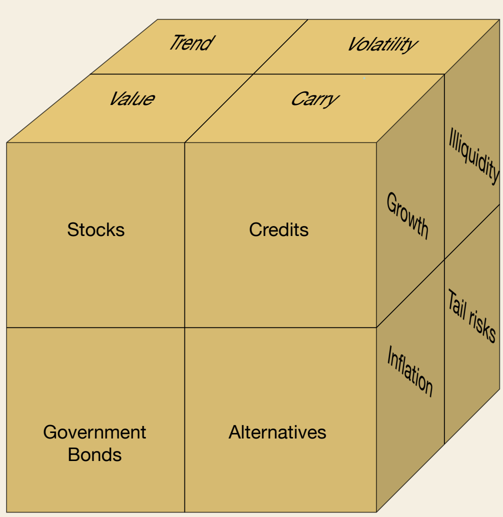
Edward Baker: How much of this is an artificial result of current central bank policy, which seems anomalous relative to history?

Antti Ilmanen: Central bank policy is clearly part of the picture, but it's not the only factor influencing bond investments. Many claim that low bond yields are distortions exclusively caused by ultra-loose monetary policies; but viewed purely from the macro side, factors such as dwindling inflation premium, worries about secular stagnation or insufficient demand, and the negative-beta, or safe-haven, aspect—these factors are all apart from the central bank buying. By the way, when yields eventually start to rise, I think there will be lots of liability-driven investors who will be buying bonds. This also tells me that bond risk premiums may stay low for quite a while.

Edward Baker: I found your book extremely interesting and useful, and one aspect that struck me had to do with the risk factors you identified. You identified only four, and I was a bit surprised at what you chose: growth, liquidity, inflation, and tail risks. Can you comment on why you settled on four and whether there were others that you considered but in the end did not include?

Antti Ilmanen: The main reason for the cube illustrations in my book was to argue that investors should use three dimensions to evaluate their portfolios: asset class, strategy style, and underlying risk factors [see figure 1]. Some investors think about asset class risk premiums as major factors. Others think about smart-beta premiums or style premiums, and others think about deeper, non-investable fundamental factors. I think all of these perspectives are valid and complementary, and I wanted to highlight all of them.

Figure 1: The Cube: Asset Class (front), Strategy Style (top), and Risk Factor (side) Perspectives on Investments



Source: Ilmanen (2011)

However, picking individual factors is harder. On the third side of the cube, where I considered the uninvestable fundamental macro factors, growth and inflation were pretty obvious influences to include. Then I was thinking about liquidity, real yields, and monetary policy—all overlapping concepts—and separately about volatility, tail risk events, and financial crises—again overlapping concepts. Although purely discretionary, I chose one factor from each of these pockets and discussed that foursome in the book. Among the other candidates, real yield and monetary policy might also be included on the list.

Edward Baker: Have you put together a formal definition of tail risks?

Antti Ilmanen: Ultimately, tail risks depend on what's important in your portfolio. Given that equity risk dominates the portfolios of most investors, I would say that equity-related tail risks are most important. The second most important risk could be bond-related. There's been a lot of work on tail risks, and the most common way investors think about hedging tail risk may be through index put buying. However, when you look at historical data, this is roughly a minus-one Sharpe ratio strategy.

There are some other candidate strategies, and one of my favorites is trend-following. Trend-following has a clear positive Sharpe ratio, and it has done well in most of the historical bear markets over the past one-hundred years. The way I initially explained this to myself and others was that bear markets tended to be protracted and gradual affairs, which allowed a trend-follower to turn from bullish to bearish and ride the bear market. In contrast, if we see fast bear markets and fast crashes, the only reliable protection is through index puts. It's interesting that financial markets offer fast-crash protection so expensively (as reflected in a quite negative long-run Sharpe ratio) and allow another strategy, which provides slow-crash protection, to perform quite well in the long run.

Finally, the Brexit vote reminded us that even when a fast crash occurs, trend-followers can do pretty well as long as the big negative move doesn't happen at the turning point just after a big rally. If it happens during an existing downward trend, as it did with Brexit or Lehman Brothers, the trend-followers will already be positioned on the right side of the move. My key message to investors when it comes to managing tail risk is to go for the cost-effective way of buying tail protection rather than the expensive way.

Edward Baker: Obviously, liquidity is important for trend-followers if they're going to make a dynamic shift along with the reversal of the trend.

Antti Ilmanen: Typically, trend-following employs highly liquid investments in futures and major currencies. Tail-risk hedging generally tries to protect against directional market falls. In these situations, trend-following has tended to increase equity short positions and empirically related positions in other asset classes, e.g., long-duration positions in fixed income, anti-carry in currencies, and pro-gold in commodities. So it really hasn't been dependent on market liquidity in a particular asset class. I think the important thing is whether the next bear market turns out to be of a very different variety than we've seen in the past: a one-off, out-of-the-blue event, where trend-following would not help.

Geoffrey Gerber: In using the term "trend," are you referring to a six-month window, a twelve-month window, or shorter-term trends? Are you referring to a momentum-oriented strategy?

Antti Ilmanen: It definitely is momentum-oriented but in a directional sense. And the windows that are good typically range from one month to twelve months. Financial markets exhibit positive trending tendencies in most assets up to twelve months, and thereafter some mean-reversal patterns start to dominate. So investors get broadly similar results for both long-run returns and tail-risk hedging, whether they rely on three-month or twelve-month windows.

Geoffrey Gerber: In an article you wrote in 2012, you argue that in general accepting small risks has been well-rewarded, but taking large risks has been poorly rewarded. Another way to put this idea is that leveraging up low-volatility opportunities tends to boost long-term returns. Given this framework, the strategy of buying twelve-month momentum stocks tends to outperform the market, but it also tends to outperform with greater risk. In other words, taking less risk beats the market, but following the trend also beats the market with more risk. So how do you equate these two strategies?

Antti Ilmanen: Let me take a step back and say that there is good evidence in many asset classes, and actually outside the field of investing—for example, in racetrack betting—that boring assets provide better risk-adjusted returns than their speculative peers. One explanation is the lottery ticket story: We overpay for lottery tickets and underpay for the boring stuff. Another explanation is common leverage aversion: We basically overpay for speculative assets because they give us a big bang for the buck without taking direct leverage. This low-risk asset outperformance has worked historically in pretty much all asset classes.

But to your question about momentum: If you think of a long–short portfolio, it's not quite right that momentum and low risk are negatively correlated. The high-risk stocks will be present both as the largest longs and the largest shorts of the momentum portfolio (and, by the way, you can use risk adjustment to take away that bias). But in this kind of market-neutral application, there is no reason for momentum and risk to have the negative link that you suggested. Even if you think of a long-only portfolio, you should like an asset that has two helpful characteristics even if these are negatively related; it just means that you don't find these opportunities too often. Still, these situations are useful high-conviction signals. This is true for momentum and value. It also is true for value and quality. Again, when you see these positive characteristics together, that's a strong signal to buy.

Edward Baker: I'd like to go back to the issue of liquidity. At the beginning of your book, you discuss returns from broad asset classes as related to liquidity, and you use a subjective scale as your assessment. I'm wondering if you've tried to assess liquidity more systematically and measure it in a way that's common across asset classes. Or is that a futile exercise?

Antti Ilmanen: What you're asking is a bigger task. There are so many dimensions to liquidity that even if you just think of equities, a systematic assessment would be hard when only a partial picture is available. You would have the bid-ask spread angle. Separately, you'd have to assess the market impact measured in many ways—depth or volume and resilience of liquidity. Then you'd need to consider the time dimension or lock-up period for private equity or hedge fund investments. There's market liquidity versus funding liquidity and liquidity as a characteristic versus co-variance with bad times, meaning that you lose liquidity when crises happen in bad times.

Academics have tried to study all of these different influences, but packaging them together is difficult. Academics don't tend to be interested in issues that are as messy as this multidimensional problem.

As practitioners, we can try, and some have tried. I referred to the Citibank liquidity index in my book, and there have been other efforts to develop a scoring system that's roughly right. But I don't think there will ever be a method that achieves consensus about what is a good liquidity metric, especially when asset classes as different as, say, government bonds and private equity, are compared.

Edward Baker: Measuring liquidity is particularly difficult for over-the-counter and private markets. Are there ways in which you've approached these types of markets?

Antti Ilmanen: I've done less work on the private asset side, but here is why I like illiquid investments less than many investors. Think of illiquidity premiums in private assets. Basically, most investors think that if they buy illiquid investments, they should earn an illiquidity premium. That's a fair normative statement, but descriptively the empirical evidence is surprisingly stingy when it comes to estimates of illiquidity premiums in real estate or private equity. To get the longest history of illiquidity premiums among any private assets, you would compare direct U.S. real estate investments versus the real estate investment trust (REIT) market. And if you study data going back to the 1970s, you'd see that REITs actually had higher average returns than private real estate, so there's an inverse illiquidity premium. There have been some refinements to this type of analysis—for example, adjustments for leverage and sector composition. But even after these adjustments, there is a tendency for REITs to have done a bit better, so the historical data point to an inverse illiquidity premium.

Another important asset class for many investors is private equity. I wrote in my book that the consensus among academics is that private equity investors get pretty much the same return as the S&P 500. But that picture has changed. Some better data have come out in recent years. I think the consensus now is that private equity has something like a 3-percent edge over the S&P 500. But that's not great because private equity funds tend to buy small-cap and mid-cap value stocks, which have shown pretty similar long-run performance as private equity. So it's not obvious that private equity investments as a group offer better returns net of fees. There is no great evidence for illiquidity premiums on private assets.

Why would that be? I think it's related to return smoothing, which is a desirable characteristic for many institutional investors. They can avoid seeing ugly mark-to-market fluctuations, and they overpay for that service. And this overpayment for return smoothing offsets part of any illiquidity premium.

> *Followers of [the Norway] model are not passive; they take active risk, though in relatively modest doses. This cautious approach seems pretty healthy for many investors inflicted with overconfidence.*

Geoffrey Gerber: I'm thinking more in general about alternatives and illiquid investments. When you and your colleagues studied the Norway model, you highlighted the fact that Norway's Government Bond Pension Fund Global invests in virtually the opposite way from the approach used in the Swensen model or the Yale model, which some people might call the foundation model. As you know, the Swensen model is focused on manager alpha, whereas the Norway model has relied exclusively on publicly traded securities constrained by low tracking error and little deviation from the asset allocation. Many U.S. pension plans have invested in various alternative and illiquid investments with varying degrees of success. We know there have been some growing doubts especially about hedge funds by some of the largest pension plans. So should U.S. public pensions, as well as high-net-worth investors, incorporate more of the Norway model approach compared with the Yale foundation model approach?

Antti Ilmanen: The short answer is yes, but let me back up and say that I like contrasting the Norway and Yale models in two ways. Norway is 97 percent invested in public liquid investments and 3 percent in real estate. Yale is almost 80 percent invested in less-liquid alternatives, private sector hedge funds, and so on. Norway manages about 95 percent of its investments in-house. Yale seeks to delegate perhaps everything to well-chosen, superior external managers.

I think the Norway model works well for institutions that have fewer resources and maybe less skill or luck or whatever has helped Yale achieve its great track record. Besides its pioneering role in alternatives, Yale is reputed to be especially skilled at choosing managers, and I don't believe that skill can be easily transferred to all its industry peers. The Norway approach is less costly but also less ambitious. Followers of this model are not passive; they take active risk, though in relatively modest doses. This cautious approach seems pretty healthy for many investors inflicted with overconfidence.

Mark Anson: I used to manage the California Public Employees' Retirement System (CalPERS), so I have to weigh in on this topic. First, you can't compare CalPERS or the California State Teachers Retirement System (CalSTRS) to Yale because of the size of these funds. CalSTRS is worth about $250 billion. CalPERS is worth $300 billion. I don't know what the Norwegian fund is worth now, but it's probably close to $500 billion.

Antti Ilmanen: $800 billion.

Mark Anson: Venture capital, for example, is not going to work for CalSTRS, CalPERS, or the Norwegian fund because the amount that can be allocated to the venture capital is too small. It's not going to move the needle. The Yale model is smaller, relatively, so it can be more nimble than a large fund, but that's an apples-to-pumpkins comparison.

Second, I disagree with the assertion that the Norwegian model is almost exclusively public. For a long-term investor, whether in the Norwegian national fund or in CalSTRS or CalPERS, one of the advantages besides size is a long-term horizon. So investors should try to capture the liquidity premium as best they can. CalPERS does that by having a large private equity portfolio, and it now has approximately $50 billion committed. But they're just capturing what is effectively the liquidity premium. Their portfolio probably includes well more than 100 private equity managers and close to 2,000 portfolio companies, and they're capturing the liquidity premium on top of the growth premium.

So, again, comparing Yale with a CalSTRS, a CalPERS, or a Norwegian fund is simply not a fair comparison. The scale is too big. But I firmly believe any large institutional investor should grab the liquidity premium, and that can be achieved passively, which is effectively what CalPERS does, or more actively, which is what Yale does.

Antti Ilmanen: I agree that there is probably a sweet spot in investing when it comes to investor size, and Yale may be close to that sweet spot. Large size can be a two-edged sword, and the Norwegian fund is on the wrong side in this scale issue. I also agree that making only public investments is wasteful. As a good starting point, investors would want to have something like a global wealth portfolio, and a long horizon would point them toward illiquid investments. However, there are plenty of investors who view themselves as perfect long-horizon investors and find it convenient to accomplish that with private investments and by smoothed returns, which means that illiquidity premiums are lower than you might expect. I think this is one good source of return, but one of many. I think the endowment model is a bit overrated; it's pretty much an equity-beta, illiquidity premium, manager alpha model. I have great faith in the first but some skepticism toward the other two as consistent return enhancers.

Mark Anson: Do you think the endowment market is a crowded trade because so many large institutional investors are now investing in the style of a Yale or Harvard or Norwegian pension plan?

Antti Ilmanen: Basically, I think every long-only investment is currently expensive, and therefore the argument for a crowded trade can be made. The claim of overcrowding is made on credits, on private equity, on various "smart beta" factors, and surely elsewhere. At the heart of the system is the situation in which global real yields have been pulled to near zero or negative levels. The fact is that every long-only investment is fundamentally valued by summing expected cash flows, divided (or discounted) by one plus the riskless rate and myriad risk premiums. Now that the common component in these discount rates—the riskless rate—is historically super low, it is not surprising that all long-only assets have their real yields at historic lows. So I think this type of crowding exists, but it's not really associated with one particular approach, the endowment model or sovereign wealth fund or any of the approaches I mentioned. It's happening across the board, and I think that is the most important challenge in today's circumstances.

Edward Baker: In Chapter 29 of your book, you discuss the advantages long-term investors have, and you mention that insurance selling is something long-term investors should pursue. Who do you think is the other side of those trades, and is there a sufficiently developed market to make this a viable strategy for a long-term investor?

Antti Ilmanen: We could talk about many types of insurance, but let's just talk about financial insurance through volatility-selling strategies. I think this is a good source of long-run return; it's the flip side of the expensiveness of buying index puts or some other volatility-buying strategy. Historically, investors have made good returns by selling volatility or, even more specifically, by selling puts.

The downside is that short-volatility investors lose money during the worst possible times, so anybody who wants to pursue this strategy should do it with eyes open. This is a situation in which investors may be overconfident about whether they can tolerate the resulting losses. Sadly, many investors actually may have made both types of mistakes. They were sucked into volatility selling after the good years of 2005–2006, and then after the horrible experience in 2008, they gave up on this strategy. Then they may have become interested in buying volatility or hedging tail risk, but they bled returns for a few years and have since capitulated. Either way, this is a strategy that's difficult to manage in a time-consistent fashion.

"If you find a good strategy that has worked in many places, but then it has, let's say, five bad years, should you totally de-allocate? The answer is not so clear, and I would rather err by sticking with a strategy like that."

And it certainly seems that the size of "the other side" for selling financial catastrophe insurance varies over time. I think plenty of investors would be interested in buying tail-risk hedges, especially after bad times, but when in 2009–2010 I asked the biggest investors in the world about being that deep-pocket investor who wanted to sell financial catastrophe insurance, I couldn't get any takers at that point. This situation, of course, has subsequently changed. I take this as further anecdotal evidence of a time-related inconsistency in investor behavior.

Edward Baker: You cite carry as an example of a good long-term strategy, but the returns on currency carry have been somewhat disappointing since the financial crisis. Have you changed your thinking about this, or do you still view this as a good long-term strategy?

Antti Ilmanen: The short answer is I think carry may have just had a bad draw. Every investment can have good and bad draws, and when we study past performance, it's not clear whether we should react to it by expecting continuation or reversals. Actually, we find pretty weak evidence either way. If you find a good strategy that has worked in many places, but then it has, let's say, five bad years, should you totally de-allocate? The answer is not so clear, and I would rather err by sticking with a strategy like that.

Incidentally, the currency carry strategy has similar risk characteristics as volatility selling. You can call it picking up pennies in front of a steamroller, and the steamroller tends to come in bad times. So if your requirement of a good long-term strategy is that it must have a good risk-based explanation to make you confident that a positive long-run reward will persist, it doesn't get better than this. People now ask of any strategy after a few bad years, whether the reward went away. Well, if it went away, we should at least determine whether it went away because the strategy became expensive or because of some other reason. I don't recall that at AQR we saw any clear signs that carry currencies became particularly expensive. Overall, I would stay with this strategy because of the pervasive long-term evidence in many different places. I wouldn't drop the strategy after a few bad years.

Edward Baker: But outside of currencies, isn't this carry strategy, as you define it, really just a form of value?

Antti Ilmanen: I see your point. It's a fair assessment in many cases, but it's a matter of degree. If you think of stock selection, dividend yield strategies are closely correlated with some value strategies based on, say, the book value-to-price ratio. Also in corporate credits, carry and value can be similar, unless you create a fast-moving fair-value model. Even when you consider government bonds, curve steepness and real yield are somewhat positively correlated, but with currencies, purchasing power parity and carry strategies are quite uncorrelated. The same is true for commodities, if you consider some value or reversal signals versus carry/roll signals.

So yes, an overlap exists between carry and value, and I agree you shouldn't double-count it. But I think carry is worth keeping as part of the menu of most important strategies—partly because anywhere it's been studied, the evidence shows it has worked. If you can find ways of investing carry in a way that's somewhat uncorrelated with value, that's a useful thing to do.

"Packaging these strategies together, diversifying among several styles, and applying them in many different asset classes is very important for a real-world approach that can help investors avoid the bad habit of chasing multi-year returns up and down."

Edward Baker: In your world, it seems that a dynamic allocation approach is important to successfully managing the desired factor allocations?

Antti Ilmanen: Yes, you dynamically allocate across assets if an asset moves from one style group to another. But my core belief is in strategic diversification across long-run rewarded factors I believe in. Such factors include a few asset class risk premiums, some style risk premiums with the most persistent and pervasive supporting evidence (such as value, momentum, carry, and defensive styles), and illiquidity risk premiums, also through private investments—these are all good sources of long-run return. I say invest strategically in these factors and execute cost-effectively. Then try to stick with your decisions rather than attempting to tactically time these things.

The nuance here is that the above styles require you to move your actual holdings, but strategic allocation into the styles is a good idea rather than aggressively shifting the allocation, for example, based on recent valuations. At AQR we've studied these things a lot, and we find that it's difficult to do better than strategic holdings in these styles, say, by doing some contrarian style rotation.

I have changed my tune about this approach to some extent since my book was published. At that point, I had more hope for various contrarian strategies such as style timing or market timing. But our recent work on these matters has shown surprisingly disappointing performance whenever those contrarian ideas are translated into actual trading rules. Style timing hasn't worked, and with equity timing the message is pretty much that if you had used Shiller PEs[6] for timing for the past fifty years, you wouldn't have beat the buy-and-hold strategy; you would have done a little bit worse.

Geoffrey Gerber: So your suggestion is to allocate strategically among the various risk premiums, and the only turnover in the portfolio would be in the individual stocks that get you those target exposures.

Antti Ilmanen: Yes, but doing these things not only in stocks. The beautiful historical result is that the four style premia I mentioned (value, momentum, carry, and defensive) have provided long-run tailwinds pretty much in any asset class we've looked at, and we've looked far and wide in equities, bonds, currencies, and commodities. Using the same ideas in many different places allows you to diversify even better. We like to have consistent positive allocations because these styles have yielded strategic, long-run edges. Let's take advantage of that.

There are counter stories about investors who got interested in one particular style at some point in the past and then after some good years, the inevitable bad years occurred, and after two or three bad years, they decided to bail out. I agree that a strategy works poorly if investors can't stay with it. So you have to come up with a solution that helps them stick with the strategy they chose. Packaging these strategies together, diversifying among several styles, and applying them in many different asset classes is very important for a real-world approach that can help investors avoid the bad habit of chasing multi-year returns up and down.

Edward Baker: But clearly there are some allocation tools that can be used. Within currencies, for example, we know that carry works inversely to volatility. So when volatility is increasing, investors benefit from moving out of carry and into other strategies that benefit from volatility, such as trend-following.

Antti Ilmanen: Let me tell some old stories here. After the 1998 Long-Term Capital Management crisis, I started working on a carry-timing model.[7] Over the years, I was always adjusting things a little bit based on the last crisis, and overall, the experience wasn't particularly happy. Several false alarms in the mid-2000s prompted me to step out of the carry strategy just after its fall and before a recovery. This is when I was doing hedge fund trading at Brevan Howard. Then in the summer of 2007, a lasting signal occurred, indicating this would have been a good time to be out of carry for the next year and a half. Unfortunately, we were told to cut our systematic strategies at that point. So it often happens that false alarms make you lose faith.

Since 2009, we've been in a risk-on–risk-off world in which we've had pretty short-lived risk-off environments. So carry timing would have cut investors out after each of those false signals. The strategy has not worked as well as you might think, so that's one aspect of why I've become more cautious about these tactical approaches.

If I may, I want to say something here about today's low expected returns, an important topic we touched on earlier. I think everybody knows we are in a world of low expected returns, and this is true not just for bonds but for many other assets. Everyone here also knows that U.S. pension plans often make optimistic assumptions about expected returns. I recently realized that when the literature on defined contribution pensions discusses the savings rates individual savers need to achieve adequate retirement income, all of the studies seem to be based on expected returns that were anchored to recent decades' experience when we got a tailwind from capital gains in both stocks and bonds.

Today, I think it's realistic to expect something more modest. When we calculated, for example, what a 2-percentage-point lower expected return means for required savings rates under typical assumptions, we saw that savings rates would have to almost double from 8 percent to 15 percent. This is not something that's generally recognized yet.

My response certainly isn't that because everything is expensive, investors should go to cash. Market timing won't work because you may be wrong for the next five years, and investors won't have the patience to wait. Maybe holding your nose and buying lots of these expensive assets, diversifying widely—I especially recommend applying some market-neutral long/short strategies that won't be as expensive because the richness due to low discount rates washes out between the long and the short leg—that's essentially as good as it gets. Not great, but as good as it gets.

Margaret Towle: Hedge fund managers have received a fair amount of negative publicity of late. Some funds are very secretive, and others are relatively open. Would you comment on the state of hedge funds today and their outlook for the future, particularly with regard to your comments about expected returns?

Antti Ilmanen: Sure. I think the fair criticisms against hedge funds are related to fees and market directionality, besides the transparency issue you raise. If you look at major hedge fund indexes, you'll see an embarrassing 80-percent correlation with equity markets over the past ten years. So whatever you think about fees, they are harder to justify when a meaningful part of hedge fund returns is beta-related rather than truly uncorrelated alpha. Fortunately, there's been a push for investors to better understand what they are getting from active managers, including hedge funds; investors should not pay alpha fees for beta performance. I expected more of such demystifying effort and fee pressure after the global financial crisis, but that was a period when hedge funds became popular because they hadn't done as badly as equities during that time, and they promised more for the future.

It took a while, but now these funds are under pressure. Looking ahead, I think hedge funds will be subject to more of these investor pressures, related to both fees and market directionality and also to transparency. Investors no longer easily accept admonitions like, "Trust me; I've got a great track record." The pressure to demystify the investment process is good for end-investors, and, actually, I think it's good for the providers because it will result in a more sustainable business.

At AQR, we chose to push this demystifying path both for ethical reasons, because we want to do right for the end-investor, and also for selfish business reasons. Most investors are fiduciaries who need to understand the investment processes they're involved in. When we share information with them, they become more comfortable, can communicate better with their boards, and become more committed to the processes long term. If you simply tell them, "Trust me," you live and die with short-term performance. We think the demystification approach gives us a more stable asset base.

Margaret Towle: Most recognize that hedge funds are not a homogeneous group and that directionality is an issue that investors seem to be focusing on. Given what you just said, would it make sense for investors to focus on hedge fund strategies that are negatively correlated, such as some global macro funds, in other words, a willingness to pay for diversification in addition to performance?

Antti Ilmanen: You always want good performance, and you want some diversification. I'd say that investors are rightly thinking more about diversification, which guides you toward trend-followers (managed futures), macro managers, or other strategies that involve long–short positions; that is, strategies that don't involve a 0.5 or higher correlation with equities. Of course there are exceptions (skillful market-directional managers worth pursuing), but because there's so much luck versus skill involved in ex-post investment results, it's a good idea to favor managers who are effective diversifiers.

Margaret Towle: Is there anything else you'd like to comment on that we haven't discussed?

Antti Ilmanen: Maybe the theme of better risk diversification. I'll reemphasize that most investor portfolios have a big concentration in equity risk, which is understandable because there is a clear long-term equity premium and equities constitute a conventional, easy way of adding value. Many so-called diversifiers have such high correlations with equities that adding them to your portfolio doesn't change things much. So ideas that help investors diversify and make the equities concentration less dominant are especially important. That's why I like some market-neutral strategies—value, momentum, carry, defensive strategies—as well as trend-following. All of these strategies are useful, especially today when long-only investments are as expensive as they are. That's a pitch for my strongest strategic view.

Margaret Towle: Thank you very much for your insights and your perspective. We look forward to hearing more about what you're doing.

Antti Ilmanen: Thank you very much. This was an honor and a pleasure.

Endnotes

1. Kenneth R. French, PhD, is the Roth Family Distinguished Professor of Finance at the Tuck School of Business at Dartmouth College. He is an expert on the behavior of security prices and investment strategies. He and co-author Eugene F. Fama are well-known for their research into the value effect and the three-factor model, including articles such as "The Cross-Section of Expected Stock Returns" and "Common Risk Factors in the Returns on Stocks and Bonds."
2. AQR Capital Management is a global investment management firm based in Greenwich, Connecticut. The firm, founded in 1998 by Cliff Asness, David Kabiller, John Liew, and Robert Krail, offers a variety of quantitatively driven alternative and traditional investment vehicles to both institutional clients and financial advisors.
3. Brevan Howard Asset Management LLP is a private company owned by an investment manager. The firm manages hedge funds for its clients. It invests in the public equity, debt, foreign exchange, commodities, and derivative markets of developed and emerging economies.
4. Cliff S. Asness is a founder, managing principal, and chief investment officer at AQR Capital Management and a financial analyst. He is an active researcher and has written articles on a variety of financial topics for many publications, including the *Journal of Portfolio Management*, *Financial Analysts Journal*, and the *Journal of Finance*. He has received five Bernstein Fabozzi/Jacobs Levy Awards from the *Journal of Portfolio Management*, in 2002, 2004, 2005, 2014, and 2015. *Financial Analysts Journal* has twice awarded him the Graham and Dodd Award for the year's best paper, as well as a Graham and Dodd Excellence Award, the award for the best perspectives piece, and the Graham and Dodd Readers' Choice Award. In 2006, CFA Institute presented him with the James R. Vertin Award, which is periodically given to individuals who have produced a body of research notable for its relevance and enduring value to investment professionals.
5. David G. Kabiller is a founder and head of business development at AQR Capital Management. He initiated AQR's international growth and its introduction of mutual funds as well as the creation of the AQR University symposia series and the AQR Insight Award for outstanding innovation in applied academic research. He has co-authored articles on a variety of topics, including derivatives, enhanced indexation, securities lending, insurance-linked securities, hedge funds, and the secret of Warren Buffett's investing acumen.
6. "Shiller PE" is a price/earnings ratio that uses ten-year average earnings (adjusted for inflation) in the denominator. Such smoothing is done because annual earnings can be excessively volatile and occasionally negative even at the market level. This market valuation measure was popularized by economist Robert Shiller, a winner of the Nobel Memorial Prize in Economic Sciences, who updates the series regularly on his website.
7. Long-Term Capital Management (LTCM) was a hedge fund established in 1994 that reached $7 billion under management by the end of 1997. The highly leveraged fund was designed to profit from combining academics' quantitative models with traders' market judgment and execution capabilities. In August 1998, following the Russian financial crisis and an ensuing flight to quality, the fund lost substantial amounts of capital and was on the brink of default. The threat of a systemic crisis in the global financial system led the U.S. Federal Reserve to orchestrate a $3.5-billion bailout by major U.S. banks and investment houses in September 1998. The fund closed in 2000.

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