BUSINESS RISK AND INVESTMENT RISK

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As a plan sponsor, you face an increasingly difficult problem: how to manage your investment managers. Active managers, in particular, are coming under increasing scrutiny. What value added are they providing? What is their investment process? Do they use a normal portfolio or a customized benchmark?

It is no longer adequate simply to hire what you perceive to be the “best” managers and let them manage a small component of the fund in complete isolation. More plan sponsors are managing their managers with a very specific goal: that the performance of the individual portfolios, aggregated over the fund, exceeds the performance of a predefined target portfolio.¹

SEARCHING FOR COMMON GROUND

The solution to these problems begins with the challenge of aligning your goals and interests with those of your investment managers. In short, you want to make sure that they are acting in a manner consistent with your goals.

As a sponsor, you know the environment of your fund — that is, the values of the liabilities, asset allocation, and so on. And you know it far better than your managers do. So only you can set realistic goals for your managers. Of course, your managers will attempt to provide superior returns relative to their defined benchmarks. But, unless you exercise proper care, there is no guarantee that these superior returns will take place in an environment beneficial to you.
You also know the amount of risk that the fund can bear. And you have some estimate of the information and skill of your manager. So your challenge is to articulate instructions for the manager, directing him to act in ways most beneficial to you.

You may have some managers that are more aggressive than you really need — forcing you to take on more investment risk than you desire. Conversely, another manager may be too risk-averse, providing you with less value-added than justified by his fees.

**DIFFERENT PARTIES, DIFFERENT RISKS**

Poor communication is not necessarily the reason for this confusion. The real conflict lies in the different degrees of risk sharing. It is important to notice that both the pension sponsor and money manager bear risk.

You bear investment risk, which arises from the inherent uncertainty of asset returns in the capital markets. However, your money managers face a business risk, which is the risk of losing you as a client.

For example, should one of your managers act too aggressively, there is an increased probability that his portion of the portfolio will perform worse than that of the other manager. Hence the increased likelihood of him being fired.

The relationship between sponsors and managers is naturally tense. They come from opposing groups and have different attitudes towards risk: investment risk the sponsor, business risk for the manager.

Financial economics describes this relationship in terms of “principals” and “agents.” You are the principal, retaining the services of an agent to undertake certain tasks. It is essential, therefore, to set up a compensation and incentive structure to ensure that your goals are achieved.

How can we go about designing such a structure? We need to apply notions of the principal/agent theory of financial economics. In the process, you will see that this is not, by any means, a typical “academic” problem.
SETTING UP THE PROBLEM

As the plan sponsor, we will label you: “S.” The aim of “S” is to invest the assets of the fund in order to maximize the company's “expected utility.” This maximization may take place either implicitly or explicitly (through the use of an optimization program) and may be subject to various constraints, like the liabilities of the fund. We can write “S's” decision as follows:

Maximize Exp [US (WT)]
. . . Subject to constraints. Where US is the utility function of the sponsor and WT is the end-of-period wealth. The optimization is over those criteria which you can control.

You will typically achieve your objective by hiring one or more money managers, selecting these managers on the basis of estimates of their information and skill. These qualities will enable them to invest your money to produce excess returns. You must also determine the number of managers and the length of their service.

Now, consider a representative money manager, “M.” His problem is somewhat different from your problem. The aim of “M” is to use the information and skill that he commands in order to maximize his expected utility of wealth. Again. “M” will do so either explicitly or implicitly. And constraints may come into play, as seen in the various strategies and investment styles that he will apply in the marketplace. We can write “M's” decision as:

Maximize Exp [UM (WT)]
. . . Subject to constraints. Where UM is the manager's utility function, and WT is his end of-period wealth. Again, the optimization is across the set of possible portfolios that could be selected by the manager.

JOINT OPTIMIZATION

The critical linkage between the two optimization problems is the fee structure. This provides for the information that the manager uses and is parcelled, in part, to compensate the manager for research, trading and general overhead.
More importantly, the fee should also be viewed as a powerful way for you to steer your managers along a path consistent with your goals.

We can write the joint optimization problem as follows:

Maximize Exp [US (WT — fee)]
. . . Subject to constraints.

and

Maximize Exp [UM (WT + fee)]
. . Subject to constraints.

Interestingly, the fee structure is one of the few discretionary variables under the sponsor's control. However, the current practice is typically for the sponsor to relegate the compensation schedule almost entirely to the manager.

In order to maximize your utility, you must certainly take account of the manager's optimization problem. In particular, you have to understand the behavioral and financial implications that your decision may have on the manager's portfolio construction process.

The solution to this modeling process is to perform a joint optimization which, subject to the fee schedule, would demonstrate the risk sharing necessary to make both you and your managers as well off as possible.

**FARMERS AND TENANTS?**

We should note that this particular principal/agent relationship is somewhat different from those discussed elsewhere in the literature.

A common example is the farmer-tenant relationship. The first important difference is that the sponsor can only imperfectly judge the amount of information or degree of skill provided by the money manager. It is true that the sponsor can use selection consultants, performance measuring services and so forth. But they will give no guarantee that the skill of the money manager is properly reflected in the manager's performance.
By contrast, a “good” farm tenant will always perform better than a “bad” one. The application of skill in farming removes much of the uncertainty in the outcome. However, no matter how much a skillful manager knows, there remains much more that he does not know. Skillful managers face almost as much risk as unskillful managers.²

The end result is that there is no unambiguous assessment of skill. At no time can “S” state categorically that “M” will triumph, or should “M” triumph that it was due to skill and not luck.

Secondly, there are very many pension officers who would wish to become money managers — certainly compared to farmers who would want to become tenants.

Consider some examples of how you might wish to have your manager operate — and some of the resulting problems.

EXAMPLE 1

Suppose you believe that one of your managers has significant skill and information. Therefore, you would like him to hold a fully invested, undiversified (aggressive) portfolio — with large positions in each of the stocks which he believes to be undervalued.

Under the traditional structure, the manager's reward is largely a function of the total amount of assets provided by the sponsor, as opposed to performance. So he is largely uncompensated for becoming more aggressive. In fact, his business risk is vastly increased — by performing according to the sponsor's wishes.

So your manager is exposed to risk of the economy and, specifically, the stocks in his portfolio. This risk is inherently unpredictable. For this reason, his business risk is largely uncompensated and he would be foolish to perform according to your wishes.

EXAMPLE 2

Suppose your manager does hold an undiversified and aggressive portfolio, according to your desires. Should the market return be very negative in a given period, your manager
will be penalized — even though the excess return of the portfolio might be positive.

EXAMPLE 3

When your manager holds an undiversified portfolio which outperforms the market, he is rewarded to some extent for the skill and information used in constructing the portfolio. However, that reward is largely unrelated to the information.

Large abnormal returns from successful, active managers average out to 2-3% per year. But the market return usually averages out to considerably more. Therefore, under traditional fee structures, the manager earns more by just being in business (i.e., acting as an agent for the sponsor) than he does by trying to provide excess returns.

What is the message behind these examples? That you would behave differently than your managers — even when armed with the same information and skill. However, you never really know how much information and skill your managers have. Simply identifying a manager's talent through performance, or other observations, gives you a very imperfect indication of his true ability.

WHERE YOU SIT

As you can see, this particular principal/agent relationship is quite complex. First of all, let's look at your professional characteristics. In general, you are an employee of a corporation or public organization. However, it is clear that you are also an agent for the trustees of the fund — who, in turn, are agents for the shareholders (or taxpayers) and the beneficiaries of the plan.

In addition, all of these “higher up” agents may have different utility functions. In other words, they may have different goals for the management of the fund than you have. You are implementing their directives, while also being the principal for the money managers.

As a pension officer, you are rarely compensated in the same way as the managers you select. It is common in the US today for the pension officer to be compensated according
to a typical corporate salary — which may be considerably less than that of the money manager.

In addition, most pension officers do not receive a bonus related to the performance of the portfolio. Manager “M” may receive a bonus for good performance. But Sponsor “S” might not receive a bonus from his astute decisions — including that of hiring “M.”

Frequently, the pension officer is only temporarily in the position of “pension fund officer.” You may look upon your tenure in this position as only one step in a career path to the Treasurer’s office or senior management. Therefore, your long-term career goals may be quite different from the goals of your current position.

What about the goals of the pension fund? Certainly, under FASB ’87 rules, you have to consider the liabilities of the fund and, perhaps, manage the assets to achieve a fund surplus. However, the liabilities of the fund can only be properly determined through a detailed (and frequently confusing) actuarial analysis. The assets of the fund are far easier to identify than the liabilities. This sometimes causes the goals of the fund to be improperly specified in terms of “maximizing asset value,” rather than through more complicated notions of surplus in the fund.

In sum, these points of ambiguity and conflict often lead the sponsor to issue one basic directive to his managers: “Don't do anything dangerous!”

WHERE YOUR MANAGERS SIT

The money manager is often overconfident with regard to his skill and information. Initially, you might imagine that this overconfidence will lead to greater risk taking. However, under the traditional fee structure, the manager’s wealth is strongly related to the performance of the overall market — rather than to his skill and information.

For this reason, there is a very strong incentive for the manager to avoid deviating from the overall market or benchmark. This is particularly true if the plan sponsor or trustees think only in terms of “beating the S&P 500.” Constrained by these attitudes, the impact of the manager's skill is minimized.
Your manager’s aversion to business risk is probably a great deal stronger than your own aversion to investment risk. To the extent that your manager becomes more aggressive by adding more investment risk, he will face additional business risk.

If your investment risk and your manager’s business risk can both be reduced through the fee structure, you will find that your manager will act more in concert with your requirements. But how is this done?

“GOING PASSIVE”

The obvious (and extreme) solution, which has been followed traditionally, is for you to refuse to pay for active management. You announce that you are infinitely averse to investment risk which moves your manager’s business risk to zero. In fact, you now only hire passive managers. You and your managers understand each other perfectly and there is no conflict, since their portfolios provide only the index return.

In some sense, this is the “null solution” since both investment risk and business risk are avoided. To the extent that you and your managers move away from this position, you will have to look for alternative strategies.

THE “INFORMATIONLESS” POSITION

The common approach, currently used to better align the interests of active managers with those of the sponsor, is for the sponsor to try to better understand the manager’s information process — and so remove ambiguity and incidental investment risk from the manager's strategy. You can implement this strategy by setting up a normal (or benchmark) portfolio which captures the “informationless” position of the manager.

In this case, the implication is that if your manager constructs a portfolio which deviates at all from benchmark, then the deviation is simply a result of an information based decision. Performance measurement now becomes fairer and more objective. And that helps you to better understand the information process of your manager, and the amount of risk he is likely to bear.
More importantly, if your manager is now measured relative to an accurate, “informationless” benchmark, part of his business risk (which may have been improperly measured in the past) has been removed.

One can think of the situation of a small capitalization manager who is measured relative to the S&P 500. He will do his best to make his portfolio look as much like the S&P 500 as possible, simply because any major deviations will be a source of risk.

To the extent that the deviations are the result of information-based decisions, the manager will be correctly measured. However, to the extent that any deviations arise because of an incorrect benchmark, the manager will be bearing an uncompensated amount of risk.

The “small cap” manager, by definition, will hold smaller companies than those in the S&P 500. Using the S&P 500 as a comparison will force the question: “How well have small companies performed relative to large companies?” And this is preferable to: “How well has the 'small cap' manager performed relative to his peers?”

If a “small cap” benchmark is used as a normal portfolio for the manager, then some of the incidental risk is removed. He could move more aggressively to purchase undervalued small companies. In other words, he will bear less business risk relative to a “small cap” benchmark than he would have relative to the S&P 500.

INCENTIVE SOLUTIONS

When you “go passive,” the fee structure is usually unchanged. Therefore, while you may better understand your money manager, the compensation structure has not been adapted to reinforce the alignment of interests.

The “incentive solution” is to use a normal portfolio plus an incentive fee structure — designed to operate solely over the active return.

Typically, the incentive fee is set as a relatively low base fee with an incremental payment based on the relative performance of the portfolio versus a benchmark. If the portfolio outperforms the benchmark, this incremental amount
is positive and may at some stage be capped. If it underperforms the benchmark, the incremental fee is negative and, again, may be capped at some amount.

One of the most interesting things about incentive fees is that, under certain conditions, it is possible to tailor a fee structure so that your manager’s business risk aversion is equal to your investment risk aversion. In other words, your manager has an incentive not only to perform well in general, but to perform well in market conditions important to you. ³

However, even in this seemingly positive situation, the base fee is set at a fraction of assets under management. The market impact, while somewhat reduced, is still important. Your manager’s income is still more dependent upon the market return than upon the application of his own skill and information.

He could diversify away some of this market risk by developing contrary normal portfolios. In other words: one fee structure does well when the market goes up, an other does well when the market goes down. This may, in fact, involve some subtle and creative uses of option strategies.

Perhaps more practical is the strategy of diversifying across alternative markets, including: fixed income, international, real estate, and so on. In this case, your manager’s base fee is much less tied to the uncertain impact of one market.

Finally, your manager could develop alternative strategies within the same market. One strategy may fail in a particular market condition, while other strategies may succeed. While this does not completely remove the impact of markets on the base fee, it certainly gives him a greater marketing presence. It should also cause him to suffer less than he would in an undiversified arrangement.

Mutual funds favor this type of solution since, over any particular period, they can usually point to one of their stable being ranked highly.
HEDGING SOLUTIONS

The manager could use some hedging strategies to take away the market risk component in the base fee, since this is the largest component of his business risk.

How would you feel if one of your managers hedged the market risk from his income? Certainly, if he hedged the active risk, you would be unhappy — just as if you discovered that he was holding a large proportion of, say, IBM in your portfolio while he was selling IBM short in his own personal portfolio.

You might take a more positive view of a manager who is trying to remove risk from his business operation. After all, analysts tend to look favorably upon corporations that try to hedge risk arising from uncertain commodity prices. You may even be willing to provide a market for puts, enabling your managers to hedge. This would reduce their business risk, thereby encouraging them to act more in concert with your own goals.

MAKE HIM AN “ADVISOR”

You have some further, alternative courses. One might be to separate out the information function from the trading function. In other words, you may try to retain the services of your manager not so much as a “trader,” but as an “advisor.”

Of course, this is by no means certain to work, simply because he may be unwilling to give you his best ideas without knowing exactly how much money was going to be invested in the strategy. Ultimately, this approach argues for in-house management.

BASE PLUS

What about radically changing the fee structure to a guaranteed base (irrespective of the amount of funds under management) plus a fee for active performance? This type of fee structure considers the cost basis of the money manager.

For example, what if a sponsor who currently has $100 million with a particular manager increases it to $200
million? The costs of the manager are effectively unchanged — but the sponsor's costs are not.

There may be considerable advantages to paying your manager a retainer fee (to cover overhead) and then compensating him directly for active performance. Not least is your advantage in receiving significant positive performance on $200 million, as opposed to the $100 million.

**WILD CARDS**

There are three possible events that could dramatically alter the situation. First, your manager's investment strategy may change after he is hired. For example, the very act of receiving a large account may cause him to change his strategy — simply because the previous strategy is inefficient with increased sums under management.

For this reason, it may be beneficial for you to be the first to hire a particular money manager; but also to be the first to fire a manager, should his client base increase substantially. The “farm team” approach to hiring money managers reflects this strategy.

Secondly, the utility function of your manager may change. Increased success — or simply the passage of time — may well produce a greater reliance on “street research.” Similarly, your utility function may change. Changes in the surplus of the fund or in the work force are two examples. We have all observed the phenomenon of a pension plan changing radically with the hiring of a new pension officer.

**CONCLUSION**

Important differences between sponsors and managers arise from a variety of factors: emotional, organizational and economic. However, tension in the relationship can be managed to the advantage of both parties.

Through a properly designed fee structure, the sponsor can meet his investment goals while, simultaneously, reducing the business risk of his managers.
One of the motivations for the current sponsor activism is that FASB ’87 suggests that the target portfolio for many funds may not be similar to a “market portfolio.” There is, therefore, a bigger need than ever to monitor the investment managers.

As Bill Sharpe has remarked, the Darwinian notion of survival of the fittest applies only over an exceedingly long time to the money management profession.