

Transforming Active Equity Management— The Growing Need for an Alpha-Oriented Strategy

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Two catalysts are driving institutional investors to transform their traditional active equity management: ① uncertainty in the equity market, and ② the equity market's strong influence on investment performance. The transformation is heading toward alpha-oriented investing, which requires greater investment competence. Alternatives include focus investment, which invests long-term in a limited number of securities, and an absolute return strategy, which eliminates the long-only constraint on individual securities. However, these strategies must be cautiously adopted based on an objective assessment of investment skill.

1. Introduction

Pension funds and other institutional investors are transforming their asset management process. In the past, they eagerly embraced empirical findings in the U.S. and Japan showing that policy asset allocation (which seeks an appropriate long-term “normal” asset mix to control risk and enhance return) largely determines investment performance.¹ As a result, they have emphasized policy asset allocation above all other decisions.² However, dismal investment performance amid the domestic and foreign stock market downturn from fiscal 2000 to 2002 is forcing them to question the traditional framework and to seek new strategies.

Two key topics will affect the future course of asset management. First, investors are increasingly skeptical of the traditional premise that long-term stock investment produces a higher return than JGBs. Stock returns have actually lagged behind JGB returns not only for the three-year period since fiscal 2000, but during the entire post-bubble period.

The second topic involves a performance characteristic of active equity funds, funds which institutional investors (trust banks, life insurers, and investment advisers) manage on behalf of pension funds. Many of these traditional active equity funds earn an “alpha” return, or return in excess of the benchmark return (such as TOPIX). However, the total return is determined not so

¹ For the best known empirical analysis of the U.S. in this area, see Gary P. Brinson, Brian D. Singer, and Gilbert L. Beebower, “Determinants of Portfolio Performance II: An Update,” *Financial Analysts Journal*, May/June 1991. For Japan, see Pension Fund Association, “Kosei nenkin kikin no shisan unyo: shisan unyo jittai chosa no yakuwari to jisho bunseki (Asset management of the employees’ pension fund: the role and empirical analysis of asset management surveys),” August 2001.

² For more information on policy asset allocation decisions, see Shuji Tanaka (ed.), Shinichi Yamamoto, and Susumu Sasaki, *Nenkin shisan unyo (pension asset management)*, Asakura Shoten, 2004, pp. 73-134.

much by alpha—which accrues only to skilled managers—as by market trends. Thus even if pension funds have the skill to pick a manager who produces a positive alpha, they must still endure the market’s strong influence on total return.

Given that ① the equity market’s future is uncertain, and ② the market heavily affects the performance of traditional active management, institutional investors face growing pressure to adopt an alpha-oriented strategy for domestic equities, which dominate their investment portfolios. That is, market uncertainty (or more accurately, the bleak prospects) makes it more sensible to secure an absolute return by skillfully selecting securities with an alpha-oriented strategy.³ Practical alternatives include focus investment, which invests long-term in a limited number of securities, and an absolute return strategy, which eliminates restrictions on short-selling of securities.

In this paper, we first analyze historical equity risk premiums (the extra return of equities relative to government bonds) and the performance of traditional active equity funds. Next, as a first step toward alpha-oriented investing, we simulate a focus investment strategy to better understand its performance characteristics. Finally, after examining the benefits and limitations of focus investment, we briefly discuss the need for an absolute return strategy, and the future of active equity management.

2. Historical Equity Risk Premium

The return on equity investment can be separated into a risk-free component (risk-free interest rate) and a risk premium component as follows:

$$\text{Return on equity} = \text{Risk-free interest rate} + \text{Risk premium}$$

Since we are looking at pension funds and other institutional investors with a long-term horizon, the risk-free interest rate is defined not as the short-term interest rate, but the yield on 10-year government bonds.⁴ We define the equity risk premium as the extra return of a 10-year equity investment over the 10-year bond yield. If the equity risk premium is negative for any given 10-year period, it means that government bonds earned a higher return.

Figure 1 shows historical equity risk premiums for Japan and the U.S. The starting month and year of each 10-year investment period is indicated on the horizontal axis. For Japan, there are 523 data points for 10-year periods starting from February 1952 to August 1995; for the U.S., there are 835 data points going back to February 1926. While Japan’s average equity risk premium since

³ Another alternative is to seek a higher return by diversifying into real estate investment products and equities in emerging markets. However, we do not explore this alternative here.

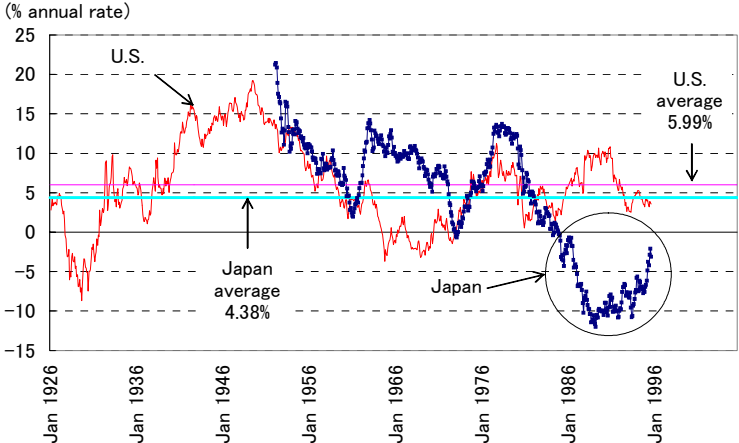
⁴ The yield on 10-year government bonds can be viewed as the return from buying a 10-year bond and holding for ten years (that is, the bond return for a ten-year investment period).

1952 is positive at 4.38%, the risk premium has actually been negative ever since the 10-year period starting December 1984. Thus over the past two decades, high risk has not been correlated with high return for long-term investors.

For the U.S., the average historical equity risk premium is 5.99%. Unlike Japan, the equity risk premium has been consistently positive for all 10-year periods excluding two abnormal periods—the stock market crash from October 1929 to early 1930s, and the first oil shock in the early 1970s. Thus historical experience confirms a fundamental belief of investors—that no investment outperforms equities in the long term.

Of course, we cannot conclude from the historical data that Japan's equity risk premium will vanish forever. Nor can we confidently assert that like the U.S., Japan's equities will outperform government bonds in the long term.

**Figure 1 Equity Risk Premium of Japan and U.S.
(10-year equity return minus 10-year Treasury or JGB yield)**



Notes: Horizontal axis shows starting month and year of investment period. Data period is Feb. 1952–July 2005 for Japan, and Feb. 1926–July 2005 for U.S.; equity return is TOPIX (dividend included) for Japan, and SP500 (dividend included) for U.S. Source: Compiled using data from Ibbotson Associates, Tokyo Stock Exchange, Japan Securities Dealers Association, and FRB.

3. Performance of Traditional Active Equity Funds

To evaluate the performance of traditional active equity funds managed by institutional investors, we use readily available data on active domestic equity funds that trust banks manage on behalf of pension funds.

The data consists of quarterly investment performance of commingled funds of trust banks (gross of management fees), as reported in the *Newsletter on Pensions & Investment* (Rating and Investment Information, Inc.). The survey sample consists of 46 funds with at least five years of uninterrupted data between April 1995 and March 2005. The benchmark is the TOPIX (dividend included), which tracks the performance of the First Section of the Tokyo Stock Exchange.

1. Verifying Alpha

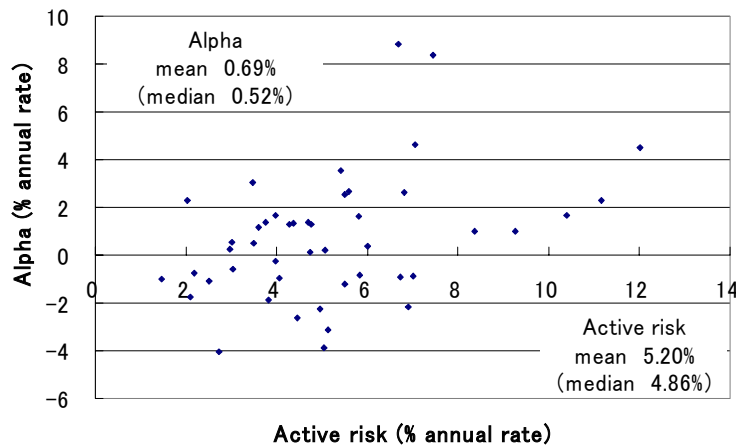
First, we examine whether the funds earn an alpha return, which is the primary objective of active management. Alpha refers to the extra return relative to the benchmark; a positive alpha indicates that the fund outperforms the market.

$$\text{Fund return} = \text{Benchmark (market) return} + \text{Alpha return}$$

The standard deviation of alpha represents the active management risk. The larger the active risk, the more volatile alpha is, causing the total return to deviate more widely from the benchmark.

In Figure 2, we can see large differences in alpha and active risk levels. Alpha ranges from -4% to 9%, with a positive overall average of 0.69%. On the other hand, active risk is distributed from 1% to over 10%, and averages 5.2%.

Figure 2 Risk/Return of Commingled Funds of Trust Banks (domestic active equity)



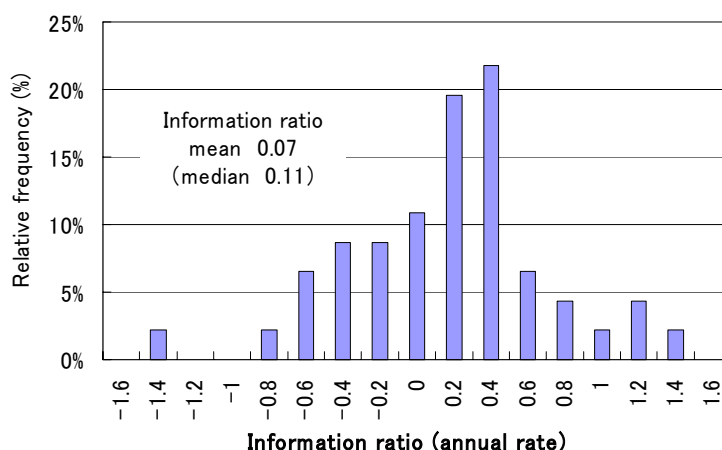
Notes: Alpha is the extra return to the appropriate benchmark (fund return – benchmark return). Fund return is expressed gross of management fees. Active risk is the standard deviation of alpha.
Source: Rating and Investment Information, Inc., *Newsletter on Pensions & Investment*.

Figure 3 shows the distribution of the information ratio (IR). The information ratio is a management efficiency indicator of how much active risk is taken to obtain alpha (alpha ÷ active risk). Experience has shown that a ratio of 0.5 is good, 0.75 is superior, and 1.0 is excellent.⁵ The mean IR is slightly positive at 0.07 for the 46 funds. Approximately 60% of the funds (28 funds) have a positive IR, while over 10% (six funds) have a good IR above 0.5.

These results show that traditional active equity funds vary widely in performance. Many accrue a positive alpha, while a limited number are well managed and accrue alpha efficiently.

⁵ Richard C. Grinold and Ronald N. Kahn, *Active Portfolio Management: A Quantitative Approach for Producing Superior Returns and Controlling Risk*, second edition (New York: McGraw-Hill, 2000), 114.

Figure 3 Information Ratio Distribution of Commingled Funds (domestic active equity)



Notes : Information ratio is an indicator of how efficiently alpha is earned (alpha / active risk).
Source: Same as Figure 2.

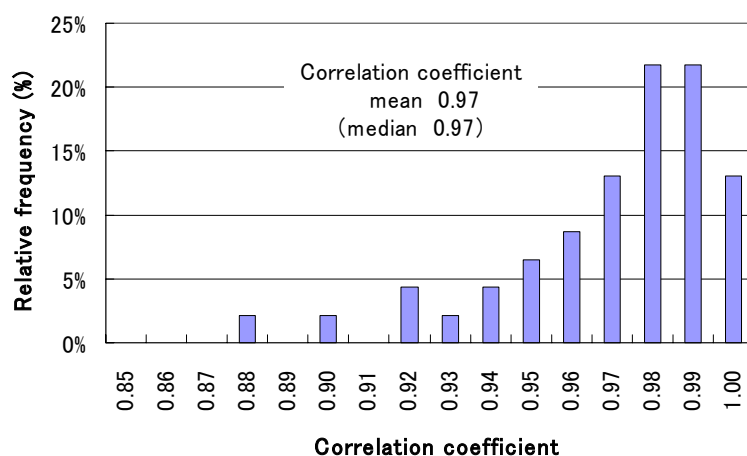
2. Verifying Sources of Total Return

Next, to examine sources of total return, we measure the correlation between the total returns of the funds and the benchmark (market). The correlation coefficient can take a value between 1 and -1. Values close to 1 indicate a strong positive relationship (if the benchmark return rises, the fund return rises, and vice versa), while values close to zero indicate that no relationship exists (the fund return is independent of the benchmark return), and values close to -1 indicate a strong inverse relationship (if the benchmark return rises, the fund return falls, and vice versa).

In Figure 4, almost all funds show a correlation coefficient above 0.9, indicating a strong positive correlation with TOPIX. To explain the strong correlation, we note that fund returns fluctuate approximately 20% to 25%, compared to market fluctuations of 20% and alpha fluctuations from 1% to over 10% as described earlier. Thus the market's impact on fund returns is relatively large.

In short, the total return of traditional active equity funds is characterized by a dominant market component and fragile alpha component. Thus even if pension funds can skillfully select a well managed fund with a positive alpha, the total return of the fund is still susceptible to market influence.

Figure 4 Correlation of Commingled Fund Return and TOPIX (domestic active equity)



Note: Fund return is gross of management fees.
Source: See Figure 2.

4. Adopting Focus Investment

Confronted by market uncertainties and market influence on traditional active equity fund performance, institutional investors must resort to skilled management and an alpha-oriented strategy.

In considering alpha-oriented investment strategies, one that immediately comes to mind is focus investment. As with traditional active management, the short-selling restriction on individual stocks applies, but investment is long-term and concentrated in a small number of carefully selected issues.⁶ Below we conduct a simulation to measure how focus investment affects performance, and to grasp some of its characteristics.

1. Simulation Conditions

The simulation period is the decade from April 1995 to March 2005. The universe of stocks is the 1,233 issues listed on the TSE first section at the start of the simulation. The investment strategy is to buy and hold a given number of randomly selected issues in an equally weighted portfolio. Specifically, we simulated the performance of 15,000 portfolios as follows:

- 3,000 portfolios—10 issues
- 3,000 portfolios—30 issues
- 3,000 portfolios—50 issues
- 3,000 portfolios—100 issues
- 3,000 portfolios—250 issues

⁶ Focus investment was made famous by investor Warren Buffet. In the early 1970s, institutional investors practiced another investment style called the “Nifty 50,” which like focus investment limited the number of issues. However, the Nifty 50 emphasized growth stocks with high PE ratios and expected profit growth.

Since the stocks are randomly chosen, no particular level of management competence is assumed. The simulation's sole purpose is to see how the number of issues in a portfolio affects performance.

2. Simulation Results

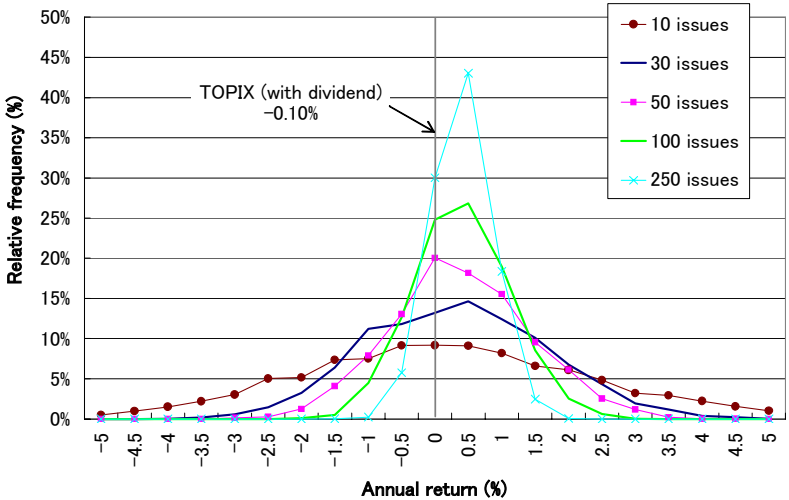
① *Average annual return*

Figure 5 shows how average annual returns are distributed for each portfolio. The horizontal axis measures average annual return in 0.5% increments, while the vertical axis shows the percentage of portfolios earning that return. For example, a relative frequency of 10% means that 300 out of the 3,000 portfolios earn that particular return.

It is immediately apparent that as portfolios become focused, the distribution flattens in the middle and widens on both sides—that is, returns tend to deviate from the average.

This result is confirmed in the table at the bottom of Figure 5. For a portfolio with 10 issues, the probability of outperforming the market return by 2% or more is 18.7%. The probability quickly falls toward zero as portfolios become less focused.

Figure 5 Return Distribution of Focus Investment Portfolios (April 1995-March 2005)



Note: On horizontal axis, 0.5 means greater than 0.0 and up to and including 0.5. The same applies for other segments.

	Unit	10 issues	30 issues	50 issues	100 issues	250 issues	Market TOPIX (w/ dividend)
Mean	(% annual rate)	-0.06	0.08	0.13	0.15	0.15	-0.10
Median	(% annual rate)	-0.13	0.08	0.09	0.13	0.15	
Standard deviation	(% annual rate)	2.29	1.35	1.04	0.71	0.42	
Probability of outperforming market by 2% or more per year	(%)	18.7	9.5	5.2	0.7	0.0	
Probability of underperforming market by 2% or more per year	(%)	17.9	4.6	1.2	0.1	0.0	

Indicates 562 out of 3,000 portfolios (562/3000)

In summary, a focus investment portfolio of 10 to 30 issues has the same probability of

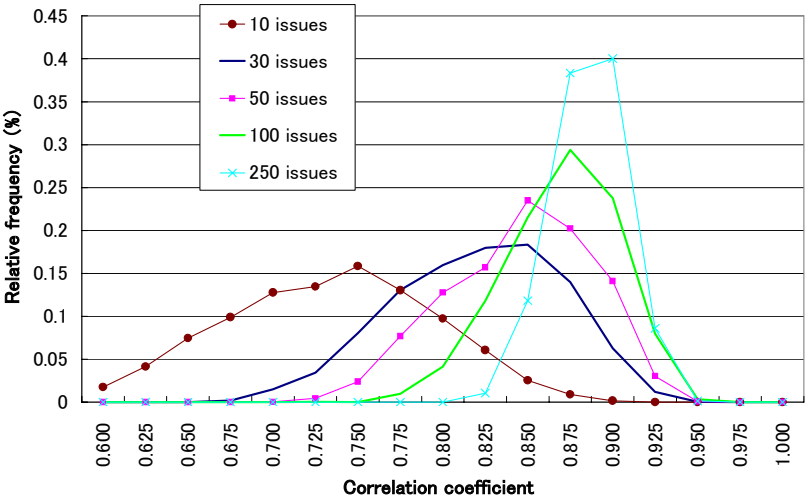
outperforming the market as traditional active management (which usually invests in 100 or more issues),; however, focus investment is more likely to *significantly* outperform (or underperform) the market. This result suggests that unless focus investment is adopted, even skilled managers are likely to produce only mediocre results that match the market.

② *Correlation coefficient*

For the same five portfolios, Figure 6 plots their correlation with TOPIX. As portfolios become focused, the distribution widens and the correlation tends to decrease. However, correlation coefficients are high overall, hovering above 0.6 even for the most focused portfolio, which indicates the market’s strong influence.

Because focus investment retains the long-only constraint of traditional active management, it can only partially eliminate the market’s influence. Thus despite sharing the alpha orientation’s characteristic disregard of market trends and benchmarks, focus investment does not constitute a pure absolute return strategy.⁷

Figure 6 Correlation of Focus Investment Portfolios and TOPIX (April 1995-March 2005)



Note: On horizontal axis, 0.9 means greater than 0.875 and up to and including 0.9. The same applies for other segments.

5. The Future of Active Management

We have analyzed what is causing institutional investors to resort to alpha-oriented management— a strategy that relies heavily on investment skill to eliminate market influence on performance—and described focus management as a leading strategy. Our simulation of focus investment revealed some interesting characteristics, from which we can draw two implications.

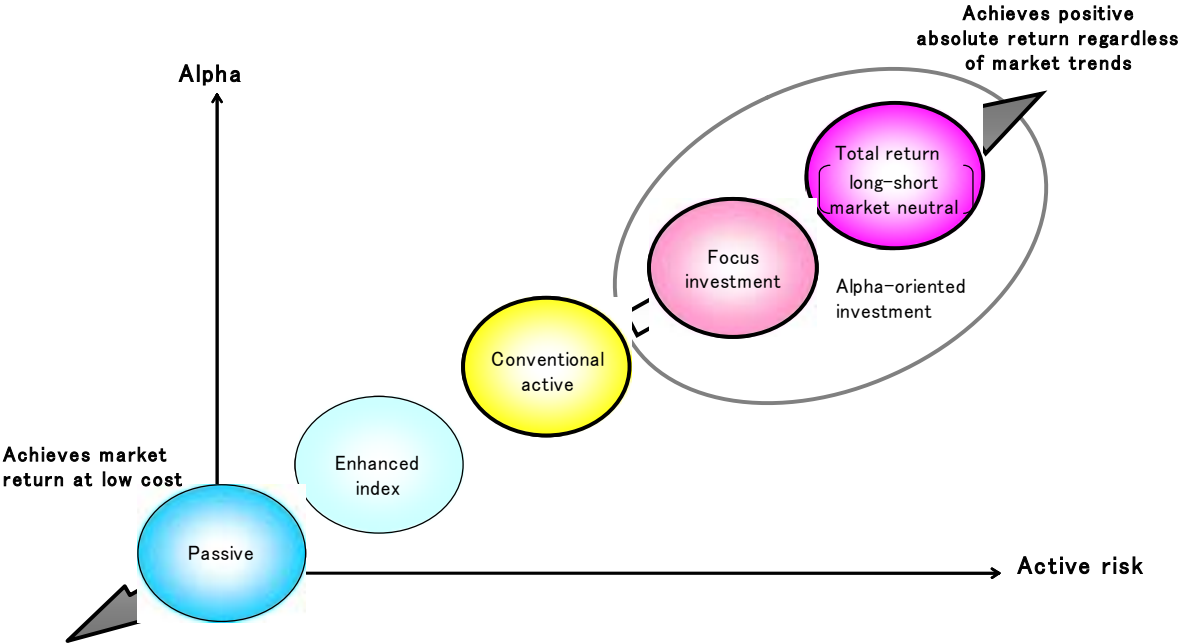
⁷ We ran the same simulation for the stock market’s worst decade (the cumulative return of TOPIX was -51% for Feb 1989–Jan 1999), and found that a positive absolute return is very difficult to achieve (the probability of a positive absolute return for a 10-issue portfolio is only 0.6%).

First, managers skilled at selecting securities will fail to outperform the market unless they adopt focus investment and limit the number of issues in the portfolio. Second, since focus investment can eliminate market influence only to a limited extent, a different approach is needed to pursue a pure absolute return strategy.

In light of the benefits and limitations of focus investment, we need to consider an absolute return strategy designed to eliminate market influence, as indicated by the upper right arrow in Figure 7. One such absolute return strategy is the long-short or market neutral strategy— simultaneously holding a long position in undervalued stocks and an equivalent short position in overvalued stocks, thereby reducing the market influence to zero. This extracts pure alpha from the total return. By making alpha the single source of return, it represents the ultimate form of active equity management.

Finally, amid the fervor for alpha-oriented management, institutional investors must remember the consequence of making alpha the sole source of absolute return—performance will be determined solely by investment competence. Thus success will come only to institutional investors who can invest skillfully over the long term, or else find outside managers who can.⁸ Otherwise, they should consider moving in the opposite direction (lower left arrow in Figure 7) toward passive management, which seeks to match the market and minimize management cost.⁹ Ultimately, the future of alpha-oriented management will depend on whether institutional investors can objectively assess their investment competence and the market’s prospects.

Figure 7 Map of Active Equity Management Strategies



⁸ In finance textbooks, investors can expect an equity premium from the market (real economy), but not a stable long-term alpha derived from market inefficiencies, because equity investment is a zero sum game.
⁹ Passive management, often called index management, seeks to replicate market composition and return. A variation called enhanced index management takes on negligible risk to slightly outperform the market.