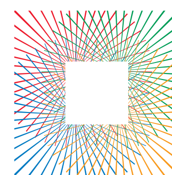
October 2006

Thought Leadership Series

White Paper



Casey, Quirk & Associates

Contents

Introduction	1
Chapter 1: Drivers of Global Institutional Demand	3
Chapter 2: Global Institutional Demand Today	5
Chapter 3: The Industry in 2010	13
Conclusion	22
Appendix: Requirements for Institutional Success	23
Acknowledgements	27

Institutional Demand for Hedge Funds 2

A Global Perspective

- **We have updated our 2004 study.** As part of this process, The Bank of New York and Casey, Quirk & Associates interviewed over 100 institutions and investment managers to provide a *global* perspective on institutional investment in hedge funds.
- **Hedge funds are here to stay.** Institutions are largely satisfied with their hedge fund programs, and, irrespective of country or institution type, the need for consistent, better returns and investors' increasing knowledge and comfort with alternative investment techniques will drive institutions' persistent interest in hedge funds.
- **We estimate that global institutional investor capital in hedge funds will increase from around $360 billion today to more than $1 trillion in 2010.** Institutional investors will account for more than 50% of the total flows into hedge funds through 2010. Retirement plans will represent 65% of total institutional flows through 2010.
- **Today's hedge fund techniques will be tomorrow's mainstream investing.** Alternative investing has impacted institutions' fundamental investing philosophy—institutions' interest in and appreciation for less constrained, absolute return-oriented investments is gradually extending to other parts of their portfolios.
- **Institutional investors will gravitate to the "dual approach" model.** Many investors will employ both fund-of-hedge funds and direct hedge fund allocations to implement their hedge fund programs. We estimate that institutional allocations will be split nearly 50-50 between fund-of-funds and direct investing by 2010.
- **"Institutional quality" competitors will dominate.** This will include many traditional firms managing hedge funds, strong multi-product hedge fund firms, and fund-of-hedge fund firms with improved advisory skills that will emerge as trusted advisors. Operational excellence and comprehensive risk oversight are among the key drivers of hedge funds.
- **Hedge funds' biggest challenge is meeting clients' performance requirements.** Fees, huge asset growth and the increasing "long-orientation" of hedge funds will challenge the original investing objective: delivering a consistent 8-9% net return with "bond-like" volatility.

Introduction

Two years ago, we published a ground-breaking white paper, *Institutional Demand for Hedge Funds: New Opportunities and New Standards*. That study concluded that increasing institutional investment in hedge funds would have a dramatic and lasting impact on the hedge fund industry.

In our first paper, we estimated U.S. institutional investment in hedge funds to be approximately $66 billion as of the end of 2003. Today, we estimate that U.S. institutional investors have $148 billion and institutions worldwide have $361 billion invested in hedge funds. Institutions have, indeed, played an enormous role in the recent growth of the hedge fund industry.

Our fundamental thesis remains unchanged: hedge funds will require new standards to compete effectively for the institutional opportunity. So, why revisit our 2004 paper? Four primary reasons:

- **Accuracy—were we right?** While we were searching for new revelations, we found an industry that was evolving largely as we had expected.
- **Global scope.** Our 2004 study was primarily about the U.S. institutional market—we wanted to take a global institutional perspective.
- **Fad or here to stay?** In 2004, it was difficult to ascertain the staying power of institutional interest in hedge funds—we wanted a better understanding.
- **Further insights on the future.** Two years of continued study and industry evolution provides an opportunity to reflect further on future industry dynamics.

Organizing our Thoughts

The objective of our report is to provide a perspective on the institutional hedge fund market today and a glimpse of what the industry will look like in 2010. Our paper is organized into three primary sections:

Chapter 1, Drivers of Institutional Demand, examines the key factors we believe to be motivating global institutional interest in hedge funds.

Chapter 2, Global Institutional Demand Today, surveys the current state of global institutional demand for hedge funds. We seek to address questions such as: How big is institutional demand today? Where is demand coming from? What is the role of hedge funds in institutions' portfolios and what are their performance expectations? How are institutions implementing their hedge fund programs? What qualities are investors looking for? Why do certain institutions not invest in hedge funds?

Chapter 3, The Industry in 2010, seeks to sketch a glimpse of the future. We share our perspective on questions such as: How big will institutional investment in hedge funds get? Where will the demand come from? What qualities will institutional investors look for? How will allocations to hedge funds evolve in institutions' portfolios? What will increased institutional investment mean to the industry? What will the industry look like in 2010?

Research Approach

Our research consisted of two primary elements:

Interviews. From May to August 2006, we conducted more than 100, 45-60 minute interviews with institutional investors, investment consultants, hedge funds, fund-of-hedge funds, and industry experts around the world. We also surveyed a group of institutional investors at The Bank of New York's Client Advisory Board meeting in June 2006. Among the questions we focused on were:

- How big a role do hedge funds play in institutional portfolios today and in the future?
- Where do hedge funds fit in an institution's portfolio?
- What are institutions' objectives and expectations for hedge funds?
- How do institutional investors invest in hedge funds currently, and how will they invest in the future?
- What impact have institutional investors had on hedge funds?
- If institutional investors are not investing, why not?

Exhibit 1: Survey Participants by Type

Our Sample is Globally Diverse

Institutional Investors	50
Consultants	14
Hedge Funds	15
Fund of Hedge Funds	13
Industry Experts	9
Total	101

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

Institutional investment model. We built a model to estimate the current investment by institutions in hedge funds and forecast the future investment through 2010. Our model is based on bottom-up research and considers all institutions globally with more than $100 million of assets in their overall portfolio. For purposes of our model, institutions that we considered included pension plans, endowments, foundations, governmental authorities, and externally managed bank and insurance general account assets. Defined contribution systems were generally not included (however, the Australian superannuation system, which is primarily defined contribution, was included).

Chapter 1: Drivers of Global Institutional Demand

Today, hedge funds are drawing interest from a broad and increasingly sophisticated set of investors. However, as recently as five years ago the hedge fund market was dominated primarily by high-net-worth investors and some prominent eleemosynary (endowments and foundations) institutions. Institutions have come to represent a much larger portion of the hedge fund investor universe. What has driven this relatively recent global phenomenon? We believe two major (and related) drivers are at the root of institutional interest in hedge funds:

1. **Lower (more normal) expected returns from traditional investments are driving the search for better returns.**

The roaring bull market of the 1980s and 1990s produced above-average investment returns in equity and fixed income investments. During this time, most institutional investors adhered to portfolios that were dominated by major allocations to long-only equity and fixed income investments. Alternative investments, including hedge funds, typically represented little, if any, of the portfolio allocation for these institutions.

A 60/40 portfolio today may return less than 7% per annum over the next five years.

Since 2000, institutional investors have not been in a "tailwind" market environment and do not expect the returns they saw in the past. By some prognosticators' measures, a 60/40 equity/fixed income portfolio today may return less than 7% per annum over the next five years.

Exhibit 2: The Capital Market Challenge
Assumptions vs. Expectations

Expected 5-year return of 60/40 portfolio[1]	5.70%
Long-term return assumptions[2]	8.47%
Difference	*(2.77%)*

[1] Forecast return of a portfolio composed of 60% U.S. equities returning 8.0% and 40% U.S. fixed income instruments returning 4.5% for the 5-year period ending December 31, 2010
Sources: Congressional Budget Office (The Budget & Economic Outlook: 2004-2013)
[2] JPMorgan ("Global Gambits," 2006), Bloomberg Average long-term return assumptions of 100 largest corporate defined benefit plans as of fiscal year ended 2005

Source: S&P Money Markets Directory, 2006
Source: The Bank of New York and Casey, Quirk & Associates analysis

In addition, for many institutions, specifically retirement plans and governments, the new environment of reduced capital markets returns has coincided with growing demographic pressures. Many countries and regions, including, the United Kingdom, most of Continental Europe, the Nordic Countries, and most recently the United States, have introduced regulatory and/or accounting changes which dictate that institutions must be able to demonstrate more clearly that they can meet their future obligations.

With overall required returns of 8-9%, institutional investors are being forced to re-engineer their portfolios in an attempt to bridge the gap between a return requirement (investors' cost of capital) and returns that traditional investments may have difficulty meeting.

2. **Broadening acceptance and deepening understanding of alternative investment products and techniques.**

The search for better returns and the subsequent interest and investment in alternative investments has created pressure on the previous dominant paradigm of benchmark-relative investing. This paradigm was characterized by long-only management and "constrained" investing—a style box focus (a bull-market approach) and little use of derivatives, non-marketable securities, and incentive fees.

Today's institutional investors increasingly employ alpha/beta separation as a fundamental framework for assembling their portfolio.

Today's institutional investor increasingly employs alpha/beta separation as a fundamental framework for assembling a portfolio. That is, the portfolio will be constructed around a series of betas (market exposures) and alphas (idiosyncratic investment returns). Investors are now more likely to be willing to pay less for beta exposure and pay more (often substantially more) for alpha.

Out of necessity, institutional investors have gotten much more comfortable with, and understand far better, alternative techniques such as the use of derivatives, shorting, leverage, and investing in less-liquid assets. Regarded as risky and a "non-starter" by most investors only a few years ago, these concepts are today increasingly recognized as critical parts of the institutional investors' tool set. Hedge funds are, for many, the tangible manifestation of these techniques and have been the key learning tool for increasing institutional investors' comfort. At the same time, hedge funds and fund-of-hedge funds are increasingly learning about institutions' challenges and creating innovative ways to help.

Hedge funds are here to stay

The result of these two drivers: much greater interest in and the studying of alternative investments. Our global research has suggested that alternatives, by far, are "top of mind" when it comes to the investments that institutional investors are actively researching and moving their allocations toward. This interest is not limited to hedge funds—many "alternative" investments, including private equity, real estate, timber, commodities, and infrastructure, are also major areas of interest for these institutions.

This interest is predicated on two critical assumptions:

1. Alternatives are perceived to be a sound way to invest.
2. Institutions are forced to broaden their views on investing due to their need for returns.

With the assumption that returns remain a challenge and that institutional investors' acceptance of and comfort with alternative techniques continues its positive trend, we believe that, as far as institutional investors are concerned, hedge funds are indeed here to stay. The results of our institutional survey, detailed in the next two chapters, support this thesis.

Chapter 2: Global Institutional Demand Today

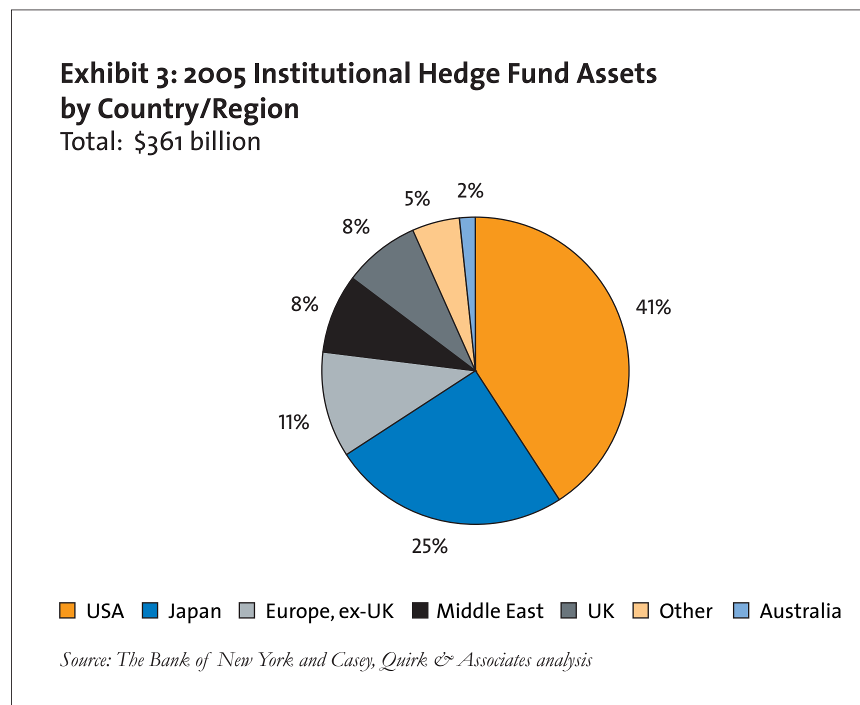
This chapter provides a snapshot of the global institutional market today. In addition to sizing the market globally, we gain an understanding of institutions' primary objectives with hedge funds, assess institutions' satisfaction with and expectations for hedge funds, examine institutions' key criteria when evaluating a hedge fund, and take the pulse of the market on the issues of fees and capacity. Finally, we determine the primary impediments for those institutions that choose not to invest in hedge funds.

The Global Institutional Market Today: A Snapshot

Institutional investors have invested $361 billion in hedge funds.

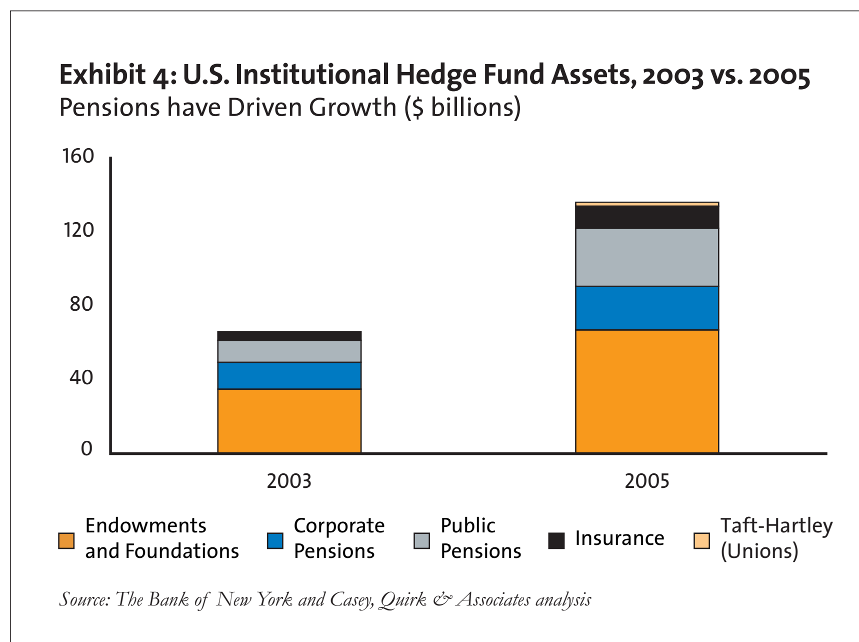
We estimate that, as of year-end 2005, institutional investors worldwide had invested $361 billion in hedge funds, which represents more than 30% of total hedge fund assets and 2% of total global institutional assets. Our research suggests that only 15% of institutions have a hedge fund investment, although this varies substantially by region and type of institution: for example, in the United States half of all non-profits (endowments, foundations and hospitals) are invested in hedge funds, while among U.S. corporate defined benefit plans that rate is 10%. Outside the United States, hedge fund use is still limited primarily to the largest institutions: for instance, in the United Kingdom we estimate that only 3% of corporate defined benefit plans are currently invested in hedge funds.

U.S. institutional investors represent approximately 40% of the global institutional market, and European (including the U.K.) and Japanese institutional investors represent roughly another 40%.



We estimate that U.S. institutional investment has more than doubled from $66 billion to about $136 billion.

Since our 2004 report, we estimate that U.S. institutional investment has more than doubled, from $66 billion to about $136 billion (excluding banks). As we had forecasted then, much of that growth has come from pension plans.



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

Institutional Hedge Fund Program Objectives

Institutional investors have started to move away from viewing hedge funds as part of a distinct (and usually small) "alternative investments" allocation, partitioned from their broader portfolios. In fact, as many institutions re-engineer their overall portfolios towards an absolute return orientation, hedge funds are a key lower-volatility investment.

Diversification is the single most mentioned reason for investing in hedge funds.

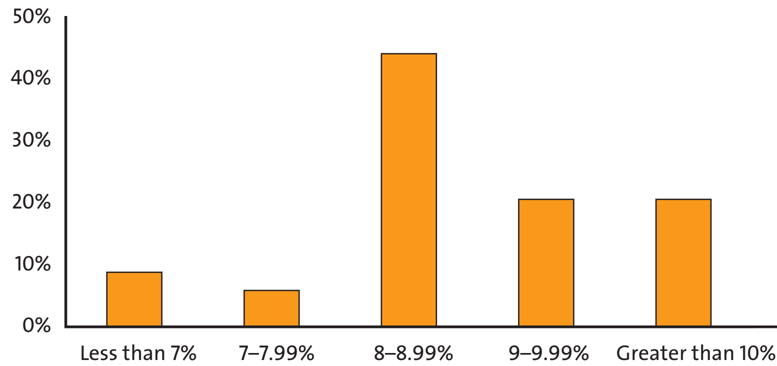
Irrespective of country or type of institution, investors we surveyed were fairly consistent in their rationale for seeking hedge fund investments:

- **Diversification.** Investors are looking at hedge funds as an investment that has a lower correlation with other assets in the portfolio. Diversification is the single most mentioned reason for investing in hedge funds.

Hedge fund investing programs generally need to deliver net returns of about 8-10%.

- **Absolute returns.** Diversification alone is not enough to warrant investment. As discussed in the first chapter, institutional investors are struggling to meet their required return. Hedge fund investing programs generally need to deliver net returns of about 8-10%. Investors are typically seeking these returns at "bond-like" volatility levels.

Exhibit 5: Survey Participants' Hedge Fund Program Return Expectations
8-10% Net Returns are Expected



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

Some institutional investors are beginning to employ hedge funds as part of a "portable alpha" program.

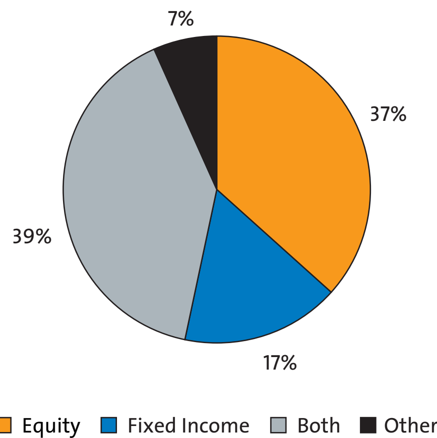
Some institutional investors (select large U.S. and U.K. corporate and public pensions and several endowments) are beginning to employ hedge funds as part of a "portable alpha" program. "Portable alpha" programs have been, for the most part, used to replace existing domestic equity mandates; often the institution uses derivatives to replicate the beta return (often the S&P 500) and then invests in a basket of hedge funds or fund-of-hedge funds, seeking to create a very low volatility, market-neutral return stream (the "alpha" in portable alpha). The net effect is intended to produce a superior result relative to the option of selecting an active long-only U.S. equity manager. The broad interest in portable alpha among many institutions is lukewarm as most are waiting for cheaper packaged solutions.

Lastly, a handful of institutions are primarily seeking higher absolute returns (and accepting higher correlations), and using hedge funds as a replacement to their long-only equity allocations. This is limited to a few U.S. endowments and U.S. corporate pension plans that generally have considerable experience with direct hedge fund investing, and allocate tactically to higher volatility, directional strategies.

Institutional Hedge Fund Program Capital Sources

Our 2004 report discussed the alpha-beta squeeze on traditional long-only managers. This trend has continued. The vast majority of institutional investment in hedge funds has come at the expense of traditional equity and bond allocations.

Exhibit 6: Institutions' Hedge Fund Program Capital Sources
From What Allocation have Your Hedge Fund Assets been Drawn?



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

> Many institutions view traditional fixed income as a low return asset class.

Today, many institutions view traditional fixed income as a low return asset class. Low yields across the developed world have created a huge gap between fixed income returns and investors' needs. This is compounded by fears of rising interest rates. Investors in certain countries, like Japan, are particularly sensitive to this issue.

In the United States, institutions (even those not invested in hedge funds) express significant interest in continuing to move away from Lehman Aggregate-based strategies (commonly referred to as "Core" or "Core Plus" strategies), for which any diversification benefit is outweighed by future return prospects. Fixed income will likely play a role if retirement schemes attempt to implement liability matching.

Traditional equity allocations have been affected for a variety of reasons:

- Decreasing interest in traditional, constrained investing techniques. This is particularly the case in the U.S., where equity markets have been effectively "sideways" since 2000. Institutions are increasingly taking the position that traditional benchmark-oriented strategies (where beta exposure dominates returns) may not be counted on to deliver the required returns.
- Overallocation to equity programs, particularly domestic equity, has made this part of the portfolio a natural source of funds for new allocations. This has affected some markets more than others. In Australia for instance, the sustained bull market in equities has left some institutions with portfolios skewed heavily towards Australian equities.
- Replacement of traditional equity managers with portable alpha programs. As discussed earlier, these programs are often implemented as a replacement to an existing equity allocation.

Key Institutional Demand Factors

As outlined in the 2004 paper, institutions have different concerns and standards than the hedge fund investors (typically high-net-worth individuals) who preceded them.

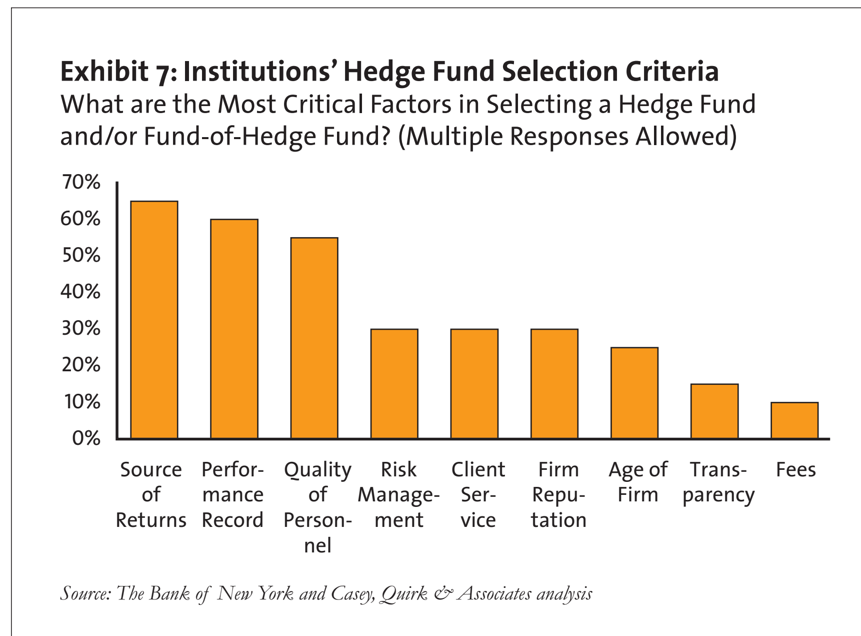
For those institutions currently invested in hedge funds, *understanding and validating the sources and sustainability of an investment manager's returns* is considered the most important selection criteria.

This continues to pose both challenges and opportunities for the hedge funds and fund-of-hedge funds that serve them.

For those institutions currently invested in hedge funds, *understanding and validating the sources and sustainability of an investment manager's returns* are considered the most important selection criteria. Institutions and their advisors are increasingly more sophisticated and informed in gaining an appreciation for a hedge fund's "edge." For example, understanding a hedge fund's source of returns is critical for investors seeking to implement portable alpha programs, as it is typically desired that the alpha basket have nearly no correlation to the beta (e.g., S&P 500) in the program. This understanding is also critical in order to discern (and often avoid) hedge funds that rely primarily on leverage and beta exposure to drive returns.

Exhibit 7: Institutions' Hedge Fund Selection Criteria

What are the Most Critical Factors in Selecting a Hedge Fund and/or Fund-of-Hedge Fund? (Multiple Responses Allowed)



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

Similar to the investment criteria in the traditional parts of their portfolio, institutions are also seeking to do business with *high quality and experienced investment professionals.* How this is expressed varies among institutions. For example, in Japan and among most U.S. public and Taft-Hartley (union) pensions, there is a clear preference for firms with a longer track record and an established brand name. There is also a sense of security in investing with a hedge fund or fund-of-hedge fund that is part of a larger organization. However, other investors express an aversion to large hedge funds and fund-of-funds as well as a clear preference for independence. These institutions, such as corporate pensions in the United States and United Kingdom, and endowments and foundations, feel that returns erode as hedge funds grow. These institutions feel that the very best investment talent is found in smaller, independent firms. Many investors in this group are willing to act as seed investors for managers with no investment track record, as long as they are comfortable with the pedigree and background of these newer firms.

Risk management quality, operational quality, and, increasingly, client service are now viewed as critical requirements.

As forecasted in the 2004 report, *risk management quality, operational quality, and, increasingly, client service* are now viewed as critical standard requirements. Institutions expect the highest standards of operational quality and risk management tools and

protocols from any hedge fund in their portfolio. This is particularly true given the extreme sensitivity to headline risk and the fact that almost all adverse hedge fund events can be traced to inadequate risk management and/or operational issues. Nonetheless, a select number of "premium brand" hedge funds have the greatest latitude when it comes to some of these criteria. For such firms, some institutional investors will accept reduced service and transparency to be an investor.

Most institutions do not seek, and would not be able to use, security-level transparency for their hedge fund portfolios. However, they do value transparency around risk and factor exposures. Additionally, they expect that their fund-of-hedge funds or hedge fund advisors have a strong risk management capability in place that provides reasonable transparency to understand how the risks in their hedge fund portfolio should be considered in the context of their overall portfolio.

Institutions' Satisfaction with Hedge Funds

To date, hedge funds have generally met institutional investors' expectations.

Our survey of global institutional investors yielded at least one very consistent result: to date, hedge funds have generally met institutional investors' expectations. Only 3% of investors say that their hedge fund program has underperformed versus their expectations. The vast majority, 72%, report that their hedge fund program has performed within 1% of their target expectations and 25% say that their hedge fund program has exceeded their return target by 1% or more. When asked about the potential of reducing hedge fund allocations, institutions that are currently invested in hedge funds expressed broadly and clearly that they have no intentions of decreasing their allocations.

Exhibit 8: Institutional Hedge Fund Program Returns Expected vs. Actual

Investors are Satisfied with Returns

	Respondents
Within 1% of Target	72%
Exceeded Target by 1% to 5%	19%
Exceeded Target by at least 5%	6%
Underperformed	3%

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

Thoughts on Fees and Capacity

The issue of *fees* remains one of the more interesting topics of discussion in the hedge fund industry. A number of observations about institutions' perspective on fees can be made:

- Institutions generally feel that hedge fund fees are high; however, thus far fees have been justified by the net returns.
- For institutions with direct hedge fund allocations, fees are virtually never a determining factor in hiring a manager, and are generally not negotiated. With the exception of some newer or emerging managers, institutions generally do not get fee breaks based on length of the relationship or any perceived 'prestige' from having a large and/or high profile investor. That said, some of the largest institutional investors have been able to, on occasion, negotiate fees.

- Management fees cause more concern than performance fees. A management fee above 1% is often viewed as "inequitable," given that the manager is paid regardless of performance.
- Talk of fee pressure is virtually non-existent among premium hedge funds that meet institutional standards. Among fund-of-hedge funds, despite a wider fee dispersion, managers appear to have been able to maintain pricing power.
- Although many institutions are not overly concerned about lockups (as long as the investment strategy reasonably justifies it), some institutions are willing to pay higher fees in exchange for shorter lockups.
- The current standard fee for hedge funds is typically a 1.5-2% management fee and a 20% performance fee, with no hurdle. However, select "premium brand" hedge funds generally can command higher fees, which institutions have felt justified (as long as the net return remains compelling).
- Institutions invested with fund-of-hedge funds, while expressing displeasure with the double layer of fees, highlight that the true concern is achieving their needed net return.
- Fund-of-hedge fund fees appear to have "settled at" a flat fee of around 60-100 bps (depending on mandate size) with performance fees sometimes being part of the equation.

Interestingly, *capacity* concerns, which were prominent in our 2004 interviews, have come to be viewed by many investors as much less of a concern today. This is in large part due to the fact that in 2004 many large, well-regarded hedge funds were closed; since then, many of these hedge funds have re-opened. In some cases, managers have gained the experience that has afforded them the ability to expand the capacity of their strategies. Additionally, many new firms have been created since that time.

Of course, as we also discussed in 2004, hedge funds will find capacity not only by adding new alpha capabilities, but also by extending their product set to long-oriented funds. This has most certainly played a key role in the industry's current conventional wisdom on capacity. As we will discuss in Chapter 3, we believe this provides both great opportunities and poses some challenges to the hedge fund business.

Key Impediments for Non-Investors

The vast majority of institutions (about 85% by our estimates) around the world do not invest in hedge funds today.

The vast majority of institutions (about 85% by our estimates) around the world do not invest in hedge funds today. What prevents these institutions from investing? A lack of familiarity and understanding by certain institutions and their boards certainly contributes to the lack of willingness to invest today. In addition, a number of specific factors are impediments for institutions, including:

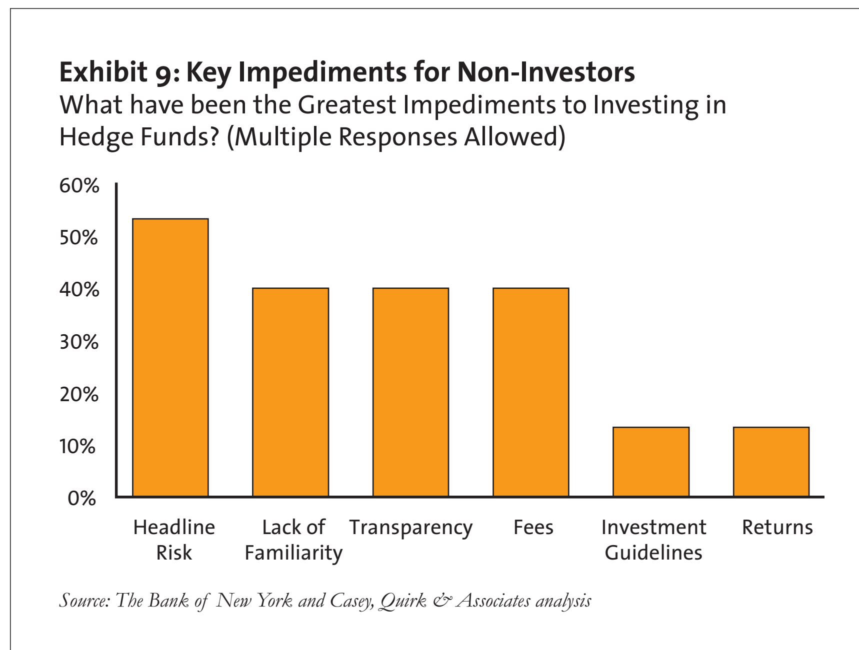
- **Headline risk.** Many institutions have a high degree of oversight and governance and are scrutinized by the press. The perceived risk of potential blowups or embarrassment that hedge funds pose is often an insurmountable hurdle for these institutions. In these cases, the perceived risk does not outweigh the potential reward. While some of these institutions have been notable investors in other alternative assets, such as real property or private equity, the scrutiny and often negative press associated specifically with hedge funds has kept them away. Interestingly, while many investment professionals

within these institutions are increasingly comfortable with the concept of investing (and sometimes eager to invest) in hedge funds, their trustees are not.

- **Lack of transparency.** Related to headline risk, many institutions are uncomfortable with the inability to have a clear window into the investments they are making. They have become accustomed to complete transparency in the rest of their portfolio—the possibility that something could be hidden from them or that the institution will have less control in managing their portfolio risks is a concern. In some cases this is due to regulatory burdens—for example, some U.S. public plans are required to track every single trade their managers do. (It should be noted that new and improved risk management tools that give investors reasonable transparency on the risk exposures of their hedge fund investments have made many institutions feel quite comfortable that they have more than appropriate transparency.)

- **Fees.** Hedge fund fees are considered by many to be egregious and difficult to justify and defend to the primary constituencies of these institutions. The perception that, ultimately, high management and incentive fees dramatically erode the net return to the investor remains an issue. Some investors told us they and their boards had moral qualms with what they viewed as dramatic wealth being created for hedge fund managers from the retirement assets of blue-collar workers. (Conversely, institutions that are invested in hedge funds, and who have been broadly satisfied with their investment, generally believe that fees are acceptable.)

Exhibit 9: Key Impediments for Non-Investors
What have been the Greatest Impediments to Investing in Hedge Funds? (Multiple Responses Allowed)



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

Chapter 3: The Industry in 2010

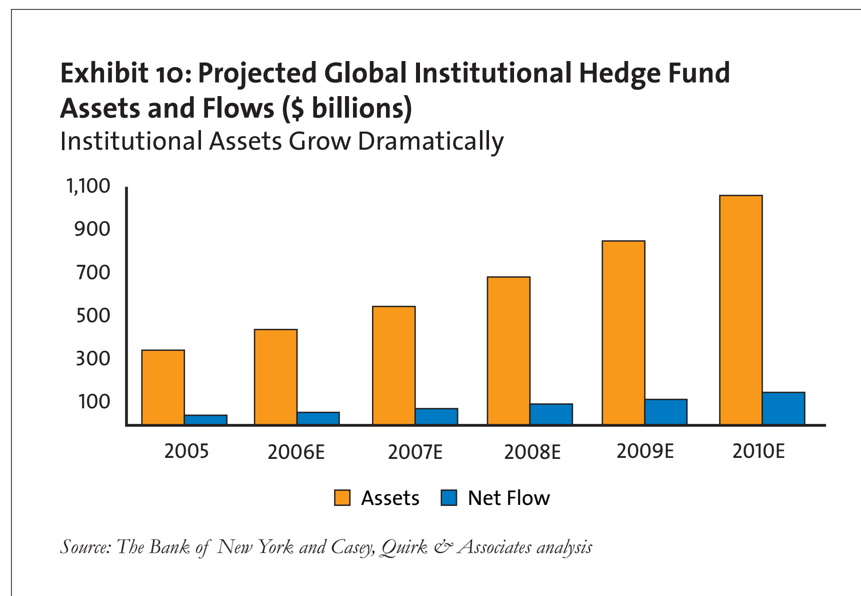
This chapter examines the future institutional demand for hedge funds. Specifically, we forecast the growth of institutional investment in hedge funds through the year 2010 and institutions' role in the overall hedge fund market. We will discuss the sources of growth, the ways that institutions will invest, and the impact of this on hedge fund managers. Finally, we will conclude with some thoughts on the hedge fund industry's biggest challenge.

Flows from institutions will be about $510 billion from 2006 through 2010.

The Global Institutional Market in 2010: A Snapshot

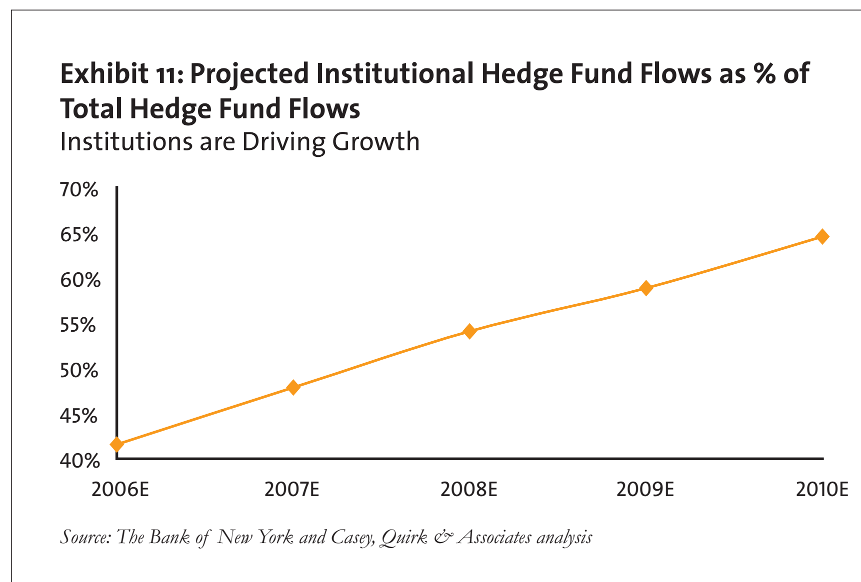
We estimate that global institutional investment in hedge funds will exceed $1 trillion by 2010 (from around $361 billion today). Cumulative flows from institutions will be about $510 billion from 2006 through 2010. Institutions will represent more than 50% of total projected flows into hedge funds over this five-year period and will account for more than 40% of hedge fund assets by 2010.

Exhibit 10: Projected Global Institutional Hedge Fund Assets and Flows ($ billions)
Institutional Assets Grow Dramatically



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

Exhibit 11: Projected Institutional Hedge Fund Flows as % of Total Hedge Fund Flows
Institutions are Driving Growth

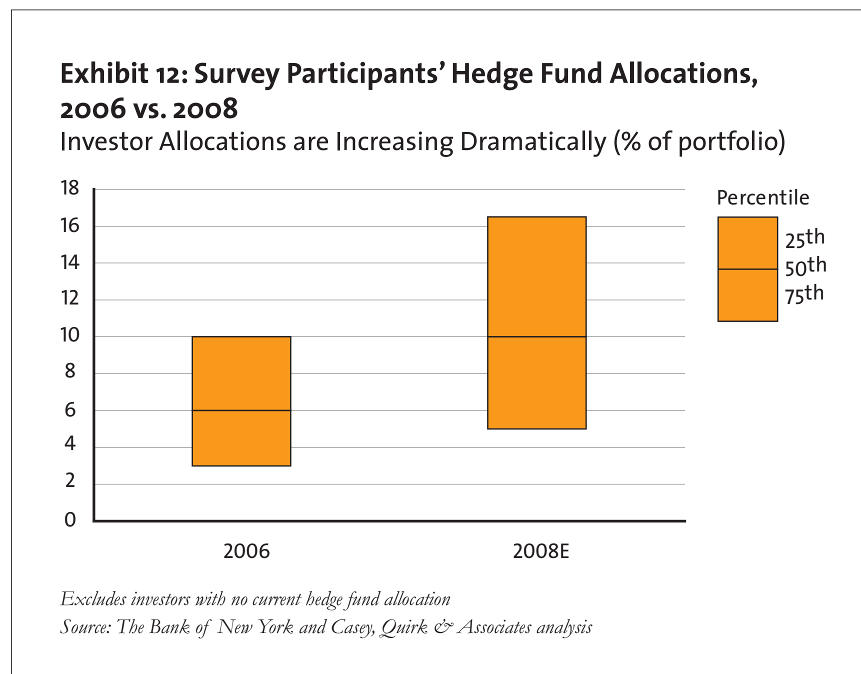


Source: The Bank of New York and Casey, Quirk & Associates analysis

We estimate that the percentage of institutions investing in hedge funds globally will increase to about 24% (from 15% today).

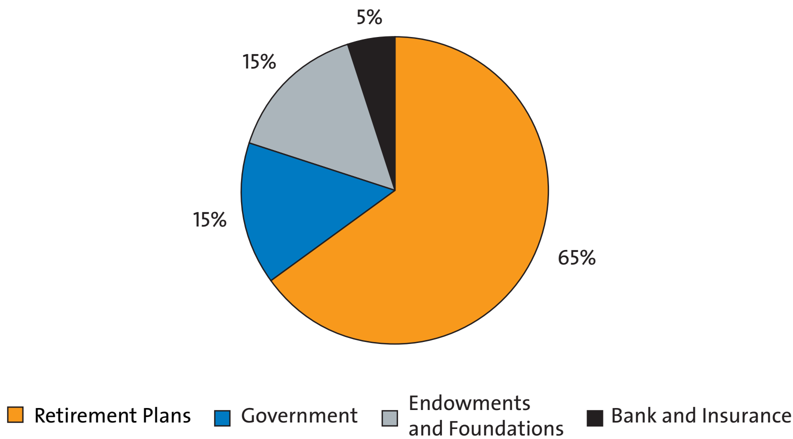
We estimate that the percentage of institutions investing in hedge funds globally will increase to about 24% (from 15% today). Additionally, future hedge fund allocations, in aggregate, are poised to rise—we estimate that hedge funds will represent 3.5% of overall institutional assets by 2010 (versus 2% today). Among our survey participants currently invested in hedge funds, 40% began investing within the past two years. The vast majority among this group has been "dipping their toe in the water" with fairly modest allocations. This group reported that they are set to increase, in some cases dramatically, their allocations over the next three years. While a few select investors with current substantial allocations to hedge funds (such as foundations and endowments with longstanding hedge fund programs) are unlikely to increase their allocations by much, the median allocation of our survey participants currently invested in hedge funds is set to rise from 6% today to 10% by 2008.

Among our survey participants currently invested in hedge funds, 40% began investing within the past two years.



Excludes investors with no current hedge fund allocation
Source: The Bank of New York and Casey, Quirk & Associates analysis

Where specifically will this asset growth come from? We expect that, going forward, retirement plans will account for the vast majority of asset flows. In fact, we estimate that retirement plans will represent approximately 65% of new institutional asset flows into hedge funds worldwide through 2010.



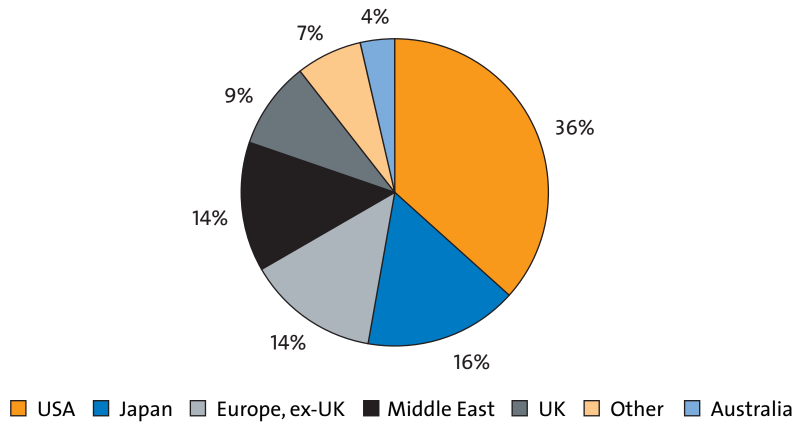
Source: The Bank of New York and Casey, Quirk & Associates analysis

Retirement plans will represent approximately 65% of new institutional flows.

In the United States, we expect that corporate and public pension plans will continue to represent an increasing majority of institutional flows into hedge funds. The recently signed Pension Protection Act (March 2006) relaxes the 25% ERISA rule for hedge funds—we expect this to both lessen the burden on and make hedge funds more attractive to the pension market. In Japan, where hedge fund investing has historically been primarily by banks and insurance companies, we will see more new flows coming from corporate pension plans. While corporate pensions have only recently started allocating to hedge funds, there is considerable interest to grow those allocations. On the other hand, Japanese banks are waiting to learn how the recent Basel II risk capital requirements will affect their hedge funds portfolios.

In Australia, the United Kingdom and Continental Europe, hedge fund investing has been generally limited to a small number of very large institutions. In most cases these institutions are poised to see asset growth over the next five years. Along with overall asset growth, there is increasing interest to expand hedge fund exposure. In addition, new investors in those markets are very likely to start hedge fund programs of their own. Evidence of this is already in place in the United Kingdom among both corporate and local authority (public pensions) pensions, as well as from some of Australia's superannuation funds.

Exhibit 14: Projected Cumulative Hedge Fund Net Flows from Institutions by Region, 2006-2010
Cumulative Net Flow: $510 billion



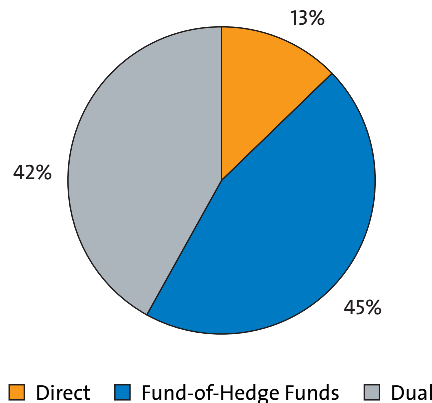
Source: The Bank of New York and Casey, Quirk & Associates analysis

Implementation: The "Dual Approach" Model Emerges

How will institutions invest in the future? Perhaps one of the most controversial and debated topics in the industry revolves around the notion of the use of fund-of-hedge funds versus "going direct." Much of the debate centers around the "eroding" effect that fund-of-hedge fund fees have on net returns. The issue that remains, of course, is whether or not most institutions can, in practice, realistically and effectively implement a direct program or some other alternative.

Among our survey, the vast majority of institutions (87%) use either fund-of-hedge funds exclusively or the "dual approach" model—accessing hedge funds concurrently through fund-of-hedge funds and direct investments.

Exhibit 15: Survey Participants' Current Hedge Fund Investing Model
Fund-of-Hedge Funds Play a Prominent Role



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

Fund-of-hedge fund managers play a critical advisory/educational role for new programs.

We believe that fund-of-hedge funds will remain the starting point for the majority of institutions looking to initiate a hedge fund program. In addition to bringing specialized skills, access, an extra layer of "insulation" from headline risk, and the ability to navigate the complex and dynamic hedge fund landscape, fund-of-hedge fund managers play a critical advisory/educational role for new programs—educating the investment staff and trustees on the nuances and challenges of hedge fund investing. Beyond the early stages of a program, many institutions report that they are unlikely to venture beyond fund-of-hedge funds in the foreseeable future. Lack of resources (most institutions have one or two dedicated professionals for their entire portfolio) and the complexity of implementing a direct program will be the critical drivers behind fund-of-hedge funds continuing to play an essential role for most institutions.

We expect the "dual approach" will evolve into a very prominent model for institutions.

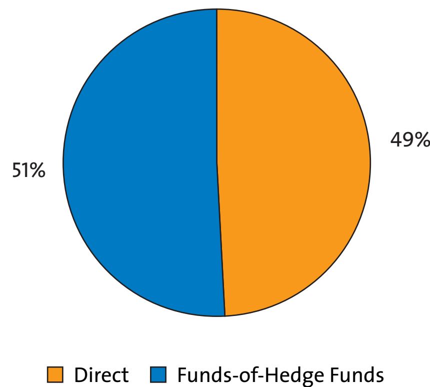
On the other hand, some institutional investors are increasingly employing the "dual approach" once they feel they have acquired enough hedge fund experience. These programs are often characterized by the use of one or more fund-of-hedge funds and a direct program that is implemented with the help of the fund-of-hedge fund in an advisory capacity. The most advanced version of the "dual approach" model employs fund-of-hedge funds for tactical allocations in specialist, niche areas where it is not advantageous for the institution to build up internal resources. In this situation, the fund-of-hedge fund will typically provide a fairly concentrated, customized exposure to multiple managers far more quickly and efficiently. The core hedge fund portfolio remains, however, managed directly by the institution. This model is followed by a few U.S. and U.K. corporate retirement plans as well as some U.S. endowments and foundations. We expect that the "dual approach" will evolve into a very prominent model for institutions and will take on many different forms. In many cases it will take the form of the institution investing in a few select hedge funds while the fund-of-hedge fund(s) implements the majority of the portfolio and serves in the capacity of advisor to the institution's overall hedge fund programs.

The vast majority of institutions will lack the appropriate resources to implement direct investing programs.

Investing exclusively on a direct basis will remain the domain of those institutions that are very experienced, well resourced, and often less subject to broad oversight and scrutiny. So, although "going direct" is a topic of great discussion, the vast majority of institutions will lack the appropriate resources to implement direct investing programs.

The result, we believe, is that global institutional flows will be split almost evenly between fund-of-hedge funds and direct investments over the next five years.

Exhibit 16: Projected Cumulative Hedge Fund Net Flows from Institutions by Direct vs. Fund-of-Hedge Funds, 2006-2010
Total Flows $510 billion



Direct Funds-of-Hedge Funds

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

A final thought on implementation—the role of multi-strategy hedge funds in the "direct versus fund-of-hedge fund" debate is yet another hot topic. Some chatter in the market would suggest that multi-strategy hedge funds might be a logical alternative to fund-of-hedge funds, with the big advantage of eliminating the double layer of fees. However, most investors do not consider multi-strategy hedge funds to be comparable to fund-of-hedge funds. In fact, most institutions feel that the two approaches are complimentary, with multi-strategy hedge funds providing greater short-term flexibility and fund-of-hedge funds providing greater business risk diversification. Finally, because many believe only a handful of high quality multi-strategy funds exist, the concept of "replacement" at this point seems untenable.

The Industry in 2010

As we forecasted in 2004, institutional investment in hedge funds has and will continue to impact the industry in dramatic ways. Given the increased presence of institutions in the industry, hedge fund businesses that are maturing, and a markedly different capital market environment, what will the industry look like going forward? We expect the industry to be characterized by at least *five features* by 2010:

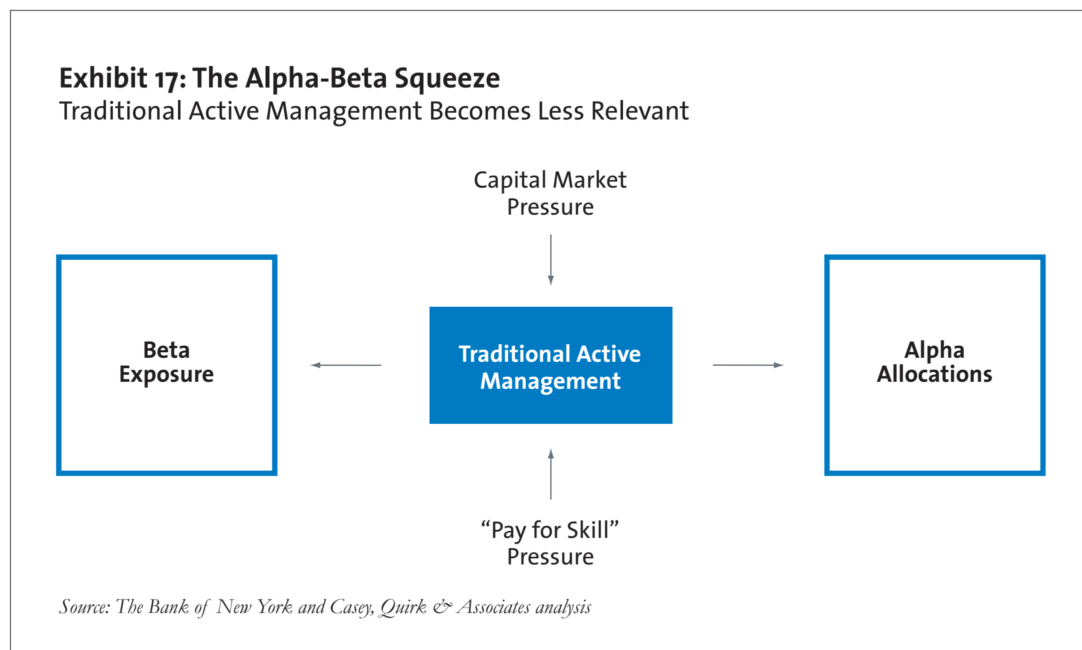
1. Today's hedge fund techniques will be tomorrow's mainstream investing.

The investing experience with hedge funds appears to have had a profound effect on the way that institutions think about investing broadly: many institutions today talk about the fact that a less constrained approach to investing is seeping into the way they approach all of their investments. Institutions are seeking to invest with managers that have demonstrated the ability to generate alpha. Institutions are also much more sensitive to paying a lot for beta exposure. By 2010, we expect at least five specific manifestations:

- *Absolute returns/alpha delivery is the primary investing objective.* As the movement toward separation of alpha and beta continues, institutional investors will primarily seek investment managers that can deliver alpha and are oriented around an absolute return.

- *Today's "active" allocations and hedge fund allocations are blurred.* The active/absolute return components of institutional investors' portfolios converge into a single more absolute return-oriented portion of the portfolio while the beta portion of portfolios is comprised primarily of index-like mandates.
- *Use of shorting, derivatives, and leverage are mainstream concepts in active investing.* The historic aversion to the use of such techniques will yield to an environment where these applications are used broadly and are viewed as critical components of the investment manager's toolbox.
- *Highly constrained, benchmark-oriented investments are less relevant.* The resulting impact of the above is an environment where institutional investors will allocate away from managers with a benchmark-oriented long-only approach to investing.
- *Long-oriented hedge fund products are a prominent part of the hedge fund landscape.* Despite the "squeeze" discussed above, long-oriented products (for example, 120/20-type products or products with systematic net long exposures) will become more important. Partly a result of hedge funds applying their investing techniques to less capacity constrained products and partly due to investors' continued, but changing, interest in long-oriented exposures, these products are a major part of many institutional investors' portfolios. Many of today's traditional managers will use these products to transform themselves into viable "hedge fund" managers.

Exhibit 17: The Alpha-Beta Squeeze
Traditional Active Management Becomes Less Relevant



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

2. "Institutional Quality" competitors dominate.

Institutional investment will continue to impact hedge fund and active long-only business models. (We discussed our "Requirements for Institutional Success" in our 2004 paper, which is included in the Appendix.) Many hedge fund and fund-of-hedge fund business models remain in a state of transition. However, the leading firms are investing in their businesses and changing quickly.

By 2010:

- *Competition intensifies.* In addition to regulatory hurdles and infrastructure requirements, institutional investors' appreciation for and ability to discern a quality manager has dramatically improved. The result: only the most qualified managers prosper and effective "barriers to entry" are higher for those less qualified. In addition, capital market challenges and higher standards requirements will have continued to thin the ranks of the less qualified managers.
- *Leading managers concentrate assets.* Although smaller, nimble highly qualified "boutiques" continue to flourish, the industry in 2010 is characterized by a group of leading active/hedge fund investment managers. These managers have multiple investment capabilities and products, strong distribution and client service skills, the ability to implement customized solutions for their clients, and have established a premium brand in the market.
- *Market leaders come from all walks.* The leading managers of 2010 come from a variety of different backgrounds: today's hedge funds, traditional managers, fund-of-hedge funds, alternative firms, and some firms that are unknown (and perhaps not in existence) today. However, all will possess a common thread of organizational, operational and investment quality.
- *Quality fund-of-hedge funds thrive.* Partly through new institutional investors and partly through the prominence of the "dual approach" investing model, high quality fund-of-hedge funds are critical ingredients for institutions' hedge fund programs. These leading fund-of-hedge funds have strong client interfacing skills and the ability to deliver customized, solutions-oriented programs to their clients.

3. Fees are better structured and more highly correlated to value.

Institutional investors have a more sophisticated view on fees and their relationship to value/net returns. Through experience and a deeper understanding, institutional investors are better able to discern value and understand the ability of hedge funds to deliver on their net return requirements. As a result, investors work with hedge funds to structure fee propositions that align interests accordingly. Hedge fund economics will remain attractive, particularly for firms that demonstrate consistent outperformance. However, fee dynamics will evolve gradually by 2010, more specifically:

- *Management fees settle around 1%.* An emphasis on net returns that meet or exceed investors' return requirement (investors' cost-of-capital) implies that today's management fee levels are likely to be too high to be sustained in the medium to long term. We believe the result will be hedge fund management fees of about 1% (still ample to cover the overhead for quality hedge fund organizations).
- *Performance fees are explicitly tied to alpha.* Hedge fund performance fees are increasingly levied not on the total return (anything greater than 0), but on alpha. Hedge funds that can demonstrate they are delivering alpha and exceeding institutions' cost of capital will command the greatest performance fees, even *well* in excess of 20%. In addition, performance fees may be subject to a clawback when and if future performance falters.
- *Fund-of-hedge fund fees settle in to a flat 50-80 bps range.* Although smaller, capacity-constrained fund-of-hedge funds focused on unique alpha delivery propositions that clearly exceed return requirements will continue to command higher management

fees and performance fees, the largest fund-of-hedge funds will employ flat fee arrangements with their institutional clients.

4. **Synthetic/passive exposures to hedge fund strategies emerge.**

The alpha-beta separation framework has impacted the hedge fund industry and, while not all hedge fund strategies lend themselves to it, innovative managers have found ways of creating synthetic exposures to certain strategies. Institutions will find this an attractive option to solve capacity concerns and, if offered for a substantially lower fee, a potentially better net return proposition.

For example, convertible arbitrage is a natural candidate for synthetic/passive replication. A relatively simple algorithm could be used to implement "classic" convertible arbitrage on a passive basis.

5. **Customization proliferates.**

As institutions' understanding of specific risks in their overall portfolios increases, the desire for targeted exposures grows. This does not mean that a new set of style boxes emerges; rather, institutions approach managers with their unique parameters, and managers respond with customized exposures built from their stable of capabilities and strategies.

For example, an institution might approach a fixed income manager seeking to tap into their credit expertise in high yield but request all other factors—currency, duration, interest rate—be neutralized to their portfolio's overall settings. Customization will also be critical as institutions implement liability-driven investments. Hedge funds in particular may introduce creative strategies that match an investor's liabilities while generating a return superior to a laddered bond portfolio.

The Industry's Biggest Challenge

As stated in Chapter 2, we believe that hedge funds have earned a long-term role in institutional portfolios. We view our forecasts for future institutional investment in hedge funds to be reasonably conservative. That said, certain factors like scandals and regulation could slow predicted growth. Given what we know today, however, we expect that these factors could only negatively impact our forecasts in a marginal way. **The single factor that would materially change our growth expectations would be a scenario where hedge fund and fund-of-hedge fund managers meaningfully and broadly underperform the net return requirements and expectations of institutional investors.**

What could cause this underperformance? The sudden and dramatic inflow of assets into hedge funds (which we are in the middle of seeing) could lead hedge fund managers to drift from their absolute return roots and take ever-greater beta exposure. Might hedge fund strategies too closely resemble the traditional long-only strategies investors they are seeking to replace? It has certainly been the case that in aggregate, the correlation of hedge fund strategies to the equity markets has increased dramatically since 2003. Notably, this correlation increase has been observed not only in the usual suspects (like long-short equity), but also in historically less correlated strategies (like global macro).

Avoiding this fate will depend largely on hedge funds' discipline in (1) "sticking to their investment knitting;" (2) delivering on investors' net return requirements with appropriate volatility; (3) managing business models and products that are highly in sync with clients' expectations; and (4) continuing to be boldly innovative when the opportunity presents itself.

Conclusion

As discussed in both our 2004 study and in this study, institutional demand for hedge funds continues to grow at a rapid pace. With over $1 trillion invested in hedge funds by 2010, institutions will continue to help drastically transform the competitive landscape of the industry. Institutions find themselves in an important state of transition away from bull market-oriented portfolios and toward portfolios that depend on skilled investment managers to deliver on specific net return requirements with specific risk exposures. Hedge funds and other alternative managers are well positioned to facilitate this transition.

However, it is clear that the capabilities and products required to facilitate this transition are, at a minimum, only being built today. The competitive landscape, in many ways, remains a wide open playing field. The leading investment managers of 2010 will employ bold thinking to create business models that meet the needs of the next generation of institutional investor.

Appendix: Requirements for Institutional Success

The following is an excerpt from our September 2004 report, *Institutional Demand for Hedge Funds: New Opportunities and New Standards*. In our final chapter, we introduced what we believed to be the primary attributes required for hedge funds to attract institutional capital. We believe this checklist of seven primary attributes remains largely intact today.

The Checklist

We begin with the assumption that the primary driver of hedge fund success will be the investment professionals' perceived ability to deliver returns in line with clients' expectations. Given managers of equal skills and the proper alignment of financial interests, which are the hedge fund firm attributes that will most appeal to institutional investors? Based on our interviews, we have settled on seven primary requirements for managers' success.

Exhibit 18: The Checklist
Requirements for Institutional Success

- ☑ 1. Business Management
- ☑ 2. Culture of Integrity
- ☑ 3. Operational Excellence
- ☑ 4. Disciplined Investment Process
- ☑ 5. Investment Strategy Innovation
- ☑ 6. Comprehensive Risk Oversight
- ☑ 7. Sophisticated Client Service

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

1. Business Management

The growing "institutionalization" of hedge fund demand will require greater resources and higher professional standards than previously required for success. Organizing these resources and instilling professionalism require strong tactical business management skills. The larger and more complex the hedge fund firm, the higher the premium put on business acumen.

The attention to business management is rational. Institutions want to be assured that their hedge fund advisor is a viable long-term business and that investment professionals are not distracted from making good decisions about their portfolios. They want to minimize potential disruption due to over-dependence on any one individual for the effective operation of the firm.

Putting into place the appropriate business management talent will be a challenge for the hedge fund industry. First, the current supply of experienced talent is limited. Second, the investment professionals who dominate most hedge fund firms are often still reluctant to recognize the importance of such skills. Quite possibly, the institutionalization of hedge fund demand may require consolidation around the short commodity of business leadership.

2. Culture of Integrity

Leading institutional investors rightfully require very high standards for professional conduct throughout an entire investment management firm. They want to be assured that their advisors are acting in the best interests of their clients at all times.

Hedge fund managers must instill in their firms unimpeachable ethical standards with little to no tolerance for infractions. Adequate resources must be dedicated to compliance.

Best practices will include a series of independent checks and balances that reinforce the culture of integrity, especially with regard to valuation, risk management, trade settlement, cash movements, and custody. These duties should be segregated, and potentially performed by third parties (especially with regard to valuation). A culture of integrity must be reinforced by policies in the spirit of "trust but verify."

3. Operational Excellence

Institutions are placing greater emphasis on hedge fund firms' business infrastructure. Survey respondents indicated that "operational and infrastructure excellence" and "outstanding risk management" are clearly the most important non-investment characteristics to institutional investors. (At this point in time, investors are placing much greater emphasis on these attributes than on client service and investment process or security-holding transparency.)

During our interviews, institutions most often specifically mentioned the following operational concerns:

- Third-party verification of pricing.
- Documented policies and procedures. Institutions require documentation; leading firms have and make available written details of all key operations.
- Well-designed trading infrastructure that links trade order management, portfolio accounting, and risk management.
- Robust disaster recovery.
- Senior professional operational leadership independent of the investment team.
- Meeting the increased standards for operational excellence will be a significant challenge for many firms. As a result, we are likely to see the continued growth of outsourcing options for hedge fund firms.

In addition, we believe that institutions will also expect hedge fund managers to systematically address "Embedded Alpha" or the less apparent "frictional" costs of managing an investment portfolio. These costs include portfolio financing; the opportunity cost of failing to execute trades efficiently; ineffective cash and collateral management; and the negative market impact of trading. "Embedded Alpha" costs have been estimated to be 100 to 200 basis points or more per annum. To date, most hedge fund managers have not explicitly managed "Embedded Alpha." However, with lower expected returns, these embedded alpha costs become even more relevant.

4. Disciplined Investment Process

Institutional investors realize that great investment management is a blend of art and science. That said, to appeal to institutions, hedge funds must demonstrate how they make clear investment decisions. Hedge funds must have investment processes that are understandable (even if complex), consistent, risk-aware, and perceived to be repeatable. A clearly defined investment process establishes credibility among buyers and intermediaries. It establishes confidence in the consistent delivery of performance within the agreed-upon risk parameters.

To appeal to institutions, hedge funds must also be able to articulate in a clear and concise manner the true competitive advantage that they possess, i.e., how they will deliver alpha in a manner that is unique and compelling.

Sophisticated evaluators are also assessing whether hedge funds have the appropriate quantity and quality of investment professionals to credibly implement their investment process. This is particularly true of fund-of-hedge fund firms, where the staffing requirements have increased substantially over the past few years.

Quantitative research skills and tools have taken on a significant role in the investment industry, and hedge funds should be able to master and leverage these tools even if their core processes are fundamental in nature. They are not a panacea but can provide support for the research and decision-making processes. They can also provide significant leverage to an investment team. Leading hedge fund managers are integrating quantitative tools into several parts of the investment process such as: screening and idea generation, portfolio construction, attribution analysis, and performance monitoring.

5. Investment Strategy Innovation

Many institutions recognize that hedge fund investment strategies face cycles and secular trends with regard to their effectiveness. As a result, they expect that hedge fund firms will dedicate resources to constantly evaluating the effectiveness of their investment process. Appropriately augmenting their investment capabilities will be a core competence of successful hedge fund firms—whether this is hiring a new trading desk or constantly developing new quantitative models.

In some ways, institutions seem much more tolerant of such investment process reinvigoration among hedge funds than among traditional managers (where it is perceived as "style drift"). Many institutionally accepted hedge fund firms have migrated, for example, from merger arbitrage specialists to broader event-driven managers or from convertible bond specialists to capital structure arbitrageurs.

6. Comprehensive Risk Oversight

Institutions have high expectations for their hedge fund managers with regard to risk controls. Most obviously, they expect a strong handle on all market risk factors to which a portfolio (not just an individual security) is exposed. Proprietary tools are encouraged, though thoughtful application of third-party packages is also satisfactory.

However, institutional caliber firms will approach risk as being broader than simply market movements. As Chapter 2 described, institutions view "Headline Risk" as the most significant impediment to hedge fund investing. They also believe that operational breakdowns are the most prevalent source of hedge fund failures. As a result, hedge fund

managers should also have a compelling approach to operational, regulatory and counter-party risks if they are to appeal to institutional investors.

Institutions perceive risk oversight best practices to include having senior risk professionals who are independent of the investment team.

7. Sophisticated Client Interface

Historically, investment firms have been product-driven, focusing on clients only after the products have been created and are ready for sale. To be fully successful in the institutional market segments, hedge fund firms will require a broader set of distribution skills, among them:

- *Dedicated Client Service.* Institutional clients expect hedge fund managers to provide professional interaction. Institutions do, however, respect the fact that senior investment professionals should spend the majority of their time managing capital. Leading hedge fund firms are beginning to employ senior individuals to act as intermediaries between the manager and client.

- *Quality Communications.* Institutions require that information and insight, not just data, be provided to them at regular intervals.

- *Solutions Resources.* Institutions often look to their investment managers not only as a provider of product, but also as a sounding board for their investment issues. Leveraging proprietary intellectual capital as a means of influencing the institutional market can, therefore, provide an enormous competitive advantage. A well-structured thought leadership effort can play an important role in establishing such a market reputation and can create a most effective "dialogue generation tool" to reach the firm's target audience.

- *Willingness to Provide Transparency.* Most institutions do not (yet) want hedge funds to provide them with full transparency on their holdings—most have little ability to process and assess this information. However, institutions are interested in the willingness to provide this information to their fund of funds or third-party risk vendor (on a detailed level). Institutions will increasingly negatively view complete intransigence on this issue.

Sophisticated client interaction generates a more stable capital base for existing products and will provide greater opportunity to raise future funds.

Acknowledgements

Over 100 senior professionals from leading institutional investors, consultants, hedge funds, fund-of-hedge funds, and other hedge fund-related organizations provided their thoughts in individual interviews conducted during the Summer of 2006. We gratefully acknowledge their willingness to share their time and unique perspectives.

Firm Name	Individual	Title
Aetos Capital, LLC	Michael Klein	Managing Director and Co-President of Absolute Return Strategies
Alaska Permanent Fund Corporation	Chris Phillips	Chief Financial Officer
Alternative Investment Management Association, Japan Chapter	Ted Uemae	Chairman
Angelo, Gordon & Co.	John Angelo	Chief Executive Officer
Arden Asset Management LLC	Averell Mortimer	President and Founder
Arkansas Public Employee Retirement System	Gail Stone	Executive Director
Blueprint Capital Management	Mike Downie	Managing Partner
Business Control Group Solutions, PLC	Joe Cassidy	Consultant
California Public Employees Retirement System	Christianna Wood	Senior Investment Officer, Global Equity
Carne Global Financial Services Limited	John Donohoe	Chief Executive Officer
Citisoft, Plc	Sunil Chadda	Head of Hedge Funds and Derivatives
Corbin Capital Partners, LP	Tracy McHale-Stuart	Partner and Chief Executive Officer
CRA Rogers Casey	Tim Barron	President and Chief Executive Officer
Deutsche Bank Absolute Return Strategies	Rick Goldsmith	Global Head of Deutsche Bank Absolute Return Strategies
DKR Capital Partners, LP	Laurie Beaty	Senior Vice President
Drew University	Jeffrey Balog	Associate Treasurer
El Pomar Foundation	R. Thayer Tutt	President and Chief Investment Officer
Ennis Knupp + Associates	Richard Ennis	Principal
Ernst & Young LLP	Paul Sater	Partner
Federal Street Partners, LLC	Edgar Barksdale	Principal and Chief Executive Officer
Federation of Protestant Welfare Agencies	Sanders Davies	Board Treasurer
Financial Risk Management	George Jamgochian	Director
FrontPoint Partners LLC	Daniel Waters	Partner, Head of Client Advisory Group
FRR Ltd.	Christophe Aubin	Head of Strategic Allocation
GE Asset Management	John Myers	Chief Executive Officer and Chairman (retired)
Girl Scouts of the USA	Margie Wang	Vice President, Finance Services and Technology
Investcorp	Christopher Acito	Managing Director
ITT Corporation	Theodore Economou	Assistant Treasurer
Ivy Asset Management	Sean Simon	Co-President
JANA Investment Advisers Pty Ltd, Australia	Ken Marshman	Chair and Managing Director Representative
John Lewis Partnership for Pensions	Andrew Chapman	Pensions Investment Manager
K2 Advisors LLC	R. Kelsey Biggers	Managing Director
Keyspan Corporation	Barbara Lupo	Director of Investments and Insurance Management

Acknowledgements

Firm Name	Individual	Title
Kinetic Partners LLP	Julian Korek	Founding Member
KPMG LLP	Giles Drury	Senior Manager, Financial Sector Advisory
London Borough of Croydon	Peter Davies	Head of Pensions and Treasury
London Borough of Ealing	Paul Audu	Finance and Performance
Magnox Electric Group of the Electricity Pension Scheme	Fergus Hall	Group Administrator
Mercer Investment Consulting	Kouta Yoshinori	Business Leader for Investment Consulting in Japan
Michelin North America, Inc.	Randy Price	Director of Retirement Plan Investments
New England Pension Consultants	Peter Gerlings	Senior Consultant
North Sound Capital LLC	Andrew Wilder	Chief Operating Officer
Ospraie Management, LP	Eric Vincent	President
Permal Asset Management	Thomas De Litto	Executive Vice President and Chief Operating Officer
Permal Asset Management	Lawrence Salameno	Executive Vice President, Marketing
Pirelli Common Investment Fund	Andrew McTaggart	Payroll and Pensions Manager
PriceWaterhouseCoopers LLC	Robert Mellor	Director, Hedge Funds
Prudential Investment Management	Bernard Winograd	President and Chief Executive Officer
Prudential Investment Management	Steven Saperstein	Chief Operating Officer
Public Employees' Retirement System of Mississippi	Pat Robertson	Executive Director
Railpen Investments	Brendan Reville	Head of Asset Manager Monitoring
Rocaton Investment Advisors	Roger Fenningdorf	Partner
Safeco Corporation	Mark Meyer	Assistant Vice President, Corporate Finance
Sheet Metal Workers National Pension Fund	Mark Patrick	Director of Finance
SHK Fund Management, Ltd.	Christophe Lee	Chief Executive Officer
Sovereign Asset Management, LLC	Ismail Gunes	Vice President, Investment Operations and Performance
Sparx Asset Management Company Ltd.	Masaki Taniguchi	Executive Officer
Stamford Associates Limited	Nathan Gelber	Chief Investment Officer
State of Iowa Treasurer's Office	Michael Fitzgerald	State Treasurer
State of South Carolina Treasurer's Office	Richard Patsy	Director of Investments
Strategic Investment Group	Deborah Boedicker	Principal
Symphony Asset Management LLC	Neil Rudolph	Chief Operating Officer
Syngenta Pension Fund	Stephen Crosbie	U.K. Pensions Manager
Telstra Super Pty Ltd	Nicole Connolly	Portfolio Manager, Alternative Assets
Telstra Super Pty Ltd	Terry McCredden	Chief Executive Officer
The Bank of New York	Kevin Bannon	Executive Vice President, Chief Investment Officer

Firm Name	Individual	Title
The Capital Markets Company (UK)Limited	David Myers	Partner
The Capital Markets Company (UK)Limited	Julian Wakeham	Partner
The Episcopal Church, Domestic and Foreign Missionary Society	Kurt Barnes	Chief Financial Officer and Treasurer
The Episcopal Church, Domestic and Foreign Missionary Society	Margareth Crosnier de Bellaistre	Director of Investment Management and Banking
The Hong Kong Jockey Club	Keith Yuen	Deputy Group Treasurer
The Museum of Modern Art	Jason Klein	Chief Investment Officer
The Pension Boards of the United Church of Christ	Julia Oliver	Treasurer and Chief Financial Officer
The Seventh AP Fund	Richard Grottheim	Executive Vice President
The Sumitomo Trust & Banking Company	Tatsuro Inoue	Senior Manager
Thomas Murray Limited	Roger Fishwick	Director of Ratings
Unilever	Angela Docherty	Senior Corporate Investment Consultant
United Mine Workers of America	John Mogg	Investment Advisor
United Steel Workers Benefit Funds	Maria Wieck	Administrative Officer
University of Southern California	Jeffrey Fischer	Assistant Treasurer
Verizon Investment Management Corporation	Kevin Lynch	Head of Strategic Relationships and Absolute Return Strategies
Victorian Funds Management Corporation	Jeffrey Rogers	Chief Investment Officer
Watson Wyatt Limited	Chris Mansi	Senior Investment Consultant
Wayne County Employees' Retirement System	Richard Noelke	Deputy Director
White and Case LLP	Christopher Wells	Partner
XL Capital Ltd	Sarah Street	Chief Investment Officer

Some interviewees requested to remain anonymous and are not listed here.

The Bank of New York

The Bank of New York Company, Inc. (NYSE: BK) is a global leader in providing a comprehensive array of services that enable institutions and individuals to move and manage their financial assets in more than 100 markets worldwide. The Company has a long tradition of collaborating with clients to deliver innovative solutions through its core competencies: securities servicing, treasury management, asset management, and private banking. The Company's extensive global client base includes a broad range of leading financial institutions, corporations, government entities, endowments and foundations. Its principal subsidiary, The Bank of New York, founded in 1784, is the oldest bank in the United States and has consistently played a prominent role in the evolution of financial markets worldwide. Additional information is available at www.bankofny.com.

North America

Marina W. Lewin, Managing Director	212 815 6973
Orla M. Nallen, Managing Director	212 635 6703

Europe

David Aldrich, Managing Director	44 207 964 6428

Asia Pacific

Andrew Gordon, Executive Vice President	852 2840 9801

Thought Leadership Project coordinated by Aniko DeLaney, Managing Director.

Casey, Quirk & Associates

Casey, Quirk & Associates provides management consulting services exclusively to investment management firms. The firm specializes in developing business strategy, enhancing investment practices, and crafting distribution plans. The firm draws on 35 years of experience in delivering value to its clients and partners through a unique combination of deep industry knowledge and experience, solutions-oriented thought leadership, and a proven ability to create change within organizations.

Contacts

John F. Casey, Chairman	203 899 3030
Kevin P. Quirk, Partner	203 899 3033
Daniel Celeghin, Associate Director	203 899 3003

Casey, Quirk & Associates
19 Old King's Highway South
Darien, CT 06820
www.cqallc.com

The Bank of New York Company, Inc.
One Wall Street
New York, NY 10286
www.bankofny.com

© 2006 The Bank of New York Company, Inc.
All rights reserved.