

What makes a top performing fund?

Bigger is better, and some other surprises when it comes to pension funds

BY TOM SCHEIBELHUT

There are many misconceptions when it comes to the performance of pension funds. Looking at the data, however, reveals some surprising conclusions. They are:

- Bigger is better. Larger funds have outperformed smaller funds.
- Passive is better.

Funds with a higher proportion of their assets managed passively have outperformed funds with more active implementation styles.

- Lower cost is better. Paying more does not get you more and, in fact, gets you less. High-cost funds have not performed as well as low cost funds.
- Contrary to popular belief, public funds are performing just as effectively as corporate funds.
- Also contrary to popular belief, funds with a higher proportion of internal management have done better than funds with more external implementation styles.

Looking At The Data

Winners were defined as pension funds with positive Net Value Added (NVA). NVA is the return in excess of what could have been earned by implementing a fund's policy asset-mix decision (such as 60% equities and 40% fixed income) passively through indexed portfolios, such as the TSE 300 for equities and the Scotia McLeod Universe Bond Index for fixed income (see Table 1, page 35). NVA measures management's skill in implementing asset-mix policy. NVA results were calculated for each of the 120 pension funds (56 Canadian, 64 U.S.) representing over \$1 trillion of assets (\$401 billion Cdn, \$648 billion US) for which we had a four-year continuous 1993-1996 history.

The first finding is that North American pension funds have not performed very well. Average four-year NVA for

all funds was -0.38% and only 41 of 120 pension funds generated positive four-year NVA (see Table 2, page 35). This finding, unfortunately, has an all too familiar ring. Similar findings of poor performance relative to passive alternatives have been reached in numerous studies of both the mutual fund industry and of institutional portfolios.¹

The average size
of winning funds was
\$16 billion versus \$5 billion
for the losing funds.

What Matters?

Four characteristics separate the winners from the losers:

- Winners were larger: the average size of winning funds was \$16 billion versus \$5 billion for the losing funds.
- Winners were more passively managed: winning funds had an average of 27% passive management versus 13% for losing funds.
- Winners were more internally managed: winners were, on average, 30% internally managed versus 18% internally managed for losers. This finding mostly reflects that winners were larger since larger funds are also more internally managed than smaller funds.
- Winners were more likely to be U.S. funds: 52% of U.S. participants were winners versus only 14% of Canadian participants. This difference reflects, in part, that participating Canadian funds were smaller and less passively managed than the U.S. funds. The average size of the Canadian funds was \$4.7 billion versus an average size of \$12.3 billion for U.S. funds. The Canadian funds had an average proportion of 11% passively managed versus 23% passive for U.S. funds.

The statistical relationship between NVA, fund size and proportion of passive management was estimated using multiple regression.² The R-squared of 0.25 indicates that the regression equation explains 25% of the differences in NVA results. The large 't' values indicate that both the

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fund size and proportion of passive management coefficients are significant.

The Cost Factor

Why then are passive management and size predictors of NVA? One reason is costs. The system-wide gross value-added from active management in efficient markets is zero—for every winner there is a loser. However, after adjusting gross value-added for costs (such as transaction, market impact, custodial, compensation) as NVA does, the system-wide contribution from active management becomes negative—there will always be more losers than winners because of costs. Thus, it is not surprising that funds with characteristics that minimize costs, such as passive styles and economies of size, are winners.

Other Explanations

Additional reasons why size and percent passive may contribute to superior performance include:

- It is easier for larger funds to attract and retain the best internal people.
- Larger funds have better access to the best external money managers.
- Larger funds are more likely than smaller funds to have control features and organizational structures that prevent ill-conceived investment strategies.
- Funds with larger passive portfolios may have spent more time thinking about where they can and cannot add value. Many funds have passive core portfolios in markets they believe to be the most efficient (for example, large capitalization stocks) combined with active holdings in markets they believe to be less efficient (for example, small capitalization stocks and venture capital).

Surprising Findings

Two findings that are interesting, because they contradict accepted beliefs, are that fund type and proportion of assets internally managed do not predict NVA.

It is generally accepted that corporations, and thus corporate funds, are more efficient than governments, and their public funds.

When it comes to NVA generation this is not true. Similar proportions of

Table 1

What is NVA?

Net value added is a measure of management skill in implementing asset mix.

Gross Fund Return	11.0%
less	
Fund Policy Return ^a	10.0%
Fund Operating Costs ^b	0.3%
equals	
Net Value Added (NVA)	0.7%

where

(a) Fund Policy Return is the return your fund would have earned if you had passively indexed your policy asset mix decision (for example, 60% stocks and 40% bonds) through your benchmark portfolios (for example, the TSE300 for stocks and the Scotia McLeod Universe bond index for bonds). It equals the sum of Policy Weights X Benchmark Returns).

(b) Fund Operating Costs equals the sum of Direct Investment Management costs plus asset management related Governance and Administration Costs.

Table 2

Winners and losers

Winners were larger funds, and had an average 27% passive management.

	Winners (NVA greater than 0)	Losers (NVA less than 0)
Characteristic		
Four-year performance		
Average Gross Value Added	1.03%	-0.59%
Average Total Operating Cost	0.31%	0.35%
Average Net Value Added	0.72%	-0.95%
Fund Size		
Average (billions)	\$15.8BN	\$5.1BN
Investment Style		
Average % Internally Managed	30%	18%
Average % Passively Managed	27%	13%
Count by Fund Type		
Corporate	24	49
Public	14	19
University and Other	3	11
	41	79
Count by Fund Nationality		
Canadian Funds	8	48
U.S. Funds	33	31
	41	79
External Stock and Bond Managers		
Average Number of Managers	17	11
Average Dollar Mandate	\$386 mil	\$179 mil
% Covered by Performance Fees	6%	8%

corporate and public funds were winners (33% of corporate funds and 42% of public funds were winners).

Similarly, in an era of downsizing and outsourcing, one reason used to justify slashing internal operations and using higher-cost external management is to improve performance. So far, there is no support for this justification. Funds with high proportions of internal management appear to have done better than funds with high proportions of external management (winners had an average of 30% internal management versus losers who had an average of 18%).

North American pension funds have not been compensated for the additional costs and risk incurred through active management. Those that have succeeded have been bigger funds and funds with a high proportion of passive management.

ENDNOTES

1. John C. Bogle, "Selecting Equity Mutual Funds," *The Journal of Portfolio Management*, Winter 1992, p. 94-100. Eric C. Chang and Wilbur Lewellen, Market Timing and Mutual Fund Investment Performance, *Journal of Business*, 1984, page 57-72. Roy Henriksson, "Market Timing and Mutual Fund Performance: An Empirical Investigation," *Journal of Business* 57 (1984), pp. 73-96. Josef Lakonishok, Andrei Shleifer and Robert W. Vishny, "The Structure and Performance of the Money Management Industry," *Brookings Papers: Microeconomics* 1992, p. 339-391. Burton G. Malkiel, "Return from Investing in Equity Mutual Funds 1971 to 1991," *The Journal of Finance*, June 1995, p. 549-572. Schmitz, J.J., "The Performance and Consistency of Equity Professional Managers: A Review and Synthesis," Western Business School, University of Western Ontario, Mimeograph, December 8, 1995, page 3 as referenced on page 27 of John H. Ilkiw's book *The Portable Pension Fiduciary: A Handbook for Better Pension Fund Management*, MacLean Hunter Publishing Limited.

2. Regression Equation: Net Value Added (NVA) versus Proportion of Fund Passively Managed and Log10 of Fund Size

$$NVA = -2.21\% + 0.47 \text{ Log Size} + 1.49 \text{ Proportion Passive}$$

t-values -5.3 3.7 3.8

$R^2 = 0.25$