



Lincluden

Alpha Beta Soup:
*Can a More Customized Approach to Equity Risk and Reward
Help Your Plan?*

RISK MANAGEMENT CONFERENCE
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Overview

- Alpha and Beta along with many market based Risk/Reward concepts are not very helpful in addressing pension plan risk
- A number of proposed strategies that seem to better fit the goals of a pension plan
- Suggestions on how to identify and measure the success of the strategies in achieving your goal

Risk is Situational

- If your goal is certainty of return on \$100 Investment

Rank by Risk

1. GIC
2. Money Market
3. Bonds
4. Equity
5. Lucky Dasher in the 7th (100 to 1 odds)
6. Lotto 649

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Risk is Situational

- If your goal is certainty of return on \$100 Investment
- You owe a loan shark \$10,000 by tomorrow. You have \$100.

Rank by Risk

1. GIC
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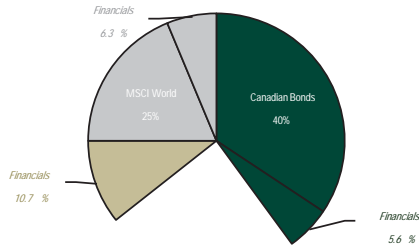
Rank by Risk

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"Sometimes the Way we Look at the Problem is the Problem"
 Stephen R. Covey

Typical Balanced Portfolio – June 30, 2007



23% Financial Exposure

Typical Equity Portfolio

As at June 30, 2007	60% S&P/TSX & 40% MSCI World
Consumer Discretionary	7.69
Consumer Staples	4.77
Energy	20.15
Financials	28.65
Health Care	3.93
Industrials	7.93
Information Technology	6.50
Materials	12.54
Telecommunication Services	5.28
Utilities	2.55
Total	100.00

28% Financial Exposure

The Pattern of Market Returns is Not Helpful



- Are we happy? Should we have reasonably expected it to be different?
- Perhaps the goal and the measurement are not appropriate
- As Managers, if staff achieve a goal ten times in ten, but the company is put into distress four times in ten, would you change your metric?

Decide on a Goal that Serves Your Plan's Need

- For most pension investors, an absolute goal of CPI + 5% ? for the equity portion is likely of better service to the plan than to outperform a market portfolio
 - The greater the consistency, the better
- The pattern of return matters
 - Loss of capital has greater repercussions than outsized gains
 - Pension plans have difficulty storing surplus
- How to identify strategies that serve this goal in a 'beat the market' world
- How do I measure success?

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Strategies that May Provide a Better Risk/Reward Fit for Pensions

Purported Benefits

- No impact to market return or reduction in return with much less than risk
- Typically a reduction in volatility
- Typically outperforms in poor markets

Fundamental Strategies

- A free cash flow anomaly
- A low price earning anomaly
- A market/book anomaly
- A high dividend yield anomaly

Systematic or Quantitative Strategies

- Low volatility
- Low beta

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Heisenberg Uncertainty Principle

"The Presence of the Observer Changes the Nature of the Observed"

- In investment management, the measurement changes the behaviour of the measured
 - Closet indexers exist as a result of measurement to a market benchmark
- Look for higher tracking error
- Yale Study – Active Share
 - One third of active fund strategies studied were judged to be “closet indexers”

All Equity Mutual Funds in the U.S. 1992 - 2003

TYPE	ACTIVE SHARE	%
Indexes	0 – 20	13.4
Closet Indexers	20 – 60	27.4
Somewhat Active	60 – 80	31.8
Highly Active	80 – 100	27.5

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Some Measures that Help Identify Strategies that Better Address Pension Risk

- Sortino ratio versus your goal
 - Measures ability to add value to your plan versus the potential to lose capital
 - Customizable
- Treynor ratio versus your goal
 - Value add to goal versus beta
 - Customizable, however beta as risk measure (flawed)
- Upside/downside capture
 - Measures the experience of a manager in up and down periods
 - Identify manager with
- Semi-standard deviation below your goal
 - Measures the probability and magnitude of underperforming your goal
 - Used in combination you can begin to identify strategies that better fit your goal
 - More and better measures needed

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Manager Assessment Grid

	Y	N
Above Average Tracking Error	✓	
High Active Share	✓	
Low Downside Capture	✓	
High Sortino Ratio	✓	
High Treynor Ratio	✓	
Low Semi-Standard Deviation versus Pension Goal	✓	

- Qualitative: philosophy and process should support the expectation confirmed in the numbers

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Conclusion

- Risk/Reward based mandates are more helpful in addressing pension plan risk
- Many strategies exist that would appear to serve pension goals better
- A matrix of measures customized to your goal can help you identify and measure strategies that best fit your needs

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APPENDIX

Risk Measure Formulas
Anomaly References

Risk Measure Formulas

■ Sortino Ratio

- A ratio developed by Frank A. Sortino to differentiate between good and bad volatility in the Sharpe ratio. This differentiation of upwards and downwards volatility allows the calculation to provide a risk-adjusted measure of a security or fund's performance without penalizing it for upward price changes. It is calculated as follows:

$$\text{Sortino Ratio} = \frac{\langle R \rangle - R_f}{\sigma_d}$$

Where,
 $\langle R \rangle$ = Expected Return
 R_f = The Risk Free Rate of Return
 σ_d = Standard Deviation of Negative Asset Returns

■ Treynor Ratio

- A ratio developed by Jack Treynor that measures returns earned in excess of that which could have been earned on a riskless investment per each unit of market risk.

The Treynor ratio is calculated as:

(Average Return of the Portfolio - Average Return of the Risk-Free Rate) / Beta of the Portfolio

Risk Measure Formulas

■ Upside Capture Ratio

- A statistical measure of an investment manager's overall performance in up-markets. The up-market capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen. The ratio is calculated by dividing the manager's returns by the returns of the index during the up-market, and multiplying that factor by 100.

$$\text{Up/Down - Market Capture Ratio} = \frac{\text{Manager's Returns}}{\text{Index Returns}} \times 100$$

■ Downside Capture Ratio

- A statistical measure of an investment manager's overall performance in down-markets. The down-market capture ratio is used to evaluate how well or poorly an investment manager performed relative to an index during periods when that index has dropped. The ratio is calculated by dividing the manager's returns by the returns of the index during the down-market and multiplying that factor by 100.

$$\text{Up/Down - Market Capture Ratio} = \frac{\text{Manager's Returns}}{\text{Index Returns}} \times 100$$

Risk Measure Formulas

■ Semi Standard Deviation

- A measure of dispersion for the values of a data set falling below the observed mean or target value. Semi deviation is the square root of semi variance, which is found by averaging the deviations of observed values that have a result that is less than the mean. The formula for semi deviation is as follows:

$$\text{Semi deviation} = \sqrt{\frac{1}{n} \sum_{r_i < \text{Average}} (Average - r_i)^2}$$

Where:

n = the total number of observations below the mean

r_i = the observed value

average = the mean or target value of a data set

Risk Measure Formulas

■ Active Share Definition

- An academic study conducted by researchers from Yale in 2006. The active-share study examined the proportion of stock holdings in a mutual fund's composition that was different from the composition found in its benchmark. The greater the difference between the asset composition of the fund and its benchmark, the greater the active share.

Formula - Active Share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the manager's portfolio versus the weight of each holding in the benchmark index and dividing by two.

$$ActiveShare = \frac{1}{2} \sum_{i=1}^N |w_{fund,i} - w_{index,i}|$$

■ Tracking Error Definition

- A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark. This is often in the context of a hedge or mutual fund that did not work as effectively as intended, creating an unexpected profit or loss instead.

Formula - Nevertheless it is commonly calculated as Standard deviation of returns relative to benchmark:

$$T.E. = \omega = \sqrt{\text{Var}(d - b)} = \sqrt{E[(d - b)^2] - (E[d - b])^2}$$

Anomaly References

- Free Cash Flow anomaly – Hackel, Kenneth S., Livnat, Joshua and Rai, Atul. As published in Journal of Accounting, Auditing & Finance, Vol 15, No 1 (2000)
- Low Price to Earnings anomaly – What Works on Wall Street, James O'Shaughnessy, 2005 edition
- Low Price to Sales anomaly - What Works on Wall Street, James O'Shaughnessy, 2005 edition
- Low Price to Book anomaly - Eugene Fama and Kenneth R. French, The Cross-section of Expected Stock Returns Journal of Finance, June 1992
- High Dividend Yield anomaly - Patel, Pankaj N., Yao, Souheang and Barefoot, Heath, High Yield, Low Payout (August 15, 2006).
- Low Volatility or Beta anomaly – Fama, French. Common Risk Factors in the Returns on Stocks and Bonds. Journal of Financial Economics, 33 (1993)