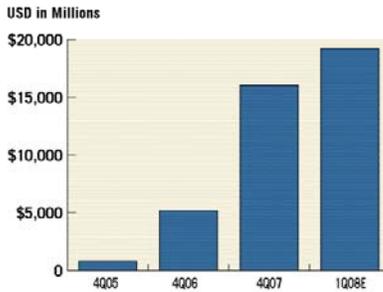


rafi® Fundamentals

RAFI® Managed Assets*



*Includes RAFI assets managed or sub-advised by Research Affiliates® or RAFI licensees.

LIQUID ALTERNATIVES: MORE THAN HEDGE FUNDS

Hedge funds have gone mainstream. Once the exclusive enclave of the mega wealthy and the most sophisticated endowments, these vehicles are now widely used by institutional pensions, mid-sized foundations, and registered investment advisors. The promise of absolute returns, regardless of stock market conditions, has unquestionably placed hedge fund allocations at the top of many investors' "to-do" lists. Hedge funds, however, are expensive, illiquid because of lock-up periods, and opaque because they do not reveal their composition or benchmarks. In this issue, we report that investors can earn strong risk-adjusted results similar to those of hedge funds by widening the opportunity set beyond conventional stocks and bonds to include liquid alternative asset classes.

Over the past decade, hedge fund assets have grown dramatically. Industry consultant Hedge Fund Research (HFR) estimates that 10,000 hedge funds and hedge funds of funds (HFOFs) managed \$1.8 trillion at the end of 2007.¹ The number of funds in 2007 was roughly three times what it was at the end of 1999, and the amount of assets, four times what was reported for 1999. This impressive growth was fueled largely by institutional investor demand for diversification and absolute returns. Free from the prospectuses, guidelines, and regulations that mutual funds and traditional managers must contend with, hedge funds can use derivatives, lever the portfolio, and "short" securities in virtually any market. With these tools, they can provide absolute returns—for a price.

Hedge funds advertise that the steady and uncorrelated returns they can provide are attributable to alpha (or investment manager skill). On that basis, they collect significant fees from their investors. A typical fee is 2% of assets plus 20% of the fund's net profits. If the investor uses a HFOF to diversify exposure among funds or fund styles (a seemingly prudent course in light of the highly publicized "blow-ups" that have occurred in the hedge fund space), the investor will pay an additional fee—often 1.5%

of assets and 10% of net profits. Cumulatively, these fees take a significant bite out of what the fund passes on to the investor. As **Table 1** shows, we estimate that the underlying hedge funds in a typical HFOF would have to return 15% to provide a net 8.0% to the end HFOF investor—that's a cumulative fee drag of 7.0%! Yikes!

Table 1. Hedge Fund and HFOF

Sample Hedge Fund of Fund (HFOF) Annualized Fees		
Individual Hedge Funds		
Gross Return		15.00%
Asset-Based Fee (2%)		2.00%
Carry (20%)		2.60%
Net Return Hedge Fund Level		10.40%
Fund of Funds		
Gross Return		10.40%
Asset-Based Fee (1.5%)		1.50%
Carry (10%)		0.89%
Net Return Fund of Fund		8.01%
Total Fees (HF and HFOF)		6.99%

Source: Based on a similar analysis by West in "Cautionary Tails from the Great Hedge Fund Rush," Wurts & Associates Topic of Interest, October 2005, <http://wurts.com/knowledge/uploads/cautionarytails.pdf>.

Suppose we approach absolute returns from a different perspective. Let's pretend hedge funds, their leverage, and their shorting don't exist. How would an investor achieve absolute returns? The term "absolute return" implies no losses, so we would naturally wish to reduce our risk—or, in other words, not put all our eggs in the same basket. Harry Markowitz quantified how using many baskets (in this case, asset classes) lowers price volatility and, consequently, the likelihood of loss for an investor. To ensure that the investor achieves the maximum benefit from using the "tool kit" of many asset classes, each asset class should have some unique drivers of performance. For example, commodity futures returns may rely on global supply and demand of raw goods while U.S. Treasury Inflation Protected Securities (TIPS) can depend on inflation expectations and the level of real interest rates.

Research Affiliates is an advocate of this "expanded tool kit" approach. Furthermore, in our



155 n. lake avenue, suite 900
pasadena, ca 91101 usa
phone +1 (626) 584-2100
fax +1 (626) 584-2111
info@rallc.com
www.rallc.com

MEDIA CONTACT

Tucker Hewes
Hewes Communications
+1 (212) 207-9451
tucker@hewescomm.com

¹"Hedge funds end 2007 in positive ground—HFR," Reuters UK, January 8, 2008, <http://uk.reuters.com/article/marketsNewsUS/idUKN0851883720080108>.

view, the unique categories don't have to be "merger" or "convertible arbitrage." They can be any of a wide range of alternative investment categories. TIPS, emerging market bonds, unhedged nondomestic bonds, commodity futures, REITs, high-yield bonds, international stocks—all fall outside the traditional limited diversification of 60% domestic stocks and 40% investment-grade bonds. Not only do untraditional asset classes have unique performance aspects, but they also have widely published indexes that reflect their results. Most also, therefore, have index funds or exchange traded funds that track the asset's performance (and, in many cases, have reasonably priced actively managed mutual funds with strong track records).

We combined these alternative asset class indexes equally into an index that we call the "Diversified Asset Portfolio,"² and we compare its performance with that of a commonly used HFOF index³ and that of the traditional 60% equity/40% bond mix in **Table 2**.

As you can see, the Diversified Asset Portfolio outstripped all the other combinations. It achieved an annualized 8.0% return with a modest 5.1% standard deviation, resulting in an attractive Sharpe ratio of 0.86 over the 10-plus year study

horizon.⁴ Meanwhile, the HFRI FOF Composite Index produced only 6.4% annually and with a higher standard deviation to post a Sharpe ratio of 0.38. In other words, the Diversified Asset Portfolio posted twice the risk-adjusted return of hedge fund of funds.

Table 2. Performance Comparison, 4Q1997–1Q2008

Portfolio	Annualized Return	Standard Deviation	Sharpe Ratio	Correlation Coefficient to S&P
Diversified Asset Portfolio	8.03	5.13	0.86	0.67
HFRI FOF Composite	6.42	7.23	0.38	0.61
60% S&P 500/40% LB Aggregate	5.73	9.43	0.22	0.99
S&P 500	4.91	16.79	0.08	1.00

²Returns are net of all fees.

Source: Research Affiliates based on data from eVestment Alliance.

When we limited the comparison to bad times for investors, so we could focus on the absolute return theme, we found that the worst calendar year for the Diversified Asset Portfolio (2001) provided a return of -1.2% versus a return for the worst year for hedge funds of funds (1998) of -5.1%.

Note, however, that either the Diversified Asset Portfolio or the HFRI FOF Composite Index gave investors higher returns and less risk than the conventional 60%/40% mix.

To be sure, a dedicated hedge fund allocation certainly has a place in many portfolios. The sizable fee drag and mediocre results of hedge funds, however, suggest that most investors will be better served by broadening their exposure to liquid asset classes before wandering down the hedge fund path.

²The Diversified Asset Portfolio is an equally weighted portfolio (10% each) of commodities (represented by the Dow Jones AIG Commodity Index), REITs (represented by the Wilshire REIT Index), emerging market bonds (represented by the JP Morgan Emerging Markets Bond Index Global), TIPS (represented by the Lehman U.S. TIPS Index), high-yield bonds (represented by the Merrill Lynch High Yield Master II Index), long-term U.S. government bonds (represented by the Lehman Brothers Long-Term Government Index), unhedged non-U.S. bonds (represented by the JP Morgan GBI ex-US Unhedged Index), international stocks (represented by the MSCI EAFE Index), and U.S. stocks (represented by the S&P 500 Stock Index). U.S. investment-grade bonds are represented by the Lehman (LB) Aggregate Bond Index.

³We are using the HFRI fund-of-funds benchmark because it reflects the results experienced with live money better than the HFRI single hedge fund indices, which are subject to selection, survivorship, and backfill biases. For more discussion of this issue, see Ennis and Sebastian ("A Critical Look at the Case for Hedge Funds," *Journal of Portfolio Management*, Summer 2003) and Fung and Hsieh ("Hedge-Fund Benchmarks: Information Content and Biases," *Financial Analysts Journal*, January/February 2002).

⁴The time horizon covers the common period in which the selected indices reported performance data. The governing class for the start date is the Lehman U.S. TIPS Index, which started in 1997 with the launch of TIPS by the U.S. Treasury.

Performance Update*

TOTAL RETURN AS OF 5/31/08	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
FTSE RAFI® 1000 Index ^a	FR10XTR	-5.32%	-11.00%	7.49%	11.32%	7.67%	14.01%
S&P 500 ^b	SPTR	-3.80%	-6.70%	7.57%	9.77%	4.21%	14.74%
Russell 1000 ^c	RU10INTR	-3.15%	-6.25%	8.03%	10.40%	4.66%	14.90%
FTSE RAFI® US 1500 Index ^d	FR15USTR	-1.30%	-10.73%	9.55%	15.87%	11.27%	18.09%
Russell 2000 ^e	RU20INTR	-1.81%	-10.53%	7.95%	12.47%	6.40%	19.85%
FTSE RAFI® Developed ex US 1000 Index ^f	FRX1XTR	-3.44%	-1.49%	18.81%	21.80%	11.39%	14.76%
MSCI EAFE ^g	GDDUEAFE	-2.64%	-2.02%	17.13%	19.76%	7.22%	14.78%
FTSE All World Series Developed ex US ^h	FTS5DXUS	-1.92%	0.15%	18.48%	20.64%	8.13%	14.92%

Definition of Indices: (A) The FTSE RAFI® 1000 comprises the 1000 largest companies selected and weighted using our Fundamental Index methodology; (B) The S&P 500 Index is an unmanaged market index that focuses on the large-cap segment of the U.S. equities market; (C) The Russell 1000 Index is a market-capitalization-weighted benchmark index made up of the 1,000 highest-ranking U.S. stocks in the Russell 3000; (D) The FTSE RAFI® 1500 comprises the 1001st to 1500th largest companies selected and weighted using our Fundamental Index methodology; (E) The Russell 2000 is a market-capitalization weighted benchmark index made up of the 2,000 smallest U.S. companies in the Russell 3000; (F) The FTSE RAFI® Developed ex US 1000 Index comprises the largest 1000 non US-listed companies by fundamental value, selected from the constituents of the FTSE Developed ex US Index; (G) MSCI EAFE (Morgan Stanley Capital International Europe, Australasia, Far East) is an unmanaged index of issuers in countries of Europe, Australia, and the Far East represented in U.S. dollars; and (H) The FTSE All World ex-US Index comprises Large and Mid-Cap stocks providing coverage of Developed and Emerging Markets excluding the United States. It is not possible to invest directly in any of the indexes above.

*In November 2008 performance returns for all prior periods were restated to reflect a change in calculation methodology from using a 365 day period to annualize returns to a return calculation based on using monthly returns as of the last business day of each month to create a geometric return for each period.

Source: Based on price data from Bloomberg.

©2008 Research Affiliates, LLC. The material contained in this document is for general information purposes only. It relates only to a hypothetical model of past performance of the Fundamental Index® strategy itself, and not to any asset management products based on this index. No allowance has been made for trading costs or management fees which would reduce investment performance. Actual results may differ. This material is not intended as an offer or a solicitation for the purchase and/or sale of any security or financial instrument, nor is it advice or a recommendation to enter into any transaction. This material is based on information that is considered to be reliable, but Research Affiliates® and its related entities (collectively RA) make this information available on an "as is" basis and make no warranties, express or implied regarding the accuracy of the information contained herein, for any particular purpose. RA is not responsible for any errors or omissions or for results obtained from the use of this information. Nothing contained in this material is intended to constitute legal, tax, securities, financial or investment advice, nor an opinion regarding the appropriateness of any investment. The general information contained in this material should not be acted upon without obtaining specific legal, tax or investment advice from a licensed professional. Indexes are not managed investment products, and, as such cannot be invested in directly. Returns represent back-tested performance based on rules used in the creation of the index, are not a guarantee of future performance and are not indicative of any specific investment. Research Affiliates, LLC, is an investment adviser registered under the Investment Advisors Act of 1940 with the U.S. Securities and Exchange Commission (SEC).

Russell Investment Group is the source and owner of the Russell Index data contained or reflected in this material and all trademarks and copyrights related thereto. The presentation may contain confidential information and unauthorized use, disclosure, copying, dissemination, or redistribution is strictly prohibited. This is a presentation of Research Affiliates, LLC. Russell Investment Group is not responsible for the formatting or configuration of this material or for any inaccuracy in Research Affiliates' presentation thereof.

The trade names Fundamental Index®, RAFI®, the RAFI logo, and the Research Affiliates® corporate name and logo are the exclusive intellectual property of Research Affiliates, LLC. Any use of these trade names and logos without the prior written permission of Research Affiliates, LLC, is expressly prohibited. Research Affiliates, LLC, reserves the right to take any and all necessary action to preserve all of its rights, title and interest in and to these terms and logos. Fundamental Index, the non-capitalization method for creating and weighting of an index of securities, is the patent-pending proprietary intellectual property of Research Affiliates, LLC (Patent Pending Publication Numbers: US-2005-0171884-A1, US-2006-0015433-A1, US-2006-0149645-A1, US-2007-0055598-A1, WO 2005/076812, WO 2007/078399 A2, EPN 1733352, and HK1099110).

