



GETTING Over It



Hedge funds and plan sponsors seek ways to cross the dividing line.

BY CAROLINE CAKEBREAD

Hedge fund managers and pension funds don't always see eye to eye. Investors have been kicking the proverbial tires of these alternative strategies for years, but the uptake has been slow, even during the leanest years of poor equity market returns. What's holding pension funds back?

In this special report, we take a close look at the great divide that seems to be holding plan sponsors back from fully embracing the alternative universe of hedge funds. Authors raise interesting questions about the specific needs of plan sponsors and the ability of hedge fund managers to meet their unique demands. They also posit whether replication strategies could be the answer to finally bridging the hedge fund/pension gap.

We also present new data on hedge funds in Canada. As the industry evolves, how does Canada rank when it comes to its global peers? And are hedge funds making headway among Canadian investors? ■



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TWO Solitudes

Replication and short extension bridge the pension and hedge fund gap.

BY TRISTRAM LETT AND CHRISTOPHER HOLT

Hugh MacLennan's 1945 landmark novel *Two Solitudes* casts early twentieth century Canada as two separate societies—French and English—with very little overlap, yet sharing a common nationhood. Sometimes it seems that the hedge fund and institutional investing communities have taken a cue from MacLennan's work. Notwithstanding the notable early adopters of hedge funds, most pensions and endowments remain in exploration or education modes. As a result, the hedge fund and pension fund worlds co-exist, yet rarely interact. They are together, yet alone.

But as with MacLennan's Anglophones and Francophones, hedge funds and pension funds share common fundamental objectives: risk management, flexibility, and of course, alpha. Thankfully, new investment techniques are now providing a framework for both sides to interact. Short extension funds provide a bridge between the long-only tradition favoured by many pensions, and the so-called alpha-centric world of hedge funds. At the same time, synthetic funds with hedge-like attributes, although lacking in true alpha, provide a liquid and transparent foray for conservative institutional investors into the world of alternative investments.

Both of these emerging strategies address many of the hurdles that have stymied the adoption of hedge funds,

mainly because neither of these strategy classes are truly hedge funds, but rather the adoption and modification by institutional investors of appealing features of hedge strategies. Taken together these short extension and hedge fund replication strategies represent a sea change in asset management that will allow these two sides—pension funds and hedge funds—to integrate and yet, perversely, differentiate. The inevitable result will be more opportunity for both institutions and hedge funds.

SOLITUDES EXPOSED

Nowhere is this reality of two solitudes more evident than in the perennial rankings that dot the media landscape. In May of this year, *Alpha Magazine* published a list of the world's 100 largest hedge fund firms. Their top 10 were JP Morgan Asset Management, Goldman Sachs Asset Management, Bridgewater Associates, D.E. Shaw Group, Farallon Capital Management, Renaissance Technologies, Och-Ziff Capital Management, Barclays Global Investors, Man Investments and ESL Investments (Source: *Alpha Magazine*, July 2007)

Within days of the release of *Alpha's* list, *Pensions & Investments*, a trade newspaper covering the world of investing from the institutional investor's perspective, released its own ranking—this one of the largest managers of U.S. tax-exempt institutional mandates (i.e. pensions and foundations). The *Pensions & Investments* top 10 read as follows: Bridgewater

Associates, Barclays Global Investors, Grantham, Mayo & Otterloo, AQR Capital Management, Goldman Sachs Asset Management, Mellon Financial, UBS, AIG Global Investment, Morgan Stanley, Oppenheimer Capital (Source: *Pensions & Investments*, May 28, 2007).

Notably, only three names appear on both lists (Bridgewater, Barclays & Goldman Sachs). In fact, U.S. tax-exempt institutions count among their managers several firms that did not even make the *Alpha Magazine* list of the world's largest hedge funds. Clearly, these institutions have steered hedge fund investments towards traditional money managers with established reputations such as State Street, Mellon, AIG, and Oppenheimer and have shied away from what might be referred to as hedge fund managers such as D.E. Shaw, Farallon and Renaissance Technologies. The question is, why?

The answer can be found in the decision criteria used by a typical institutional investor. Absolute performance aside, institutions have always judged investments against the following list of fundamental criteria:

Transparency: Institutional investors have satisfied their fiduciary obligations by demanding position-level transparency. Recently, they have begun to demand exposure-level transparency and a greater understanding of investment methodology and strategy.

Liquidity: Investors have demanded, and in many cases, regulations have supported, high levels of liquidity. While liquidity is often demanded at the portfolio level, few institutions have ever exercised their right to liquidate an entire portfolio, opting instead for long-term relationships with their managers.

Volatility: Policy asset allocation requires the identification of asset classes first and investment strategy second in a risk-budgeting framework. As a result, the volatility expectations of institutional investors are derived from the deviation of volatility (tracking error) of each strategic mandate's underlying policy asset class volatility.

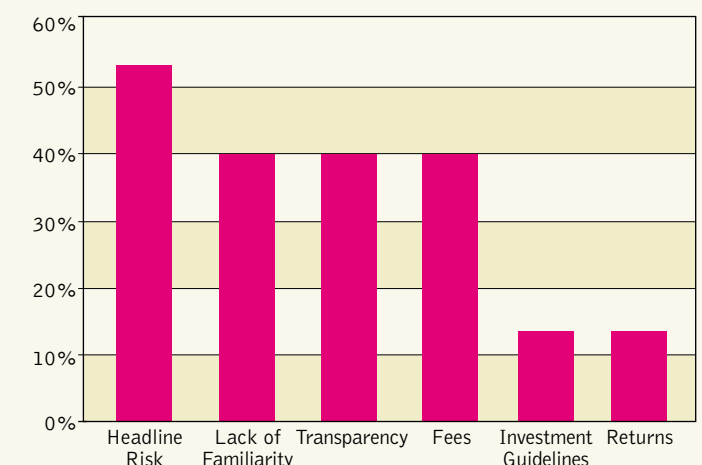
Headline Risk: Similarly, institutions have implicitly sought to reduce headline risk by investing in asset classes and strategies that were correlated with, well, headlines. After all, there would be no headline if a fund fell in value along with the overall market. On the other hand, if a fund were to fall modestly in a bull market, headline writers would have a field day.

Fees: Cognizant of their ability to buy in bulk, institutional investors have pressured managers to reduce fees to a level commensurate with the expenses of a typical supplier. Rarely, if ever, did this involve any form of performance-based compensation.

Reputation: While headline risk can be mitigated by selecting common strategies, the selection of established suppliers provided further cover for those institutions concerned about maverick risk.

How do hedge funds stack up to these criteria? The prototypical hedge fund exploits market anomalies, not broad market movements. While this has been a blessing for their performance records, it has been a curse for their attempts to solicit the typical pension or endowment. While many exceptions exist, hedge fund transparency is generally considered to be low. For better or worse, liquidity has typically been lower than it is for long-only funds. While lower in aggregate, the volatility of individual hedge funds is more idiosyncratic than it is for traditional long-only mandates. Along with a general lack of market correlation, headline risk is considered to be relatively high for hedge funds. Unlike traditional mandates, hedge fund fees are driven largely by performance, not by assets under management. And, finally, as the new kids on the block, hedge fund managers have often been branded as investment mavericks. Indeed, Figure 1 shows results of a survey of institutional investors that have thus far avoided making their maiden investment in hedge funds. It shows that hedge funds have so far fallen flat on a number of key dimensions.

KEY IMPEDIMENTS FOR NON-INVESTORS Fig. 1



Source: The Bank of New York and Casey Quirk & Associates analysis.

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MEASURING UP

Short extension or 130/30 strategies (or 120/20, or more generically 1X0/X0) simply involve the addition of short-selling to a traditional long-only mandate. Proceeds from this short-selling is notionally applied to leveraging up long positions to re-establish a dollar-neutral portfolio. Students of long/short portfolios may recognize this as analogous to a long-only portfolio with a deleveraged 30/30 market-neutral overlay. Not that they are necessarily operated this way—in fact, most are optimized over the whole long and short portfolio, subject to a beta of 1.0 and tracking error constraints.

While this simple equity short-extension strategy may appear to have little in common with the more quantitative approach taken by providers of hedge fund replication strategies, it actually provides many of the same benefits. For this reason, 130/30 funds have also attracted the attention of institutional investors—much to the bafflement of many hedge fund managers. But while 130/30 can be conceptually described as a long-only fund and a hedge fund, traditional asset managers see it as the simple removal of the short constraint implicit in any long-only portfolio. Academic studies illustrate that when a manager has the ability to add value, the removal of this constraint has a positive effect on the information ratio.

But regardless of manager ability, 130/30 funds have a number of qualities that have attracted the interest of institutional investors. First and probably most importantly, they are a benchmark-based strategy with a beta of 1.0, enabling their easy insertion into the active equity bucket for classification and measurement purposes. Like hedge fund replication strategies, 130/30 funds are generally very transparent. In fact, as simple extensions of pre-existing long-only mandates with position-level transparency, these funds are often provided on a separately managed account basis. It's worth noting here that the strategy transparency demanded of 130/30 funds is often actually lower than that of stand-alone hedge funds, since investors are apt to view 130/30 funds as simple extensions of familiar traditional mandates.

As extensions of liquid equity strategies, 130/30 funds tend to provide a comparable level of position liquidity, recognizing that the short positions may add a measure of relative illiquidity. To compensate, more issues are held on the short side to provide the same level of investor liquidity. Although 130/30 funds effectively deliver leverage of 1.6x $[(130+30)/100]$, they

do not add a commensurate amount of volatility. This is because the incremental positions generally have a very low correlation to the original long-only portfolio. Ergo, a 130/30 may have an ex ante volatility that is only marginally higher than that of the original 100 portfolio and, ex post, it is often lower.

Headline risk may be higher for a 130/30 fund than for a traditional long-only mandate due to the idiosyncratic nature of the added positions. But headline risk is lower than what might be faced by an investor owning both a long-only fund and a separate market-neutral hedge fund. While this may seem like a cosmetic difference to suppliers of stand-alone hedge funds, it amounts to a critical—albeit superficial—enabler for many institutions.

Even though they offer many of the benefits of hedge funds, 130/30 funds tend to have fees that are more similar to traditional long-only mandates than they are to hedge funds. While the market continues to grope for an equilibrium price, early indications are that fees will be a multiple of gross exposure—that is, 1.6 times the typical long-only fee for a fund that has 160% gross market exposure (e.g. a 130/30 fund). Notably, some suppliers have also adopted the performance-based compensation common to bona fide hedge funds.

Large, well-established asset managers have been quick



... for now it's clear that 130/30 has the potential to clear many of the hurdles faced by hedge funds over the past decade.”

to oblige institutions' newfound interest in 130/30 funds. Cynics suggest that this amounts to an endorsement of hedge funds and that these traditional managers are just offering a hedge fund-light. But as the divergent rankings presented above illustrate, institutional investors place significant value in names they trust and companies with which they already conduct much business.

Like hedge fund replication strategies, 130/30 funds are too new to accurately assess. Proponents suggest that good managers will necessarily benefit from removing the short constraint while critics charge that short-selling is a distinct skill set that cannot be found in traditional long-only firms. Only time will tell. But for now it's clear that 130/30 has the potential to clear many of the hurdles faced by hedge funds over the past decade.

SIZING UP REPLICATION

The late 1990s saw the emergence of a field of research that aimed to explain the apparent free lunch provided by hedge funds. Early iterations of this research benignly sought to explain this paradox. But soon after the turn of the century, several academics began to take a more prescriptive tone, suggesting that if hedge fund returns could be explained by a set of factors, they could also be replicated using those same factors. Thus was born the field of hedge fund replication. Today, three broad methodologies have been applied to replicating baskets of hedge funds. One picks up on the early factor research above (factor replication). A second attempts to recreate the volatility, correlation and skewness of hedge fund return distributions, without attempting to match the month-to-month returns of those hedge funds (distribution replication). And a third, less common, approach aims to replicate hedge fund returns using a set of trading rules (mechanical trading replication).

There is currently much debate among academics and practitioners about the merits of each approach and even about the fruitfulness of the enterprise itself. For all its flaws, however, hedge fund replication has the potential to clear several of the hurdles faced by the hedge fund industry as it attempts to court institutions. Regardless of the methodology employed, hedge fund replication strategies are more transparent than their real-life hedge fund cousins. Individual factors and mechanical trading rules can be easily shared with investors. And, while the nuances of the distributional replication approach have been at the centre of some controversy, the broad elements of this strategy are self-evident to the seasoned institutional investor familiar with option replication strategies.

Unlike true hedge funds, hedge fund replication strategies are highly liquid. While investors in a fund of hedge funds will generally face liquidity parameters that are similar or more stringent than those of the underlying hedge funds, investors in hedge fund replication strategies face no such constraint. While avoiding the drawbacks of transparency and lower liquidity, hedge fund replication strategies share one positive attribute with portfolios of real hedge funds, a lower volatility-level than that of equity markets. In addition, hedge fund replication strategies have the potential to mitigate institutional investors' concerns about headline risk since, by design, they lack the idiosyncratic risk inherent in actively managed portfolios of hedge funds.

At the same time, because of their passive construction, hedge fund replication strategies generally do not charge performance fees. Management fees for funds based on the factor-based strategies are typically in the 1% range (0.75% index licence fee + 0.25% structuring fee). Distribution replication strategies are currently available for around 0.60% (0.40% software licensing fee + 0.20% management fee). Due, in part, to this passive approach, hedge fund replication is also a volume business with a substantial level of capacity. As a result, suppliers tend to be large firms with established reputations and a breadth of business that enable them to offer a product that seems, on the surface, to compete with their own actively managed fund of hedge funds.

For the reasons stated above, institutional investors have begun to kick the tires of the new replication models. While the features above represent undeniable benefits for institutional investors, the big question remains: can they produce alpha? Or, more appropriately (since they are passive), can they deliver hedge fund alternative beta? And therein lies the source of the often rancorous debate between advocates of hedge fund replication and defenders of traditional hedge funds and funds of funds. Suffice to say, however, the performance has been close enough to place hedge fund replication firmly on the radar screens of the institutional investors that have so far been reticent to invest in hedge funds.

BRIDGING THE GAP

Hedge funds have often expressed frustration over the hesitancy of mainstream institutional investors to allocate capital to alternative investments. To them, it seems as if the institutional community is in a perpetual cycle of education and re-education. But institutions have not been idle as the hedge fund revolution progresses. Indeed, many institutional investors have expressed a desire to invest in hedge funds, but are simply unable to overcome key technical hurdles. As a result, both parties remain together, but alone.

It appears that at least two new developments, short extension and hedge fund replication, will finally bridge the gap between these two solitudes—but in an unexpected way. On the one hand, they essentially represent institutional investors cherry-picking what, to them, are the key features that fiduciaries require in order to implement hedging strategies. On the other hand, they are unique enough to constitute a new genre of hybrid strategies that hail from neither of the two pension and hedge fund solitudes. ■

THE ALPHA-BETA Divide

Hedge fund replication bridges the gap between hedge funds and plan sponsors.

BY ANDREW W. LO

As institutional investors take a more active interest in alternative investments, a significant gap has emerged between the culture and expectations of those investors and hedge fund managers. Pension plan sponsors typically require transparency from their managers and impose a number of restrictions in their investment mandates because of regulatory requirements such as ERISA rules; hedge fund managers rarely provide position-level transparency and bristle at any restrictions on their investment process because restrictions often hurt performance.

Plan sponsors require a certain degree of liquidity in their assets to meet their pension obligations, and also desire significant capacity because of their limited resources in managing large pools of assets; hedge-fund managers routinely impose lock-ups of one to three years, and the most successful managers have the least capacity to offer, in many cases returning investors' capital once they make their personal fortunes.

And as fiduciaries, plan sponsors are hypersensitive to the outsize fees that hedge funds charge, and are concerned about misaligned incentives induced by performance fees; hedge-fund managers argue that their fees are fair compensation for their unique investment acumen, and at least for now, the market seems to agree.

This cultural gap raises the natural question of whether it is possible to obtain hedge fund-like returns without investing in hedge funds. In short, can hedge fund

returns be "replicated" by passive investments in liquid exchange-traded instruments?

EMPIRICAL EVIDENCE

The short answer is "no." The empirical evidence suggests that only a portion of a typical hedge fund's average return can be attributed to the risk premia from market indexes such as the S&P 500, the Lehman Bond Index, and the U.S. Dollar Index. For example, using a linear five-factor model to construct replicating portfolios for individual hedge funds in the TASS database, Hasanhodzic and Lo (2007) find that the average of the annualized mean returns of replication strategies for Emerging Market funds is 5.17%, which is considerably lower than the 21.12% average annualized mean return for the funds themselves. This large gap is understandable, given the illiquidity premium that investors earn from emerging market securities. This illiquidity premium will clearly be missing from a replication portfolio consisting of liquid securities; hence we should expect a significant performance gap in this case.

However, for other categories, the average expected return of the replication strategies is only slightly lower than that of their fund counterparts. For example, the average mean return of Equity Market Neutral replication strategies is 4.43%, and the corresponding figure for the sample of funds is 5.71%. For the Long/Short Equity Hedge category, the average mean return for replication strategies and funds is 9.08% and 11.90%, respectively. And in the Fund of Funds category, the average mean

return for replication strategies and funds is 5.67% and 7.34%, respectively. Table 1 contains a more complete summary of the differences between replication strategies and hedge funds, which suggests that certain types of hedge-fund strategies may be more amenable to replication than others.

The risks of replication strategies may differ from those of hedge funds, but a comparison of the average Sharpe ratios of replication strategies and funds shows a similar pattern: for some categories, replication strategies significantly underperform their fund counterparts, and for other categories, the replication strategies capture a significant portion of the category's risk-adjusted return (see Figure 1).

WHY REPLICATION?

If the empirical evidence is that at best, replication strategies approximate the expected returns of certain types of hedge funds, and at worst, they yield only a small fraction of a hedge fund's expected return, why should any institutional investor be interested in replication? There are, in fact, at least five compelling reasons:

1. Capacity and Liquidity. Because replication strategies are based on liquid exchange-traded instruments such as futures contracts, they have significantly higher capacity than hedge funds and fund of funds. Moreover, by construction, they are also more liquid; hence, investors can change their exposures to these strategies quickly and opportunistically.

REPLICATION STRATEGY PERFORMANCE

Table 1

Performance comparison of 24-month rolling-window linear replication strategies of hedge funds in the TASS Live database and their corresponding funds, from February 1986 to September 2005.

Category Description	Sample Size	24-Month Rolling-Window Linear Replication									
		Annual Mean Return (%)		Annual SD (%)		Annual Sharpe		p1(%)		p-value (Q ₅) (%)	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
		Funds									
Convertible Arbitrage	82	4.04	7.83	5.76	4.55	2.31	8.96	42.3	16.2	12.4	19.4
Dedicated Short Bias	10	2.58	7.19	25.91	14.20	0.02	0.42	8.3	5.5	31.9	19.0
Dedicated Short Bias*	9	1.42	6.55	26.21	15.03	-0.04	0.39	7.4	4.9	35.2	16.8
Emerging Markets	102	21.12	13.86	19.95	14.06	1.74	2.57	16.0	14.3	39.2	28.1
Equity Market Neutral	83	5.71	4.14	6.60	5.91	1.44	1.68	5.3	24.0	40.2	33.9
Event Driven	169	11.65	10.45	7.62	7.68	2.01	1.43	17.2	17.8	31.1	29.8
Fixed Income Arbitrage	62	7.80	7.59	5.73	4.52	2.17	1.81	23.3	21.4	30.1	32.4
Global Macro	54	9.01	6.72	11.16	6.50	0.91	0.73	6.6	18.9	44.7	31.2
Long/Short Equity Hedge	520	11.90	8.93	13.90	8.69	1.04	0.77	9.8	16.7	42.0	28.5
Managed Futures	114	11.84	8.82	20.19	10.94	0.66	0.52	4.0	14.9	37.0	28.3
Multi-Strategy	59	8.97	6.13	7.65	10.10	1.86	1.25	18.3	22.5	29.1	28.6
Fund of Funds	355	7.34	3.95	5.68	4.29	1.67	0.97	22.6	16.3	24.0	26.5
All Except Fund of Funds	1255	11.15	9.86	12.38	10.12	1.38	2.64	13.5	19.8	36.6	29.8
		Linear Replication Strategies									
Convertible Arbitrage	82	2.78	4.95	6.20	6.57	0.71	0.77	6.4	12.7	43.8	29.1
Dedicated Short Bias	10	6.83	16.18	29.31	15.61	0.09	0.45	0.4	8.8	36.7	28.7
Dedicated Short Bias*	9	9.08	15.41	30.00	16.39	0.17	0.40	-0.7	8.5	36.8	30.4
Emerging Markets	102	5.17	14.70	25.04	17.94	0.47	0.66	7.7	12.4	42.5	27.3
Equity Market Neutral	83	4.43	4.90	7.91	6.49	0.64	0.68	4.2	12.7	47.8	27.0
Event Driven	169	6.96	8.33	7.79	7.10	1.05	0.56	3.0	13.3	39.6	27.3
Fixed Income Arbitrage	62	4.47	4.63	6.85	5.17	0.84	0.71	4.3	9.9	40.8	30.0
Global Macro	54	12.97	8.90	12.48	7.38	1.08	0.59	4.1	11.1	45.3	28.2
Long/Short Equity Hedge	520	9.08	11.03	15.83	10.64	0.76	0.68	0.3	15.6	42.5	29.1
Managed Futures	114	19.24	13.32	22.96	13.71	0.91	0.57	5.5	10.9	46.5	27.7
Multi-Strategy	59	5.33	7.52	9.16	9.59	0.71	0.60	0.8	13.0	35.9	28.2
Fund of Funds	355	5.67	4.57	6.22	5.40	1.11	0.54	0.0	13.0	39.8	28.5
All Except Fund of Funds	1255	8.42	11.06	14.20	12.14	0.79	0.67	2.8	13.9	42.6	28.4

*Fund 33735 has been dropped from this sample of the Dedicated Short Bias funds.

Source: Hasanhodzic and Lo (2007).

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2. Capital Efficiency. The inherent leverage built into most futures contracts implies that only small amounts of capital are required to implement a typical replication strategy, much like an S&P 500 futures overlay. For example, a multi-strategy replication product with an annualized return volatility of 5% for a \$100MM notional account may require as little as \$5MM to \$10MM of cash to implement.

3. Transparency and Customizability. Replication strategies are easily implemented in separately managed accounts, and are therefore completely transparent and readily customizable. For example, if an investor seeks to replicate the class of Multi-Strategy funds in the TASS data but prefers as little equity exposure as possible, replication strategies for funds in this category can be constructed.

4. Simplicity and Cost. The simplicity of replication strategies implies that active-management and incentive fees are unnecessary and inappropriate. A plausible upper bound for the management fees of such strategies is 100 basis points, and over time, this should decline considerably as more asset managers and investors develop the expertise for implementing such products and services.

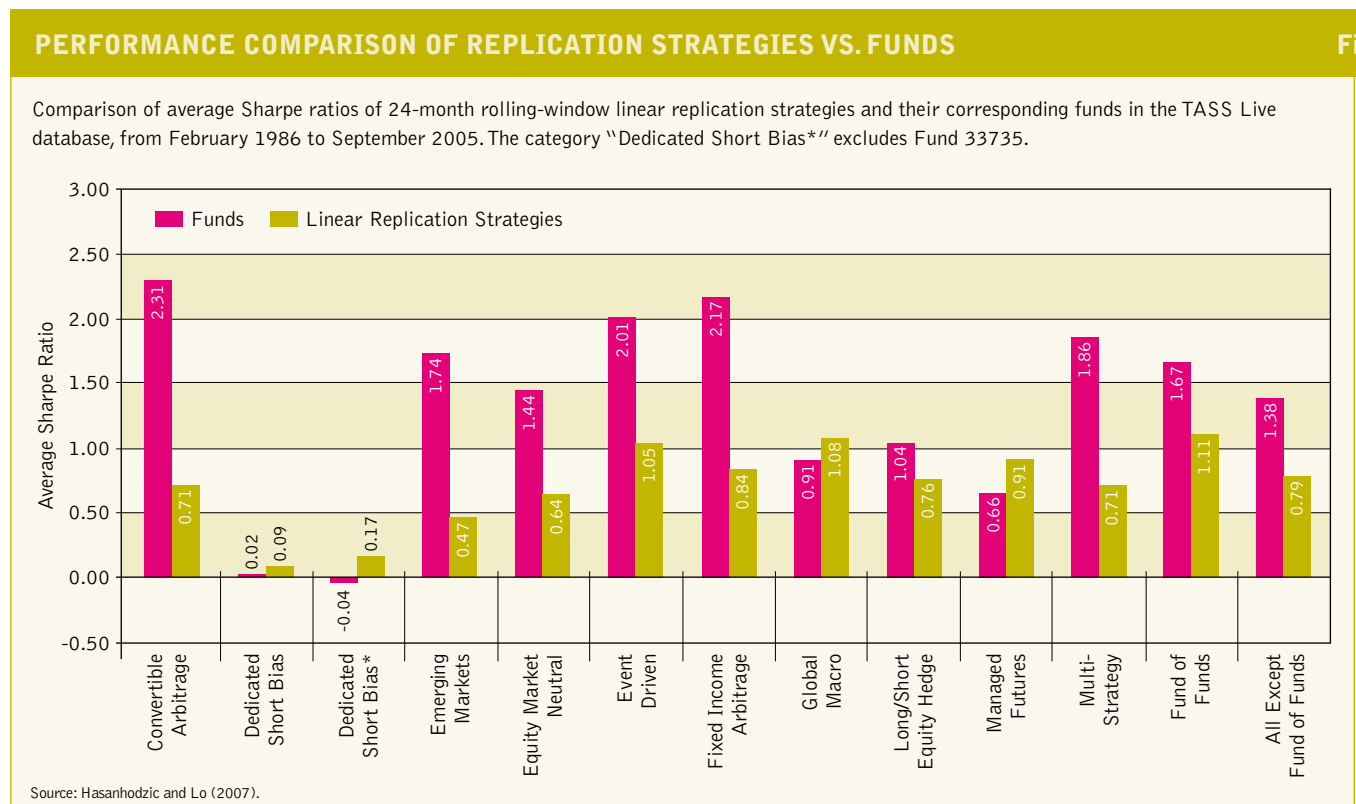
5. Diversification. Perhaps the most compelling reason for including replication strategies in an investor’s portfolio is the diversification benefits they provide. The

fact that replication strategies include both long and short positions provides significant hedging potential, and the use of non-traditional factor exposures such as currencies, commodities, and volatility yields even more diversification benefits. Hasanhodzic and Lo (2007) provide a forceful illustration of these potential benefits by comparing the correlations of an equal-weighted portfolio of replication strategies to standard market indexes with those of an equal-weighted portfolio of hedge funds. The results in Table 2 show remarkably similar correlation patterns for the two portfolios, implying that a significant portion of the diversification benefits of hedge funds can also be obtained through replication strategies.

These reasons suggest that despite their lower average returns, replication strategies may have enough advantages over hedge funds to earn them a place in every institutional investor’s portfolio.

CONCLUSION

A portion of every hedge fund’s expected return is risk premia—compensation to investors for bearing certain risks. An important benefit of hedge-fund investments is the non-traditional types of risks they encompass, such as currency risk, commodities risk, and volatility risk. Most investors would do well to take on small amounts of such risks if they are not already doing so, because these factors



usually yield attractive risk premia, and many of these risks are not highly correlated with those of traditional long-only investments. Although talented hedge-fund managers are always likely to outperform passive buy-and-hold portfolios, the challenges of manager selection and monitoring, the lack of transparency, the limited capacity of such managers, and the high fees may tip the scales for the institutional investor in favour of replication strategies. In other words, portable beta may be an alternative to portable alpha.

As encouraging as the empirical results may be, a number of qualifications must be kept in mind. First, despite the promising properties of linear replication strategies in several style categories, it is well known that certain hedge-fund strategies contain inherent nonlinearities that cannot be captured by linear models (see, for example, the case of Capital Multiplication Partners in Hasanhodzic and Lo, 2007). Therefore, more sophisticated nonlinear methods—including nonlinear regression, regime-switching processes, and stochastic volatility models—may yield significant benefits in terms of performance and goodness-of-fit. However, there is an important trade-off between the goodness-of-fit and complexity of the replication process, and this trade-off varies from one investor to the next. As more sophisticated replication methods are used, the resulting replication strategy becomes less passive, requiring more trading and risk-management expertise, and eventually becoming as complex as the hedge-fund strategy itself.

Third, the replicating factors considered in Hasanhodzic and Lo (2007) are only a small subset of the many liquid instruments that are available to the institutional investor. By expanding the universe of factors to include options and other derivative securities, and customizing the set of factors to each hedge-fund category (and perhaps to each fund), it should be possible to achieve additional improvements in performance, including the ability to capture tail risk and other nonlinearities in a buy-and-hold portfolio. In fact, Haugh and Lo (2001) show that a judiciously constructed buy-and-hold portfolio of simple put-and-call options can yield an excellent approximation to certain dynamic trading strategies, and this approach can also be used to create better replication strategies.

Finally, a number of engineering issues remain to be resolved before hedge fund replication strategies become a reality, e.g., the estimation methods for computing replicating portfolio weights, the optimal rebalancing interval, the types of strategies to be replicated, and the best method for combining replication strategies into

HEDGE FUNDS VS. REPLICATION

Table 2

Correlations with major market and hedge-fund indexes of equal-weighted portfolios of hedge funds and corresponding linear five-factor 24-month rolling-window replication strategies using the TASS Live database, from February 1986 to September 2005.

Index	Funds	Replication Strategies
S&P 500 Index	41	52
MSCI World Index	28	37
Russell 1000 Index	41	52
Russell 2000 Index	42	37
NASDAQ 100 Stock Index	35	41
BBA LIBOR USD 3-Month	-11	-13
DJ Lehman Bond Comp GLBL	6	24
US Treasury N/B	-8	-17
Gold (Spot \$/oz)	3	3
Oil (Generic 1st 'CL' Future)	0	15
U.S. Dollar Spot Index	13	4
Five Risk Factors:		
CREDIT	13	16
USD	-4	-9
BOND	14	30
SP500	41	52
DVIX	-20	-38
CMDTY	8	21
CS/Tremont Hedge-Fund Indexes:		
All Funds	83	56
Convertible Arbitrage	44	31
Dedicated Short Bias	-67	-66
Emerging Markets	69	50
Equity Market Neutral	48	43
Event Driven	75	61
Fixed Income Arbitrage	34	23
Global Macro	58	35
Long/Short Equity Hedge	80	59
Managed Futures	18	-9
Multi-Strategy	21	3

Source: Hasanhodzic and Lo (2007).

a single portfolio. However, these challenges are all quite manageable given the current array of financial technologies at our disposal, so investors have reason to be optimistic about the practicality of replication strategies in the near term. ■

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COMING OF Age

The Canadian Hedge Fund Experience.

BY LES MARTON AND NICOLA RAY SMITH

Canada is forging a new reputation for itself on the international investment scene—a growing hedge fund presence. Global interest in hedge funds has been building for a number of years and, as a leading producer of many of the world’s most critical commodities, it is no surprise that global investors are looking to benefit from Canadian hedge fund managers’ home advantage in resources. However, there is more to the growth than just resources. Canada boasts a rapidly developing pool of investment talent, well-developed investment infrastructure, a stable regulatory environment and a remarkably less crowded investment community. To date, this growth has been driven more by Canadian high net worth investors and global institutions. This article will provide a snapshot of the Canadian hedge fund landscape using current data.

According to a report published by *Absolute Return* in 1999, Canada was home to less than 50 single-manager hedge funds and only a handful of fund of hedge funds, comprising a total of approximately \$2.5 billion. Today, analysts generally agree that the Canadian industry is now managing close to \$30 billion across over 200 funds. This 12-fold growth rate over the period is significant relative to the fourfold rate in total assets under management for the global hedge fund industry (bearing in mind of course that the global industry is now thought to be more than US\$2 trillion across over 9,000 funds).

Comprehensive data across the entire Canadian hedge fund industry is not publicly available and is difficult

to source. As a proxy, it is helpful to examine broad characteristics of the Scotia Capital Canadian Hedge Fund Performance Index. Although it does not include funds with less than \$15 million in capital or a track record less than one year, the data is a useful view of what the more established section of the industry looks like. The size of the Canadian manager hedge fund industry (excluding fund of funds) is currently estimated at \$9 billion, and roughly 70% of this capital is represented in the index (44 funds across 10 different hedge fund strategies). Tables 1 and 2 provide summary information on constituents reporting to the index and similar statistics for the global industry.

Notably, both the comparative size and track record lengths of Canadian versus global hedge fund managers on a proportionate basis are not that different. However, bear in mind that the differential in the absolute number of larger, more seasoned funds is dramatic when comparing the global hedge fund industry with its more modest Canadian counterpart. In addition, one can observe the significantly more concentrated strategies pursued within the Canadian hedge fund manager universe.

INVESTOR BASE

According to a 2006 study published in *Global Custodian*, high net worth individuals/family offices and fund managers/employees are by far the predominant sources of capital for Canadian hedge funds, representing nearly 70% of hedge fund net assets.¹ The global industry, at approximately 41%, is much less dependent on these two sources of capital. Within the global investor

community, institutional allocators, which include fund of funds, pensions, banks and endowments/foundations, are generally more seasoned hedge fund investors and comprise more than 52% of the overall investor pool. It is interesting to note that even relatively small percentage increases in allocation ratios to hedge funds within the global institutional investment community represent enormous growth opportunities for the hedge fund industry overall.²

Institutions currently are thought to comprise a much smaller proportion (26%) of the Canadian hedge fund pie. Importantly, very little of this institutional interest appears to be driven by Canadian institutional investors. Certainly the relative size of the much smaller Canadian endowment/foundation segment, which has long been a major investor in hedge funds and other alternative strategies, is a factor in this imbalance. However, other than a few significant Canadian-based fund of funds and a handful of large sophisticated pension plans, the Canadian institutional investment community as a whole has not yet embraced the hedge fund concept. The reasons for this are not clear, but some well-publicized hedge fund-related scandals within the Canadian fund of funds industry have resulted in understandable career risk management stances on the part of some institutional fiduciaries. For those institutions that are investing in the space, the allure of global managers often tends to overshadow the efforts of homegrown hedge fund players. Instead, growing interest in Canadian-based hedge fund managers is expected to be driven more by international institutional allocators.

The reason for this heightened global interest appears to be twofold. Firstly, there is the focused beta argument. The economic prosperity that Canada has seen in recent years has resulted in the strengthening of the Canadian dollar and growth in the resource and energy sectors. Consequently, Canadian hedge funds have launched a series of niche funds in these sectors which have garnered significant interest from global investors. Many of them view Canadian funds as an opportunity to gain hedged exposure to a resource-rich market through talented and experienced local managers on their home turf. When viewed as a portion of a larger global portfolio, such focused beta exposure offers compelling return and diversification potential. We shall see whether the recent Canadian market downturn dampen some of this interest.

The second factor behind the increased global interest

in Canadian hedge fund managers is that sophisticated global investors are constantly on the hunt for less-covered, more untapped opportunities. Canadian markets are much less crowded than those in the U.S. and Europe, offering what many consider to be unique opportunities within a stable and mature market that still has enough inefficiency to generate strong returns. Although many managers are following a focused hedged equity strategy in their own backyard, there are many talented Canadian managers with wider product and market mandates who offer funds with compelling risk-return propositions as well.

THE RETURNS

The Canadian hedge fund industry has posted respectable returns over the last few years. The high correlation between index returns and the S&P TSX highlights the predominant long-biased equity theme that has characterized much of the single-manager hedge fund industry in Canada. Notably, 60% of fund assets reporting to Scotia Capital’s index report a hedged or long-short equity strategy. Given the bullish sentiment that has characterized Canadian equity markets for the last few years, it is not surprising that Canadian managers have been able to take advantage of this. We shall see whether the recent Canadian market downturn

HEDGE FUND SIZE Table 1

	Canada	Global*
\$10-24M	4.76%**	18.65%
\$25-99M	19.05%	34.40%
\$100-199M	47.62%	14.85%
\$200-499M	26.19%	14.47%
\$500-999M	2.38%	7.78%
\$1.0B+	0.00%	9.85%

* * Global data source: Hedge Fund Research.

** Criteria for inclusion in the Scotia Capital Canadian Hedge Fund Performance Index include AUM greater than C\$15 million, as such a significant component of this demographic is not included in Scotia Capital’s data.

LENGTH OF TRACK RECORD Table 2

	Canada	Global*
< 1 year	Not available**	7.54%
1 to < 2 yrs	11.90%	14.47%
2 to < 3 yrs	14.29%	15.98%
3 to < 5 yrs	30.95%	24.31%
5 to < 7 yrs	16.67%	13.95%
> 7 years	26.19%	23.75%

* Global data source: Hedge Fund Research.

** Criteria for inclusion in the Scotia Capital Canadian Hedge Fund Performance Index include a track

dampens some of this interest.

In comparing Canadian returns to global returns, the Canadian hedge fund industry has shown great strength over the last few years. We compared the Scotia Capital Canadian Hedge Fund Performance Index to other global indices. Notably, the increased level of return has been achieved with a higher amount of volatility relative to global counterparts, as seen in Table 3. The higher volatility of Canadian managers has been difficult to reconcile for more conservative investors, particularly those considering initial forays into the hedge fund industry. With experienced hedge fund investors, however, the focused beta offered by Canadian managers has garnered significant interest, as discussed above.

LOOKING AHEAD

While the Canadian market will always represent a small component of a much larger global industry, it will likely continue to remain a compelling niche opportunity for global investors. Increased attention from sophisticated hedge fund investors, both global and domestic, combined with the ongoing rise of the global hedge fund industry will no doubt move more Canadian managers to become more institutionalized and thus continue to attract further capital. At the same time, although Canada already has one of the most highly regulated hedge fund environments globally, reforms set to take place by the end of 2007 could increase investor confidence without introducing a prohibitive effect on the ability of hedge fund managers to generate returns.

Increased asset flows into Canadian hedge funds will of course place strain on Canadian managers' ability to continue to outperform in some of their current niches. We will more than likely see an increase in market efficiency as more players join the quest for returns, removing some existing arbitrage opportunities and quickening market response. Sourcing the managers best able to rise to the challenge of such competition in a maturing environment will be increasingly important for investors.

In Canada, some trail-blazing hedge fund investors are taking advantage of the attractive returns and diversification that Canadian hedge fund exposure can add to a global hedge fund portfolio. Many more are taking a conservative wait-and-see approach. Some

“When the Canadian equity market inevitably turns, as could be the case right now, Canadian managers will be given the opportunity to deliver on the traditional hedge fund promise.”

RISK AND RETURNS OF SCOTIA CAPITAL CANADIAN HEDGE FUND PERFORMANCE INDEX VS. INDICES DEC. 2004-MAY 2007

Table 3

	Annualized Compound ROI	Annualized Volatility
SC CDN HF Asset Weighted	19.10%	9.51%
SC CDN HF Equal Weighted	16.57%	8.65%
Barclays Hedge Fund Index	12.64%	4.36%
CS/Tremont Hedge Fund Index	12.51%	3.93%
Hennessee Hedge Fund	11.73%	4.16%
HFRI Fund Weighted Composite Index	12.45%	4.29%
MSCI Hedge Fund Composite Index - Asset Weighted	9.95%	3.90%
MSCI Hedge Fund Composite Index - Equal Weighted	10.01%	4.15%

analysts feel that the bull run enjoyed by resource-intensive Canadian resource markets may be nearing its cyclical peak and this may well test investors seeking only the focused beta returns offered by some Canadian hedge fund managers. In the end, the test for Canadian hedge fund managers may well be their ongoing ability to find unique and compelling trading ideas, irrespective of market direction. ■

ENDNOTES

1. *Global Custodian* - Winter 2006.
2. Recent studies estimate that global pension funds currently manage assets in the tens of trillions and could by 2008 account for half of all hedge fund inflows. The SEC estimates that only \$72 billion in pension fund assets are invested in hedge funds today. However, concerns over capacity constraints within some niche-based hedge fund strategies may limit overall industry growth, irrespective of growing institutional demand.