

Portfolio Insights:

A Tale of Two Hedge Funds

Sophisticated clients may seek diversification through multi-strategy or multi-manager hedge funds, but incentive structures underlying each model may impact performance.

Wealth Investment Office

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Executive Summary

Hedge funds, when curated right, play an important role in a multi-asset portfolio to enhance return while lowering total portfolio risk. As soon as investors add a second hedge fund strategy to their allocation, they face a choice, sometimes without being aware, as to whether they should adopt a multi-strategy or a multi-manager model. In this paper, we seek to uncover the fundamental differences between the two approaches:

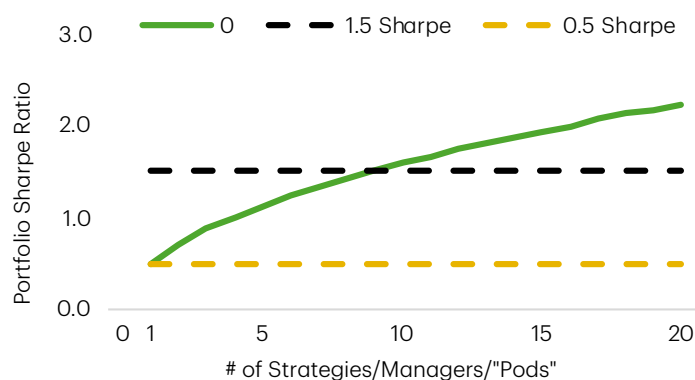
- Because of the difference in fee structure, investor returns differ depending on the types of hedge-fund model.
- Based on a stylized Monte Carlo simulation model, we quantified the return gap between a multi-strategy and a multi-manager structure. We then explore what hedge funds can do to minimize or eliminate such a performance gap, from strategy sourcing to portfolio construction.
- In the end, we discuss other considerations our stylized model does not incorporate but can help deepen investors understanding.

When constructing a resilient portfolio, diversification is a key aspect. This becomes even more important when investing across various hedge funds. By allocating capital to several approaches, investors can strategically lower volatility and aim for robust risk-adjusted returns. With a wide range of performance across portfolio managers, this diversification benefit is essential.

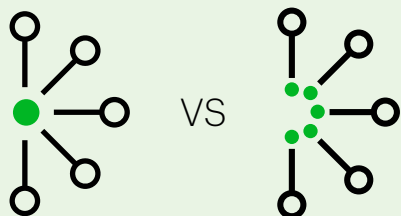
We modelled a simplified hedge-fund allocation framework to quantify the benefits of diversification and represent claims visually. Figure 1 demonstrates that including more uncorrelated strategies (i.e., with pairwise correlation of zero) in a portfolio enhances its Sharpe ratio. The assumption here is that each strategy has a Sharpe ratio of 0.5 with 10% volatility. Therefore, the excess return over risk-free assets is 5%. The portfolio allocates to each strategy with an equal weight. As the number of these uncorrelated strategies increases, the combined Sharpe ratio increases. For example, although the single strategy has a 0.5 Sharpe ratio, a portfolio of nine strategies could have a more powerful 1.5 Sharpe ratio, demonstrating how diversification transforms a portfolio's

risk-adjusted return from mediocre to superior. This chart not only echoes the importance of diversification, but also illustrates theoretically why multi-strategy and multi-manager funds focus on continuously increasing the number of exclusive, uncorrelated return sources within their firms.

Figure 1: Adding strategies enhance Sharpe ratio of a portfolio



Source: Wealth Investment Office as of August 2025.



Two Hedge Fund Models

Although it's clear that the diversification benefit supports the idea of allocating to multiple strategies rather than a single strategy, there are two different business models for operating such complicated investment vehicles: the multi-strategy model and multi-manager/multi-pod model.

Multi-Strategy Hedge Funds

Simply, multi-strategy hedge funds are investment vehicles designed to enhance returns by diversifying risk among different types of hedge-fund strategies, within one overarching structure. Multi-strategy hedge funds tend to have centralized operational infrastructure, risk management and funding under a single entity. Within this entity, the research and portfolio-management teams generate investment ideas and execute trades. The types of investment strategies often include global macro, equity long/short, interest rate or credit relative value, trend-following, event-driven, merger, and statistical arbitrage. The combination of these strategies can create a steady return stream by way of their uncorrelated nature.

Although the investment research team could be organized by the type of strategies they focus on, the most critical part of a multi-strategy hedge fund is a central portfolio-management and risk-allocation function. This part of the fund sets risk budgets and makes sure portfolio exposures align with the fund's objectives. This important oversight allows for the reallocation of capital when market conditions change, creating a dynamic allocation opportunity that single-strategy managers often cannot mirror. Flexibility, with exposure to multiple diversifying strategies, reduces reliance on individual drivers. Additionally, the centralized portfolio management improves capital efficiency and lowers financing costs.

The structure of these funds is also highly scalable. Because the investment universe for each strategy is often broad with very high capacity, it's relatively easy to deploy additional capital. Oftentimes, the investment team could find new opportunities, further expanding the capacity of mandate.

Multi-strategy hedge funds tend to have centralized operational infrastructure, risk management and funding under a single entity.

A key distinction setting apart multi-strategy funds is the fee arrangement. Multi-strategy funds apply one firmwide performance fee, referred to as "carry," based on overall fund returns. As for individual compensation, the carry is shared among investment teams. The multi-strategy model has pros and cons. Since everyone has the same goal — to maximize the overall fund's performance — it promotes teamwork and

knowledge-sharing. It could also help to retain talent when certain types of strategies face short-term headwinds. On the other hand, it can disincentivize individual performance, given that one's compensation is not entirely linked to his or her contribution to the fund.

Multi-manager platforms often have many portfolio managers or pods, each pursuing a specific and sometimes niche strategy in a well-defined investment universe.

For example, if one team generates significant profit, but the overall result is muted, the total carry available to be shared could be limited. This could cause turnover, especially among top-performing employees.

Multi-Manager Hedge Funds

The multi-manager approach allocates capital across multiple, independently operated portfolio-management teams. Multi-manager platforms often have many portfolio managers or pods, each pursuing a specific and sometimes niche strategy in a well-defined investment universe. For example, a multi-manager equity long/short platform may have dozens of specialists focused on specific countries or sectors, each running a modest allocation. Although this may lead to a moderate correlation amongst pods, collectively, the portfolio could still be well diversified. Unlike multi-strategy funds, these pods operate with significant autonomy regarding their investment process and decision-making.

In addition to the independent pods, multi-manager platforms also tend to have centralized functions relating to operating infrastructure, risk management and portfolio monitoring. There are a few reasons for this setup. First, since the pods do not see what the others are doing, it could lead to unintended positioning at the aggregate level - an over- or under-risked portfolio, or concentration at the security, sector or risk-factor level. Prudent monitoring and management of these undue risks is required. Second, since individual pods trade their own portfolios, there could be opportunities for the platform to execute these trades by internal crossing. For example, if one pod is buying a particular name while another pod wants to short it, the two trades can be netted at the platform

level. Only the remaining exposure needs to go to the open market for execution. Finally, it makes sense to aggregate the overall portfolio's net exposure from all the pods, then optimize for margin and capital allocation. This could lead to interest and management-expense savings, as well as return enhancement.

Fee structure at multi-manager funds is different from multi-strategy funds and could be very complicated. All in all, the pod's operational independence leads to carry independence. The performance fee is calculated at the pod level. Therefore, the pods making profits will be rewarded, while the ones with a loss will not earn carry. This creates a business risk, given that investors are essentially paying a performance fee as long as there is at least one profitable pod, even if the aggregate return is negative.

The implication of the multi-manager carry model is that the top performers will always be paid, regardless of how the overall fund does. Their carry will not be dragged down by their underperforming peers. However, the concern is equally clear that, for investors, a multi-manager platform must have enough profitable pods to generate an overall positive return, after fees. As a rule of thumb, multi-manager investors would prefer all the pods generate consistent profits, without any down year. This might be too good to be true, running contrary to the purpose of constructing a portfolio with diversified strategies. Another nuance is that, as the year-end approaches, there is an incentive for the winning pods to de-risk in order to secure the full-year return thus their pay cheque. Meanwhile, losing pods could

ramp up their risk-taking in hopes of catching up. This self-serving behavior is not always aligned with the investors' best interest.

Multi-manager funds rely on identifying profitable pods and dynamically allocating capital across the platform to add value. Top performers receive additional capital, while underperformers see their allocations reduced, or in some cases eliminated entirely. This ensures alignment of carry and net return to investors. It is key to enable the platform to quickly adapt to market conditions by shifting allocation. However, when overdone, this behavior could lead to "strategy crowding," where a few similar but winning pods receive increased allocation at the same time, resulting in undue concentration risk. Multi-manager funds require risk monitoring, to ensure the losses from individual or groups of managers do not significantly impact the broader fund. Everything else, including financing, compliance and technology are handled by the platform itself to ensure the pods are focused solely on investing.

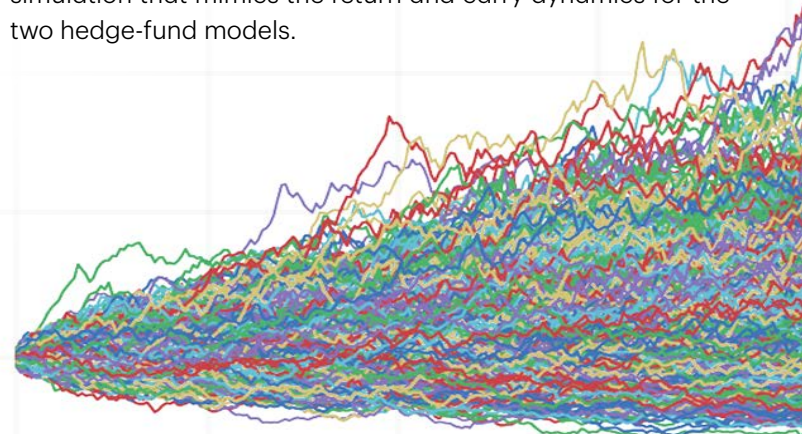
Multi-manager funds are also scalable, due to their flexibility to change the pod lineup. Strategies can be added or rotated without restructuring the entire portfolio, because each pod operates independently.

One Stylized Framework

Although Figure 1 demonstrates the theoretical diversification benefit for both multi-strategy and multi-manager hedge funds, we find that, in practice, the differing fee structures are a more significant motivator when it comes to allocation and portfolio construction. Since multi-strategy fund investors pay carry on the performance of the entire portfolio, the incentive of a multi-strategy fund manager is to maximize the aggregate risk-adjusted excess return of the fund.

For multi-manager funds, things are slightly more complex. Since each pod earns carry based on individual performance, investors would prefer that the majority of managers make positive excess return all the time. Having some strategies make money while the rest lose money amounts to a net cost. In other words, diversification is not always free for multi-manager funds. The sidebar (to the left) provides a simple example.

To quantify the cost of diversification for multi-manager funds, we came up with a stylized model using a Monte Carlo simulation that mimics the return and carry dynamics for the two hedge-fund models.



Example:

Multi-Strategy Structure Alpha

Fund A

Assume Fund A is a multi-strategy fund with two sub-strategies, each of which is allocated \$10 million. The excess returns are 10% and -10% respectively for the year. In aggregate, the fund's excess return is 0%; therefore, the investor pays no carry.

Fund B

Is a multi-manager fund with two pods, and pod returns are the same as Fund A. Due to the structural difference, the carry expense for the Fund B investor is \$0.2 million or 20% of profit, paid to the pod with 10% excess return.

Fund A net return > Fund B net return

The difference in net return for end investors between Fund A and Fund B is 1%, or \$0.2 million, with the Fund A investor better off. This is what we call the multi-strategy structure alpha.

Model Setup

We modelled a theoretical hedge fund with multiple components. Each component could be a manager/pod or a sub-strategy. Below are the key assumptions for this fund:

- Allocation Scheme:** We assume all components are equally weighted. Let n denote the number of components, each with an equal weight of $\frac{1}{n}$. In our analysis, we assume that $n = 10$.
- Risk/Return Characteristics:** We assume the excess return over cash for each component (r) is a product of the Sharpe ratio (SR) and volatility (σ). For simplicity, we assume all components have the same Sharpe ratio and volatility.
- Correlation:** The pair-wise correlation (ρ) between every pair of the components is assumed to be the same.
- Fees:** For simplicity, we are applying the classic 2/20 fee arrangement, meaning that a 2% management fee is charged on AUM at the beginning of the year. This is the same for both multi-strategy and multi-manager funds. Twenty percent of excess return over cash is charged at the end of the year as carry. For multi-strategy funds, the carry is charged on the overall performance. For multi-manager funds, the carry is charged at the pod level. If the excess return of a pod is negative, no carry is charged.

With these set of assumptions, the Sharpe ratio for the portfolio SR_p can be derived as:

There are two special cases we would like to note:

SR_p = SR / sqrt(rho + (1 - rho)/n)

- When $\rho = 0$ or the sub-strategies within a hedge fund are not correlated with each other, the Sharpe ratio of the overall portfolio becomes $SR\sqrt{n}$, which increases as more uncorrelated strategies are included in the portfolio. The intuition is very powerful — as an asset allocator, we should always source uncorrelated strategy to enhance the Sharpe ratio of a portfolio.
- When $\rho > 0$, there is a theoretical maximum Sharpe ratio the hedge fund could achieve:

lim_{n -> infinity} SR_p = SR / sqrt(rho)

The intuition here is that, since a maximum Sharpe ratio of the portfolio exists, at a certain point, the only way to further increase the portfolio's Sharpe ratio is to source pods with higher Sharpe ratio or lower correlation.

In the model, we ran a 1,000-scenario Monte Carlo simulation of ten random variables based on the expected excess return, volatility and correlation assumptions to represent the annual returns of components of a hedge fund. These returns were then aggregated in two different ways: one followed the multi-strategy setup; while the other followed a multi-manager setup.

In the end, we would like to quantify the additional cost for multi-manager funds compared to multi-strategy funds, given that all the underlying components are the same. Let us formally define this measure as the “multi-strategy structure alpha,” or structure alpha, as explained in the above example on page 3.

Analysis and Findings

To run our stylized model simulating the returns of a multi-manager versus a multi-strategy hedge fund, we first set the volatility of each component at 10%. Then we apply different Sharpe ratio and pair-wise-correlation assumptions through the Monte Carlo simulation to quantify the structure alpha. Figure 2 shows the results based on various Sharpe ratio and correlation combinations.

Figure 2: Multi-strategy Structure Alpha for various correlation and Sharpe ratio scenarios

10 Strategies/Pods Each with 10% Volatility		Correlation						
		-0.1	0	0.1	0.2	0.3	0.4	0.5
Sharpe Ratio	0.3	0.62%	0.48%	0.39%	0.32%	0.27%	0.24%	0.23%
	0.4	0.61%	0.44%	0.33%	0.28%	0.24%	0.21%	0.18%
	0.5	0.60%	0.39%	0.26%	0.23%	0.20%	0.18%	0.16%
	0.6	0.60%	0.34%	0.23%	0.18%	0.16%	0.15%	0.13%
	0.7	0.58%	0.28%	0.19%	0.15%	0.13%	0.11%	0.10%
	0.8	0.57%	0.23%	0.15%	0.12%	0.10%	0.09%	0.08%
	0.9	0.57%	0.20%	0.11%	0.10%	0.09%	0.07%	0.06%
	1.0	0.56%	0.16%	0.09%	0.07%	0.06%	0.05%	0.04%

Source: Wealth Investment Office as of August 2025.

As the Sharpe ratio and pod-to-pod correlation increases, the structure alpha decreases. This means that, to minimize the structural disadvantage, a multi-manager platform is incentivized to hire pods with superior alpha-generating ability, and high correlation with the rest of the book. The implication makes sense since we frequently see that at large multi-manager platforms there are often more than a hundred teams. Many of these team will not shy away from investing in the same type of strategies (i.e., index rebalance or statistical arbitrage) with potentially high correlations to each other. And because of the higher correlations, it also makes sense to have a large number of pods so that the Sharpe ratio of the entire portfolio can approach the theoretical maximum.

Another analysis was to set the Sharpe ratio of each component at 0.5. Then we measured the structure alpha based on different correlation and volatility combinations. The question behind this analysis is, when a multi-manager hedge-fund platform has a consistent sourcing universe filled with 0.5 Sharpe ratio candidates, what kind of risk appetite would be favored to minimize the structural disadvantage?

Figure 3 shows that, to minimize the additional cost, a multi-manager platform is incentivized to source managers that take smaller risks and have high correlation with the rest of the book. It means multi-manager platforms are inherently inclined to favor strategies with modest alpha-generating ability combined with a very low likelihood of incurring big losses (thus lower volatility).

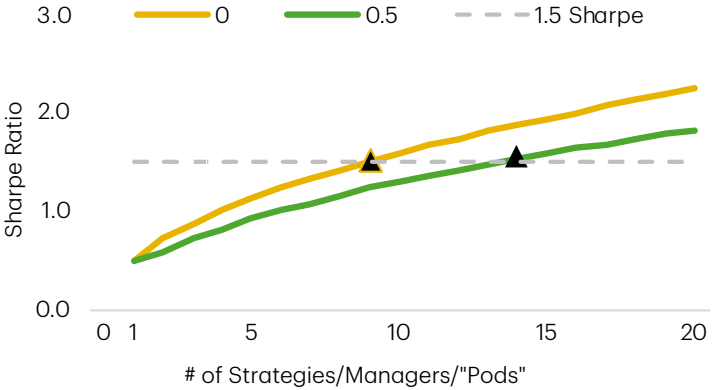
Figure 3: Multi-strategy Structure Alpha for various volatility and Sharpe ratio scenarios

10 Strategies/Pods Each with 0.5 Sharpe		Correlation						
		-0.1	0	0.1	0.2	0.3	0.4	0.5
Volatility	5.0%	0.30%	0.19%	0.14%	0.12%	0.10%	0.09%	0.08%
	6.0%	0.36%	0.23%	0.16%	0.14%	0.12%	0.11%	0.10%
	7.0%	0.43%	0.27%	0.20%	0.16%	0.14%	0.12%	0.11%
	8.0%	0.48%	0.30%	0.22%	0.20%	0.17%	0.15%	0.13%
	9.0%	0.55%	0.35%	0.26%	0.22%	0.18%	0.16%	0.15%
	10.0%	0.60%	0.38%	0.28%	0.23%	0.21%	0.18%	0.16%
	11.0%	0.66%	0.42%	0.33%	0.26%	0.22%	0.21%	0.18%
	12.0%	0.73%	0.46%	0.34%	0.27%	0.25%	0.22%	0.19%

Source: Wealth Investment Office as of August 2025.

Since both analyses indicate that multi-manager models tend to favor more correlated strategies, we're going to recalibrate the different degrees of risk-adjusted return enhancement for multi-manager versus multi-strategy hedge funds. Figure 4 recreates the Sharpe ratio improvement curves against number of strategies based on two different correlation assumptions. The curve with higher correlation mimics the portfolio composition of a multi-manager platform.

Figure 4: Sharpe ratio improvement on number of strategies with higher correlation



Source: Wealth Investment Office as of August 2025.

Because each individual strategy has a Sharpe ratio of 0.5, we highlighted the number of strategies required to bring the portfolio's Sharpe ratio up to 1.5. For the case of zero correlated strategies, the portfolio needs nine strategies. With a higher correlation of 0.5, the portfolio would need 14 managers. This result is directionally aligned with our observation that a multi-strategy fund normally has fewer components compared to its multi-pod cousin.

Practical Considerations

So far, it seems that we are suggesting that multi-strategy is a superior hedge-fund model. Although this is true based on our stylized framework, we are also aware that our model is simplistic, lacking many real-world nuances.

The first is that established multi-manager platforms are great at not only attracting top talent but also allocating to them to enhance returns. Star pods that could generate large and consistent excess returns may receive higher allocation under this model. The allocation skill of the platform could be an alpha source. And the compensation and allocation dynamics would serve to retain star managers. On the other hand, multi-strategy funds face the puzzle of how the overall carry should be allocated among teams, balancing between fairly compensating teams based on meritocracy and retaining talent in areas with recent performance struggles.

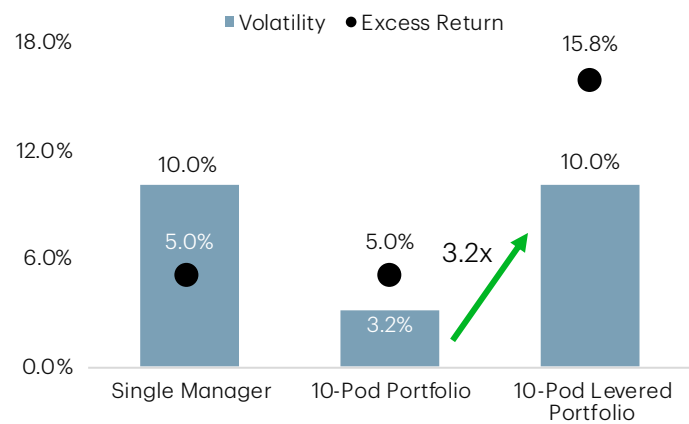
The additional cost for multi-manager funds can hurt the hedge-fund company more than investors. If the top fund chooses to charge the client the same carry as a multi-strategy hedge fund, that amounts to a carry charge on aggregate return while maintaining the carry arrangement with individual pods. This essentially internalizes the additional cost of multi-manager structure. To mitigate that risk for the platform operator, top funds can often pass through some management-related expenses back to investors. There are many nuances related to this practice, and investors should be aware of the details of these expense pass-throughs and determine what is reasonable.

The allocation skill of the platform could be an alpha source.

Another way that multi-manager platforms can add value is by way of their centralized trading book, which can help save on fees while enhancing risk-adjusted return. For example, we mentioned that the platform could internalize the flow by netting exposures across all the pods. Some central trading books also co-invest with the pods to enhance return while saving on performance fees. Again, to add value, the platform's ability to identify winning pods and profitable trades in real time while optimizing capital allocation is vital.

Capital-efficiency and return-enhancement benefits can be found in both models. Figure 5 demonstrates this point with an example. As we equally allocate to ten uncorrelated strategies, each with 5% excess return and 10% volatility, the portfolio still has the same expected excess return, but the volatility decreases to 3.2%. This is the power of the diversification benefit repeatedly emphasized throughout the paper. Now, since the portfolio is inherently less risky, margin requirement may be reduced. The lower margin means more cash available for co-investment. From an asset allocator's standpoint, if the risk budget in term of volatility for an uncorrelated hedge-fund allocation is 10%, the 3.2% volatility is significantly below the desired level. To bring the volatility back up to the 10% target, the portfolio could be grossed up. As a result, the new portfolio's expected excess return increases to 15.8%, significantly higher than the original portfolio.

Figure 5: Diversification creates capital efficiency by improving risk-adjusted returns



Source: Wealth Investment Office as of August 2025.

Conclusion: Finding The Good Cat

At TD Wealth, we aim to curate hedge-fund strategies with low correlation to other asset classes and consistent alpha-generating capability. Ultimately, we are agnostic about the two hedge-fund approaches presented in the paper, since we believe great investment opportunities reside on both sides of the aisle. The key here is to understand how different structures and incentive arrangements drive investment decisions and, ultimately, the investment outcome, so that these considerations add value in client portfolios. With that, let us end with Deng Xiaoping's famous saying, "It doesn't matter if a cat is black or white, if it catches mice, it's a good cat." The same applies to choosing between the two hedge-fund models — if it leads to a better risk-adjusted return, it's a good model.

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