
Sources of Change and Risk for Hedge Funds

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A lot of change is on the horizon for hedge funds, particularly given institutional investors' growing use of alternative investments. The changes will likely bring a greater focus on benchmarking, calls for increased transparency, a need for better articulation of investment strategies, rationalization of hedge fund fees, and the need for solid risk control mechanisms. The future also brings subtle shifts in hedge fund risk. And although the risk of blowups still exists, perhaps the larger future risk will relate to diminished returns.

In this presentation, I will take a big picture view of the hedge fund world, but the core of the presentation will relate to an idea that is coming up ever more frequently—hedge funds are becoming much more institutionalized. Although institutionalization can mean many different things, I will jump right in and describe it through a focus on five key issues that come up as a consequence of institutionalization: benchmarking, transparency, articulation of the investment strategy, fee rationalization, and risk control.

Benchmarking

For better or worse, institutionalization brings about a greater focus on benchmarking. And a myriad of ways exist to set up a benchmark depending on whether the investor wants to analyze an individual hedge fund manager or a hedge fund program. Probably one of the most basic benchmarks is a simple absolute number, which could be any number that the manager and client agree on.

Of course, an absolute number makes little sense in a world where inflation and interest rates move around. Because getting around that problem is difficult, another level of benchmarking adjusts for changes in inflation and interest rates. At this level, investors will typically see an absolute number that is some proxy for a risk premium plus a measure for rates, such as 6 percent plus T-bills or the U.S. Consumer Price Index (CPI). But if investors are going to

recognize an external influence, such as rates, why not go a step further and recognize that many hedge fund strategies have at least some exposure to market performance? Even if the correlation of hedge funds with the market is supposed to be low, bad years for the market are tougher-than-normal years for hedge funds. Moreover, some explicit market beta is built into certain strategies, such as long-short equity. In recognition of that exposure, the third level of benchmarking includes adding an element of market performance to the equation (e.g., $\frac{1}{2}\text{CPI} + 3\text{ percent} + \frac{1}{2}\text{S\&P 500 Index}$).

The final approach simply involves peer group or index comparisons. This approach, versus the others I have discussed, is helpful in discovering consistent under- or overperformance relative to other hedge fund managers. Granted, investors certainly want to know how their manager is performing relative to the other managers they could have selected, but a weakness of this approach is that it says nothing about whether the investor made a good choice to be in hedge funds to begin with.

So, what is the solution to the benchmarking problem? My recommendation is to use multiple benchmarks because the major issue to recognize is the impact of the time horizon. Of the different methods I have pointed out, the one closest to being demonstrably silly is the single, absolute number that moves with nothing. But even that benchmark might be relatively fair if the investor is applying it over a 20-year horizon, during which time one can assume that inflation and interest rates mean revert.

Editor's Note: The joint Question and Answer Session of Clifford Asness and Dan Och follows Dan Och's presentation.

Going a step further and adding an inflation or interest rate component makes the benchmark more useful over a shorter period because what all managers earn is T-bills plus or minus something. By that reasoning, adding a stock market exposure helps match the shorter term even better. And using a peer benchmark matches the short term the best. Unfortunately, the trade-off an investor makes when using a benchmark with a shorter-term orientation is that the benchmark tends to be much less useful for comparing the investment program with the investor's long-term goals, which is why I advocate using multiple benchmark types that are useful at different time horizons.

Transparency

Transparency is certainly a major institutional concern. As hedge funds have become more institutionalized, the issue has only become more significant because of the wide variety of reasons why hedge fund managers shun full transparency:

- **Revealing proprietary strategies.** Primary among hedge fund managers' concerns about transparency is that revealing positions on a timely basis may help competitors determine the investment strategy.
- **Vulnerability.** At certain times, sharing information about open positions could potentially be harmful to the portfolio. For example, if a manager is short something and vulnerable to a squeeze, it is in his or her best interest not to let the world see this open position.
- **Logistics.** One of the biggest, unheralded concerns about transparency is that offering full transparency takes a lot of time and resources. I will give an example. When I was with Goldman Sachs & Company, we tried an experiment that involved providing full daily transparency to the risk management arm of the firm. We found that simply getting our positions to the risk management group on a daily basis and having everyone agree on how to value many of the exotic positions ended up consuming a lot of time for our back office and a fair amount of time for our portfolio managers. And it was our own firm, albeit a different division.
- **Black hole.** Many hedge fund managers believe that a lot of the time and resources devoted to transparency are wasted because the information is ultimately not used (i.e., it appears to go into a black hole). Providing transparency seems to bother managers less when the information goes to the client so that the client can get a better feel for the strategy. Unfortunately, that information often seems to be provided simply for the sake of the client's marketing, and the data are never used in the decision-making process.

Having actually tried various forms of transparency, what I have found to work best are a mutually agreed upon summary risk report and what we call "process transparency." By process transparency, what I mean is that we are willing to show clients what we actually do at AQR Capital Management in a generic, but fairly open, sense. Many clients are comfortable with this approach. But in the end, the exact solution varies among clients.

Articulation of Investment Strategy

Describing and explaining the investment strategy are critical issues for institutional investors. That is, they want to go beyond the results and understand why the process should work going forward.

So, how do managers describe and explain hedge fund returns? Like almost every other part of finance, one can think of returns as coming from three sources:

$$\text{Return} = \text{Alpha} + \text{Beta(s)} + \text{Noise.}$$

I will start with the middle term, beta. In this instance, I am not necessarily talking about market beta. Rather, beta can be thought of as a simple dynamic hedge fund strategy. Just as an example, consider a merger arbitrage strategy. A hedge fund merger arbitrage manager is unlikely to participate in every deal. But one can think of that universe of all deals as a benchmark because the hedge fund strategy is drawing from that pool of deals as a systematic source of return. So, in this case, one might think of beta as "what if the manager had done all the deals?" From that point, the alpha relates to the manager's skill, or lack of skill, in selecting from the pool of available opportunities. What is left is noise, which I believe shows up in any honest expression of return. The noise term thus captures the random things that affected performance but that were not the result of beta or manager skill. That is, noise is simply the fact that "alpha" is not something managers always get, which means if a manager's average alpha is 2 percent, some quarters or years the manager will get it wrong and lose. That "loss" does not mean the manager's alpha or skill is lower than before, just that the manager got that one wrong.

To further clarify sources of return, examples are shown in **Exhibit 1**. For instance, I have already described in general what these managers do for merger arbitrage. Their beta is derived from the average spread. That is, the market is scared, and the returns are skewed to deals once they have been announced. The average spread thus overcomes the occasional failed deal and provides a small amount of average return for taking risk. One potential source of alpha within this framework amounts to better underwriting, which means using skill to predict

Exhibit 1. Example Return Sources for Several Hedge Fund Strategies

Fund Strategy	What the Manager Does	Potential Systematic Profit Source (beta)	Potential Manager Skill (alpha)
Convertible arbitrage	Long embedded option from convertibles hedged with stock.	The market systematically pays the manager for taking on the unfamiliar/uncomfortable/illiquid convertible.	Better bond selection, dynamic leverage, more accurate hedge ratios.
Equity market neutral	Long-short under-/overpriced stocks over intermediate term.	Expected returns on cheap stocks exceed those on expensive stocks.	Other factors (e.g., momentum) to attempt to improve timing aspect of value strategy, specific security-selection skill.
Merger arbitrage	Long a target and short an acquirer where spread is not fully closed.	The market systematically pays the manager to provide insurance that deals close (i.e., the average spread overcomes the failures).	More accurate underwriting by better deal selection, better risk management, dynamic leverage.
Statistical arbitrage	Long and short a hedged stock portfolio based on short-term supply and demand anomalies.	The market systematically pays the manager for providing short-term insurance and liquidity, perhaps against large information trades.	Lower cost trading, better systems for removing unintended bets, other short-term factors.

which deals will close and which deals will not. Another source of alpha relates to risk management. For example, increasing the number of deals in a portfolio just because spreads are tighter is not necessarily wise. Being smart about how much risk is taken and dynamically varying how many deals are in the portfolio are clearly potential sources of alpha. Now, consider convertible arbitrage, which is another traditional hedge fund strategy. In this case, the strategy is to go long on a convertible security and dynamically hedge the equity exposure. If the manager takes every opportunity the market puts forth, then the manager gets paid some amount for providing liquidity to a market that needs it (this is beta). Obviously, managing volatility exposure, managing credit exposure, and deciding which converts are worth buying can all be potential sources of alpha.

Therefore, as in other parts of the market, dividing up how one thinks of hedge fund returns can be useful in explaining performance in an institutional framework. Beta is the portion of return that comes from systematically taking risks. Alpha relates to the manager's ability to add additional value through the exercise of skill.

Fee Rationalization

In contrast to individual investors, institutions tend to focus more on expenses. One of the strangest things I have heard in the hedge fund world is that fees must fall because institutions are coming and institutions like lower fees. If that scenario were true, it would make for the world's only case where the price must fall because demand for the good is skyrocketing. That notion is a strange leap of logic. Nonetheless, I think institutions will apply a greater discipline to hedge fund pricing. Additionally, they

will certainly apply better performance attribution to the process. Over the long haul, supply and demand will reach equilibrium and managers will be paid what they are truly worth. But that process will take quite a while. In the short term, hedge fund fees will rise or at least stay stable as demand increases.

So, the problem for the longer term is to determine what managers are really worth. Alpha is true skill, which can only be found in a handful of places. Alpha is, of course, always in high demand. So, the price of alpha will likely remain high. The price for beta—for just executing one of these hedge fund strategies—should be lower than the price for alpha, although I would argue that the price for hedge fund beta should remain higher than that of beta in the stock market; the skill and market knowledge necessary to implement many hedge funds strategies are considerably greater than the skill and market knowledge needed to replicate a stock index.

Risk Control

Having a concern about risk control is certainly not unique to institutions. But it is an area where institutions are more apt to focus. Generally, I believe that the second worst thing a hedge fund manager can do is to operate without a solid system for risk control. The worst thing a manager can do is to lose his or her cynicism about the risk management system that is in place.

Building a good risk system is probably one of the areas where I have spent the most time in my professional life. As one can image, trying to measure risk within a hedge fund can become quite complicated considering all the different variances, covariances, frequencies, and weights within a portfolio. On top of all that work, we at AQR believe strongly

in a human element. We give ourselves one-way authority to take less risk than what our models are calling for. We do not, however, give ourselves two-way authority, which would allow us to increase risk, for instance, if we were in a good mood that morning. Three specific sources of risk—beta, leverage, and headline risk—are important to institutions, so I will cover these three in more detail in the following sections and then discuss current hedge fund risks.

Beta. A few years ago, I co-wrote a paper that, at the time, was fairly controversial.¹ Our thesis was that hedge funds not only have beta; they have more beta than people tend to predict. Our experience since the paper was published has continued to support that conclusion. **Figure 1** illustrates my point. The gray line represents the rolling 12-month return of long-short equity strategies as measured by the CSFB/Tremont Equity Long-Short Index. The dark line represents the rolling 12-month return of the S&P 500.

The good news is that the hedge funds tended to hold up relatively well in the bear market. They lost some money, but they certainly held up better than the stock market. The bad news is that investors cannot look at these lines without spotting the correlation between hedge fund and stock fund performance, which is an important note to keep in mind while allocating a portfolio. The moral of the story is that many investors tend to underestimate beta for hedge fund strategies.

¹Clifford S. Asness, Robert J. Krail, and John M. Liew, “Do Hedge Funds Hedge?” *Journal of Portfolio Management* (Fall 2001):6–19.

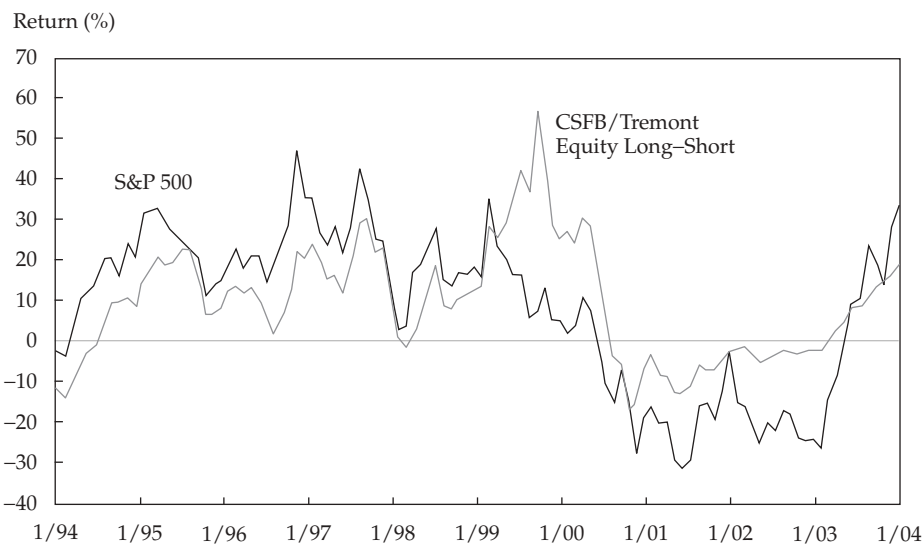
Leverage. Another aspect of risk control is leverage, the “L word.” Leverage strategies have been called the financial equivalent of picking up pennies in front of a steamroller. Why do people do it? Because that is where the pennies are, to paraphrase the infamous 1930s bank robber Willy Sutton. That is, pennies get readily picked up by others when they are not in front of a steamroller.

What are the pros and cons of leverage? The first question I always think about with leverage is: Am I indifferent to leverage even if the volatilities come out the same? My answer is no. All else being equal, I would prefer an unlevered trade to a levered trade. Leveraged trades push a manager’s assumptions further if he or she gets something wrong, which is especially true if the manager is operating in a relatively illiquid market.

Of course, using leverage does have some pros. It allows the manager to take advantage of smaller mispricings that certainly exist. And if leverage did not scare people, a lot of these trades would go away much more quickly. In the end, managers must ask themselves why they get paid in the form of uncorrelated positive alpha for something that is exceptionally comfortable and easy to stomach (i.e., no leverage). They generally do not. They get paid for accepting risk, and leverage is one of the risks.

Headline Risk. Institutions often have a tremendous concern with headline risk. They certainly do not want to go before their board and discuss owning the hedge fund that “blew up” last month and that is in all the papers.

Figure 1. Rolling One-Year Returns vs. T-Bills, January 1994–January 2004



Source: Based on data from CSFB/Tremont.

A blowup is often a manager's fault, and is something for which a manager should be held accountable. Obviously, everyone wants to avoid being involved with a blowup. But there is one thing investors should at least keep in mind about blowups: If investors pursue hedge funds, then it is their job to minimize the chances of holding a fund that will blow up. A hedge fund manager's job, of course, is to avoid letting a blowup happen. But blowups are going to happen from time to time because the purpose of hedge fund investing versus traditional investing is to loosen the strings, to relax the constraints, and to let managers use some more esoteric tools. One must thus focus on how the total hedge fund portfolio is doing, not the worst (or best) part. Just as a year in which the S&P 500 goes up 30 percent still has many disastrous companies, a pool of excellent hedge fund performers can still have disastrous hedge funds.

Current Hedge Fund Risks. So, what are the current risks of hedge funds? I like to use the "Fire and Ice" analogy, borrowed from Robert Frost:

Some say the earth will end in fire,
Some say in ice.
From what I've tasted of desire
I hold with those who favor fire.
But if it had to perish twice,
I think I know enough of hate
To know that for destruction ice

Is also great
And would suffice.

— Robert Frost, *Harper's Magazine*,
December 1920

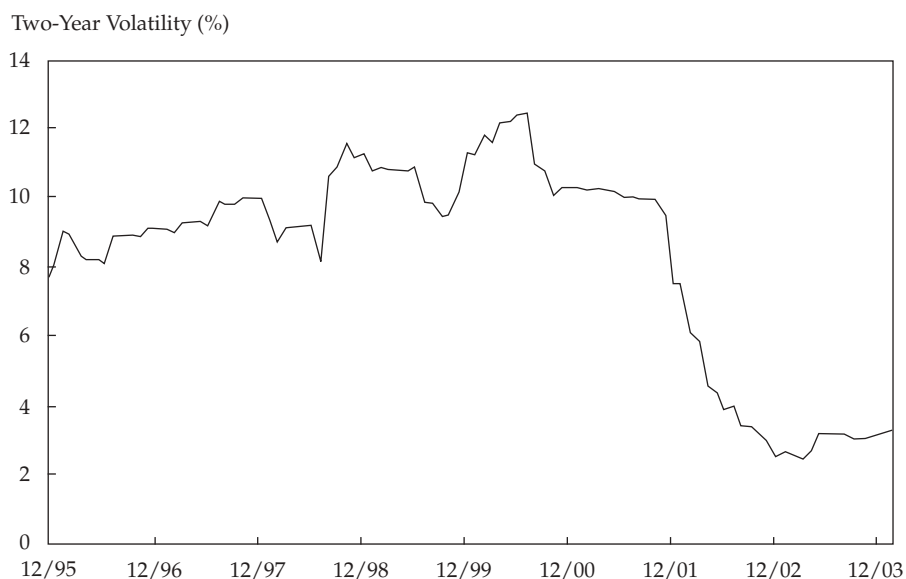
I think of risk in terms of fire and ice. Fire is the risk of destruction, a big short-term blowup. Ice is the risk of boring people to death for 10 years with poorer-than-expected medium- to long-term returns.

Figure 2 shows the rolling two-year volatility of the CSFB/Tremont Hedge Fund Index, which is an aggregate hedge fund index. As illustrated by the recent significant drop in volatility, hedge funds are tending toward a lot less risk than they had in the 1990s. Part of the reason for the decline in volatility is related to a market timing call, in that they got the bubble more right than wrong, although there are other reasons that I will discuss soon.

■ *Fire.* So, what is the risk of fire today? I believe hedge funds have at least three fire risks. The first relates to momentum strategies. Many hedge fund managers, especially long-short equity managers, follow a trend momentum strategy in setting their beta. That approach worked well over the past 10 years when the market trended fairly consistently. The only time this strategy does not work well is during periods with a lot of whipsaw activity in prices, especially if the market makes sharp changes in direction.

A second fire risk relates to out-of-the-money option writing. Estimating how much of this type of option writing is going on is difficult, but it seems to

Figure 2. Rolling Two-Year Volatility of CSFB/Tremont Hedge Fund Index, December 1995–January 2004



Source: Based on data from CSFB/Tremont.

be fairly common. The cause for concern about this strategy is that it can lead to trouble very quickly if market volatility suddenly increases.

The third wild card is guaranteed products. I call it “October 1987 meets August 1998” in reference to a portfolio insurance–type structure meeting a hedge fund–style blowup. That scenario is obviously a potential fear.

■ *Ice.* Of fire and ice, I think that ice is actually the bigger risk. One of the easier risks to identify is that of low cash rates. If cash stays historically low for a considerable period, investors will likely see lower returns and for some reason be surprised that these lower returns show up in hedge funds. Perhaps a more subtle danger is that of risk and leverage reduction, as I pointed out in Figure 2. Investors should ask

themselves why risk and leverage have been reduced so dramatically. Some of the reduction stems from a benign shift to lower volatility strategies, such as absolute return—but not all of it. Another cause for the reduction is that some hedge fund returns have come historically from beta, but faith in this source of return has been shaken for many.

A third cause for reduced volatility and risk is that spreads on many strategies are tight and managers are rationally taking less risk. In other words, hedge funds have taken in a lot of dollars and have taken lower risk by not investing a lot of those dollars. They are not necessarily selling what they have, but they are not investing it as aggressively either.

By and large, I will not rule out fire, but I think the bigger risk facing the industry is ice.

Question and Answer Session

Clifford S. Asness
Dan Och

Question: Is there a way for hedge funds to convince their investors that the performance part of fees is more important than the fixed fees?

Asness: An extreme view might be that the fixed fee should be just enough to pay for the hedge fund's expenses. In that instance, the manager would only make money when the hedge fund produces a return. If you view the world as all alpha, a pure performance fee on alpha might make sense. But to the extent you view the hedge fund world as also providing some beta exposure, it makes almost no sense. So, the fixed fee aspect comes from simply executing the strategy as agreed upon. The performance fee comes into play to the extent that a manager believes that he or she can deliver superior returns versus other managers.

I cannot say exactly what the right split should be, but I think that the performance fee/fixed fee framework is the best starting point. The fixed fee comes in to the extent that a manager is providing exposure to a strategy. The performance fee is added in proportion to the extra value that the manager can deliver. So, I like the split into both fees, but I think performance fees should start to move to being net of hedge fund "beta."

Och: I would answer that question slightly differently. How do you make sure that the interests of the manager, the other hedge fund partners, and the hedge fund employees are all aligned with the investors' interests? I don't think there is a magic formula or mix for fees. I think any formula is fine as long as it addresses that question satisfactorily.

Question: Could you give some examples of the worst types of style drift?

Och: First, something that should clearly bother the investor regardless of whether it works is a change that the investor was not told about. I think that situation is unacceptable, period. End of discussion.

Second, if the manager or the risk control system and process that you assume were in place were not actually monitoring what was being done and what was going on, that is absolutely unacceptable from a business point of view.

Third, and I think this is the most important, if the amount of risk and types of risk are substantially different from the investor's expectations, that is totally unacceptable.

Let me differentiate between evolution and style drift with an example. If a manager puts 2 percent of the portfolio in statistical arbitrage as part of what the manager calls an evolution, I think the manager can fairly argue that he or she is planting a seed in hopes of growing something in the future. In other words, the time and resources spent in exploring the alternative are a fair balance with the potential future benefit.

Compare that situation with what was probably the most egregious example of style drift ever—Russian bonds. A large number of firms were holding Russian bonds when they collapsed. Those firms had no business owning Russian bonds. In many cases, they held the bonds as a result of increased risk tolerance in search of higher returns.

Asness: A similar thing happened in 1994 when a lot of managers who had established themselves as stock pickers were suddenly doing the European bond conversion trade. Just because a lot of other smart people seem to be doing it, it doesn't mean it is a great reason to give it a shot. That is style drift, not evolution.

Question: Can you comment on what seems to be a small trend of charging reduced performance fees below high watermarks?

Och: I think what these firms are doing is being done with the right intent. It remains to be seen if investors will like it or not. I don't know the exact terms, but I believe these firms have proposed a system in which they are paid a reduced incentive if they lose money and will stay with the reduced compensation level until they achieve a certain premium.

Ultimately, I would worry about the firm losing some of its best people if it loses too much in a tough year and the watermark is too high.

My firm is not considering making any changes at this point. We're going to wait. If our investors come to us seeking a change like this, then we might be amenable, but at this point, we are not planning to make such a change.

Asness: I assume you mean the structure where a smaller performance fee is imposed under the high watermark but it is made back after you reach the high watermark and go up more, right? We have also not made this change at my firm, and we are not planning to. But it is interesting.

I would even go a step further and say that you do not want people to fear losses so much. A hedge fund manager is being paid to take calculated, planned risks. You don't want to create a situation where the manager may have difficulty properly executing the investment strategy because of risks.

Finally, if the investor has a long-term perspective and if the investor thinks the manager is a good manager who will eventually come back, then it really doesn't matter much. And if you think returns are never coming back, you probably shouldn't be staying!

Question: If you were to manage half the assets you have today, what do you believe the impact would be on your performance?

Asness: Positive. You are not being honest if you don't admit that there is a curve. On the x -axis is assets under management, and on the y -axis is the achievable Sharpe ratio. There are arguments that adding assets helps build the resources to where a manager can buy the right teams and abilities. But that becomes a weak argument after a certain point. In other words, once you get past a certain point, additional assets begin reducing achievable performance. I think it is just dishonest to say that the difference between \$2 billion, \$5 billion, and \$10 billion is not a drop in the Sharpe ratio.

Ultimately, we have tried very hard to be on a gradual part of that slope. Being a multistrategy fund, our strategies have different capacities. We have been fairly aggressive at limiting the growth. In fact, in some cases, we have closed a fund that does all the strategies and have sometimes closed subfunds that do some of the lower-capacity strategies. When we start other

funds, we are honest with our clients. Although we think they can still do well, the Sharpe ratio cannot be the same.

Question: Given the trend toward specialized areas of expertise, how do you train people who can evolve in a multistrategy firm?

Och: During the 1980s and early 1990s, I spent 11 years at Goldman Sachs & Company where I learned how important it is to hire and train the smartest people you can find and then retain them. There is something else, which is subtle, but important and rare. You have to make sure everyone in your firm knows that if he or she is supervising three junior people and two years later the three junior people are all contributing more, then that supervisor will be rewarded for creating these winners, not told "thanks very much but we don't need you anymore."

You must train people in your framework and methodology. If you took 15 of our investment professionals aside and asked each one "what kind of questions would Dan Och ask for each of these scenarios, what would he think the risks would be, and what would his approach be like?" I think they would all give the same answer.

If you then said, "What would your approach be, and what do you think we should do?" you would get some different answers. Finally, and most important, if they were asked what would happen if they disagreed with me, the answer would be, "If I disagree with him, then I have to get right in front of him. If I agree with him, he doesn't need to hear it from me right away." That is essential.

In addition, you have to recognize that your goal has to be to hire people who are smarter than you

are and better than you are at a lot of different things. We have a lot of people at our firm who I know are better than me at what they do.

They might be better than me at it because it is all they do, and they might be better than me because they were just born better at it than I am. I don't really care. The goal is to encourage that rather than to fight that.

Last, you have to create an environment of flexibility and opportunity. People are smart. If they see that when there is opportunity within the firm it is given to someone within the firm, they will decide to make a career in your firm and they will work to keep getting better because they never know when their opportunity will arise.

Question: Where will the next 10 hires you make at AQR come from?

Asness: This is an interesting question. I'm going to answer from the portfolio management and research side. If you looked at the operations on the other side, those have been almost exclusively lateral hires for us.

The research and trading hires we've made have almost exclusively been undergraduates. We look for geeks who are at least interested in finance, or even better have at least studied finance a bit. The perfect candidate is an MIT computer science graduate who is auditing classes in the business school.

We continually debate, and I'll say we have not done this yet, making a more senior lateral hire. We've vetted a lot of different people, and we've debated the pros and cons. But to date, hiring the smartest undergraduates we can find has been the best strategy for us.