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Portable Alpha—Taking Returns With You

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Introduction

Portable Alpha—it sounds like the latest competitor for Apple Computer's iPod digital music player or Research in Motion's BlackBerry handheld communications device. But far from being another gizmo for today's executive road warrior to carry around, portable alpha is an emerging strategy for institutional (and other sophisticated and generally tax-exempt) investors to capture additional return.

The search for return is on as investors face the prospect of more muted market returns after the outsized gains in the '90s. Pension funds in particular face a daunting task making sure future liabilities can be covered by plan assets. This has spawned considerable interest in hedge funds and alternative strategies and asset classes.

Below we take a look at one such strategy: portable alpha. (Note: this Staff Letter is based on a longer paper by the author that appeared in the Spring 2004 edition of the *Journal of Portfolio Management*, which we have abridged and adapted with permission from Institutional Investor, Inc.)

What Is Portable Alpha?

Classical finance theory uses "alpha" and "beta" to describe the two basic components of return from an investment. Specifically, beta refers to the part of return tied to the performance of the overall asset class or "market." A volatile stock, for example, may have a beta of 2.0, which means it moves at twice the rate of the market, both up and down.

Alpha refers to the part of the return that is unique to that stock. By selecting a particular stock and its unique alpha, a manager hopes to outperform the market overall. On a portfolio basis, alpha is the measure of a manager's collective outperformance, adjusted for the risk taken to achieve that result.

As used in portfolio strategy discussions, beta and alpha have become shorthand for expected return from an asset class and manager skill, respectively. "Portable" alpha refers to the process of separating the alpha from the beta (and its related risk).

With investors likely facing a period of lower returns across more traditional asset classes, the ability to "port" alpha or outperformance from other areas becomes important. It is not uncommon for institutional investors to passively index some of their allocations in traditional assets, which can be a cost effective and low-risk way to capture a given market's return. However, the betas, or expected returns from these asset classes, aren't going to be enough for some investors to achieve their required returns.

For example, many pension funds now face funding shortfalls versus expected liabilities (pensions are collectively underfunded to the tune of $450 billion) and will need higher returns to make up the gap or will have to pony up more contributions. These investors need alpha to reach their targets and many alpha opportunities lie outside what asset classes the pensions now do or can hold.

Making Returns "To Go"—Specific Strategies

A portable alpha strategy can be implemented many different ways. As an "overlay" strategy, a portfolio might be created by using futures to generate a particular investment exposure. This requires little actual cash—$68,500 of margin debt buys you $1,000,000 of S&P 500 index futures—and thus can be layered

onto existing assets. Overlay strategies are also referred to as “leveraged” for this reason.

Alternatively, investors can earmark a fixed percentage of assets to portable alpha as part of their strategic asset allocation, just as they do to large cap, small cap, real estate, etc. Portable alpha can also be implemented through a more general capital commitment to portable alpha strategies, using futures or swaps to maintain the existing overall asset allocation (sometimes referred to as “equitization”). The goal is to isolate alpha, and doing so, whether it is ported or not, requires some mechanism to render the portfolio beta- or market-neutral.

A money manager might do this by purchasing actual securities (rather than futures) and using derivatives to remove market exposure. For example: a manager of small cap equities who generates 4% alpha each year can hedge the small cap market exposure, or beta, by selling Russell 2000 Index futures against the portfolio. This results in a pure alpha return that can be rolled up into the overall fund.

Portable alpha enables investors to budget risk and enhance alpha (potentially) without dramatically changing asset allocation. Take, for example, a pension fund that holds only bonds but wants to tap the potential returns of the small cap manager above. Assume the plan wishes to maintain its exposure to the bond market because the bond assets roughly match its expected liabilities.

By substituting futures for bonds, the fund could keep the same bond exposure, but free up additional cash to invest with the alpha-generating money manager. Then, by also shorting the Russell 2000 index, it could hedge away any exposure to the small cap market. Thus capital formerly in bonds would be “ported” into another asset class and pure alpha of the small cap manager would be ported back to the “bond” portfolio.

How To Do It

Implementing portable alpha requires careful consideration. In theory, most investment strategies can be converted into portable alpha, provided there is alpha to begin with. If managers cannot *consistently* outperform an asset class as a whole, then there is nothing worth porting. The table below shows how more traditional, long-only strategies have fared. Listed is the median alpha (defined as excess return of the manager over beta times benchmark) for US money managers in their respective strategies:

Median Manager Alpha & Active Risk
10 Years ending December 2004

	Alpha (%)	Active Risk (Standard Dev.)
Large Cap Core	1.3	4.8
Large Cap Growth	3.2	7.8
Large Cap Value	0.6	5.5
Small Cap Core	4.8	8.3
Small Cap Value	2.4	7.1
Small Cap Growth	6.1	11.1
Core Fixed Income	0.3	0.9
High Yield	3.2	3.7
Emerging Market	3.6	6.9
Non-U.S. Equity	2.7	6.4
Non-U.S. Fixed Income	1.2	2.2
Real Estate	5.0	3.3

Source: Mercer

In the past 10 years, the median U.S. large cap managers generated 1.3% alpha. This compares to a 4.8% median alpha for small cap managers. Given this gap, and particularly small cap and real estate results, it is easy to see the interest in porting alpha. However, those alphas can and do change over time. Moreover, those alphas are just medians for the universe of managers and were not necessarily generated by the same managers year-in, year-out.

Another major consideration is the difficulty and cost of porting the alpha. A hedging vehicle is required in order to eliminate market exposure. That means there must be an available index future, swap contract, or Exchange Traded Fund (ETF) to be used for hedging. Some investment strategies, such as real estate or private equity, do not lend themselves to constructing portable alpha due to the lack of a hedging instrument.

Even if there are hedging vehicles available, they may be costly due to the illiquidity of the underlying asset class. Trading costs to execute portable strategies reduce the net alpha. Less efficient, illiquid markets by their nature usually offer more opportunity to outperform (generate higher alpha) but carry correspondingly higher execution costs. The potential alpha/cost tradeoff is key.

Sources Of Portable Alpha

Institutional investors tend to invest in a portable alpha strategy through a hedge fund or fund of funds. Hedge funds typically have had more experience neutralizing market risk and using derivative vehicles to enhance returns generally.

Among the various strategies, market neutral and long-short strategies have been the primary sources for portable alpha due to their low correlations with major market indices. However, so-called market neutral strategies are not always truly beta neutral. According to Factset figures, over the past decade the CSFB Index of Market Neutral hedge funds shows positive correlation of 0.39 (out of 1.0) with the S&P 500 index.

Not every alpha-generating hedge fund is appropriate for porting alpha. Market risk or systematic risk can be difficult to isolate and to remove while preserving market neutrality. Alpha also can be difficult to obtain without the benefit of hedging market risk. On balance, a carefully chosen hedge fund or portfolio of hedge funds may still provide the best return, risk, and diversification benefits institutional investors seek.

An alternative to hedge funds for transporting alpha is to combine traditional long-only funds that produce consistent alpha with short positions in index derivatives. In fact, there are considerable benefits to hiring managers who run portable alpha strategies as a variation of an existing long-only fund.

First, these investment managers/firms are usually willing to disclose their investment philosophy and processes. Hedge funds with proprietary trading strategies are more reluctant to reveal their investment insight. Second, these managers tend to have well defined investment processes. Hedge funds, on the other hand, quite often rely upon the skill of one individual. Third, traditional long-only products tend to have fairly long and reliable track records, whereas hedge funds in general have shorter, “live” track records.

As a result, hedge fund indices and universes built based upon these funds’ track records will inevitably experience biases of survivorship, backfill, and self-selection. Research by Ibbotson Associates suggests these biases cause hedge fund performance indexes to overstate the true alpha available.

Institutional investors are familiar and comfortable with the alphas that have been generated from traditional long-only strategies. In fact, they have already effectively implemented these alphas into their plans, just not efficiently. Long-only funds do not strip out the market or beta component of their return, thus burying the pure alpha.

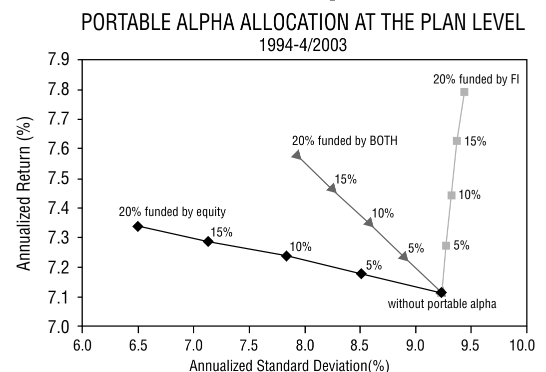
Portable Alpha Funding And Its Impact

Where funding for a portable alpha allocation comes from is a critical decision because it directly affects risk budgeting, asset allocation, and performance measurement. Investors can take funds currently allocated to equities, fixed income holdings, or both.

Each scenario generates distinct portfolio characteristics. To illustrate the effects of various funding allocation decisions and the impact of changes in investment markets, consider a sample defined benefit plan portfolio consisting of 36% S&P 500, 23% Non-US equity, 21% Lehman Aggregate, 7% Non-US Bond, and 8% Real Estate.

Using returns from 1994 to April 2003 we constructed 12 scenarios, each of which represent 5% incremental portable alpha allocations funded by equity, fixed income or both asset classes. (The returns, admittedly a bit out of date, come from the author’s original study but still illustrate the point.)

The graph to the right shows the plan’s portfolio risk (as defined by standard deviation or volatility) is reduced in an almost linear fashion as equity assets are increasingly shifted into the portable alpha strategy. This occurs because a portion of the more volatile equity asset class was replaced with a less volatile, market-neutral strategy (using the CSFB Market Neutral Index). In addition, since the portable alpha strategy is essentially uncorrelated with other asset classes, the overall risk of the portfolio is reduced.



If we fund the same portable alpha with fixed income assets, total risk is little changed but the plan’s return improves significantly. This occurs because a market neutral strategy exhibits risk characteristics similar to those of fixed income assets but generates a higher return.

Reducing equity and fixed income assets together both improves return and lowers risk. Notably, with just a 5% allocation to portable alpha, the plan can achieve meaningful risk reduction, alpha enhancement, or both.

About the Author

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The Downside To Carrying That Alpha Around

The major risk with portable alpha is its most fundamental: an outperforming manager might not continue to outperform. As they say, past performance is no guarantee of future success and it is possible—even likely—at some point a high alpha-achieving manager may fall off the pace. The manager's unique strategy that delivered an outstanding record in the past may stop working or be out of style for a time. Alphas can also be negative and the leverage typically involved in a portable strategy compounds the effect of underperformance.

Another major challenge with portable alpha is the difficulty and skill required to implement and manage the strategy on a day-to-day basis. Few investors have experience shorting positions or owning derivative products. Fewer still monitor and control market and actively-managed "risk" on a daily basis. Leveraged positions need to be monitored because they have a way of acting in unintended ways when unexpected events surprise the market.

Conclusion

Successful portable alpha implementation depends on 1) an investment manager's ability to generate consistent alpha that has low correlation with major indices; 2) an investor's ability to identify these alphas; and 3) an investor/manager's ability to execute a portable alpha program.

There are considerable benefits of transporting alpha within or across asset classes. Successful portable alpha programs enable institutional investors to:

- Budget risk based on a plan's investment policy and capital market forecast.
- Maintain strategic asset allocation as desired and provide flexibility to rebalance portfolios with index futures.
- Transport alpha via an overlay program that is supported by a small amount of cash in a margin account.
- Not make wholesale changes to the existing manager structure.
- Clearly measure portable alpha performance. Through equitization, institutional investors can combine traditional asset classes with portable alpha and measure performance against an appropriate broad market index such as the S&P 500 index.

Transporting alpha is not without challenges. The key is to have a clear understanding of how these derivatives work within a portfolio context.

- Derivative transactions are efficient but are not free. Transaction costs will surely reduce alpha.
- From time to time, index futures may not track the benchmark perfectly. Investment managers and investors need to actively manage their futures positions.
- Certain asset classes may not have liquid futures contracts available, and more expensive instruments such as ETFs or swap contracts would increase costs.
- Investment guidelines—A portable alpha strategy typically involves derivatives and leverage to hedge market risk, but many institutional investors do not have a clear mandate permitting derivative usage.
- Funding decisions have multiple impacts on a plan. Reducing any asset class to fund portable alpha may not be an easy decision both emotionally and intellectually.
- Lack of expertise—Institutions may not have the internal expertise to build and to execute a portable alpha strategy.
- Alphas change over time.

Portable alpha strategies employ some of the more sophisticated financial engineering tools available to investment managers to shape returns and to control risk. As institutional investors continue their search for return and become more comfortable with such sophisticated strategies, more are likely to start lugging alphas around.

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