

**UBC Faculty Pension Plan Second Quarter 2007 Edition** 

# **Investing for the Long Term**

Financial theory says that investors who take risk should be rewarded with a higher rate of return over the long term. In this article, we examine the investment implications of various asset allocation choices for the Faculty Pension Plan.

#### **Risk and Reward**

The financial markets offer a wide range of investments, from very conservative choices such as Treasury Bills (short-term investments guaranteed by governments) to aggressive forms of equities (such as venture capital and emerging market stocks). Financial theory says that there is a direct relationship between risk and reward: more risk should lead to more reward, less risk should lead to less reward.

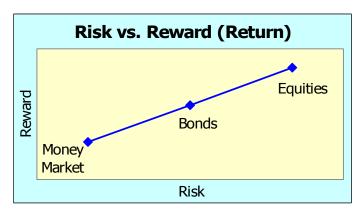
## Page 2:

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- Investing in the stock market was bumpy, with a number of years of negative results.
- Investing in the stock market led to twice the account value at the end of the period as investing in Treasury Bills."

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The theoretical relationship between risk and reward is supported by empirical evidence. Graph 1 shows 50 years of rates of return of the Canadian stock market, as represented by the S&P/TSX index. Graph 2 shows 50 years of rates of return of Canadian Treasury Bills (T-Bills).



Graph 1 shows that in most years (typically three out of every four) the stock market had positive results, but in about one out of every four years, the stock market had negative results. In roughly one out of every 10 years, the stock market lost more than 10%. Nevertheless, the stock market had many more good years than bad, and the annualized rate of return over the 50 years was 10.4%.

Graph 2 shows that the money market had positive results in every year. An investor whose utmost concern is avoiding the loss of capital would invest entirely in money market securities. Such a conservative invest-



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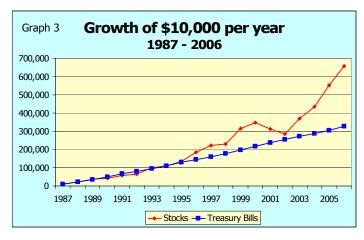
ment strategy had an annualized rate of return of only 6.7% over 50 years, with rates much less than 10% during the last 15 years.



#### **Pension Plan Investment Risk**

If risk is defined as the possibility of losing capital, then investing in money market securities is a reasonable strategy. But the loss of capital isn't the only risk a pension plan member faces and, in fact, isn't the most important risk for a younger member who is far from retirement. The primary objective for a pension plan member saving for retirement is to accumulate sufficient assets to provide an adequate pension at retirement. Although a pension plan member might prefer a smooth path, a smooth path may lead to less value at retirement.

Graph 3 shows the accumulated value of \$10,000 contributed each year from January 1, 1987 to December 31, 2006, investing in two strategies: 100% in the Canadian stock market and 100% in Treasury Bills.



Two observations can be made:

- investing in the stock market was bumpy, with a number of years of negative results
- investing in the stock market led to twice the account value at the end of the period as investing in Treasury Bills

## **Investment Options**

The Balanced Fund has been designed to provide a typical member with a target retirement income of 67% of final year's income, after 30 years of investment. It was also designed to reduce some of the short-term volatility that a pure equity fund would have, with a shorter-term target of minimizing the probability of a negative annualized three-year return. Consequently, the Balanced Fund has a mix of different asset classes, some that emphasize long-term return, and others that balance the negative return of the riskier assets. The Balanced Fund has the following asset mix:

Asset Class	% Allocation in Balanced Fund
Canadian Equities	20%
US Equities	15%
International Equities	15%
Absolute Return Hedge Fund	2%
Government, corporate, and real return bonds	38%
Real Estate	10%

The FPP also offers other investment options: a Canadian Equity Fund, a Foreign Equity Fund, a Bond Fund and a Short Term Investment Fund. Most members would normally invest some or all of their assets in the Balanced Fund, with its mix of risky and risk-balancing assets. Younger members might reasonably invest a greater portion of their assets in the riskier asset classes that should perform better over the long term and older members might be more comfortable investing a portion in the more conservative investment options. The table below shows the rates of return of the five funds over different periods up to 13 years (since inception), and estimates of what the funds would have earned over 50 years, based on market index rates of return.

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Annualized Returns to June 30, 2007					
Period	Balanced	Canadian Equity	Foreign Equity	Bond	Short Term
1 year	15.0	25.8	17.1	4.4	4.4
2 years	11.7	22.6	11.9	1.7	3.8
3 years	11.3	20.9	9.3	4.7	3.4
4 years	12.2	22.4	12.5	4.3	3.2
5 years	9.8	17.4	6.8	5.5	3.1
10 years	7.6	10.9	4.4	6.2	4.5
13 years	9.8	13.5	7.6	8.0	5.0
50 years*	9.7	10.4	11.6	7.5	6.7

<sup>\*</sup>estimated, based on historical market index returns

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As might be expected, over the long term the equity funds performed better than the balanced fund, which performed better than the bond fund, which performed better than the short term fund.

#### **The Asset Allocation Decision**

The asset allocation decision is by far the most important decision that an investor has to make. To increase reward, it is necessary to increase risk. With a long time horizon, the good years from the riskier assets should more than balance out the bad years. Also, an investor should be comfortable with their asset allocation decision (i.e. be able to "sleep at night"), and should take into account other financial circumstances, such as a spouse's pension income.

The table on the next page shows some sample asset mixes by risk tolerance, based on actual fund results for the past 13 years, plus estimated results for the preceding 37 years (50 years in total). "Risk" is defined as the number of years of negative rates of return. The table shows there is high correlation between return and risk.

## **Life Cycle Investing**

As a member ages and approaches retirement, the tolerance for risk generally declines because there are fewer future years available to balance a poor year close to retirement. Consequently, an increasingly popular concept for retirement saving is "life-cycle" investing, in which the asset mix is adjusted to more conservative assets as a member approaches retirement. The lower table on the next page provides an illustration.

However, note that if you are planning to purchase a LIF/RRIF option at retirement (see First Quarter 2007 edition of *Pension News*), you may wish to retain a larger portion of your assets in the Balanced Fund as you approach retirement. As discussed in the Fourth Quarter 2005 *Pension News*, if you are planning to purchase an annuity, a heavier weighting in the Bond Fund may be considered. Members can find detailed descriptions of the FPP fund options on the website at: www.pensions.ubc.ca/faculty/investment.html

This article was prepared by Satanove & Flood Consulting Ltd. Comments should be sent to: fpp@hr.ubc.ca



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The Asset Allocation Decision				
Risk/Reward	Composition		Annualized Return over the past 50 years	# of years of negative rates of return in the past 50 years
Very low	Short-Term	100%	6.7%	0
Low	Short-Term Balanced	50% 50%	83%	2
Low/Medium	Short-Term Balanced	20% 80%	9.2%	9
Medium	Balanced	100%	9.7%	10
Medium/High	Canadian Equity Foreign Equity Balanced	25% 25% 50%	10.5%	10
High	Canadian Equity Foreign Equity	50% 50%	11.2%	11

Life Cycle Investing				
Age Range	Asset Mix		Annualized Return over the past 50 years	# of years of negative rates of return in the past 50 years
20 – 40	Balanced Canadian Equity Foreign Equity	50% 25% 25%	10.5%	10
40 – 50	Balanced Canadian Equity Foreign Equity	70% 15% 15%	10.2%	9
50 – 60	Balanced Bond Short-Term	60% 30% 10%	8.8%	8
Over 60*	Balanced Bond Short-Term	50% 30% 20%	8.6%	5
*Different asset mixes if purchasing annuity vs. RRIF/LIF vs. cash withdrawal				

# **Trustee Election**

Annually, in November, an election is held to select two trustees for the upcoming two year period. A Notice of Election is sent to all members in September, asking for candidates. If you are interested in running or are nominating a candidate, the forms must be in the Pension Administration Office by October 6, 2007.

# **Faculty Pension Plan Workshops**

The Faculty Pension Plan offers two regularly scheduled seminars – one provides information about the Faculty Pension Plan, and is of interest to new and existing members. The other provides information about the Plan's retirement options and is suited to members who are approaching retirement. To register or learn more about these seminars, please contact Jim Loughlean at 604-822-8987 or jim.loughlean@ubc.ca

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# **Market commentary**

Despite rising interest rates, global economic growth was strong during the second quarter, and oil prices rose to \$70 U.S. per barrel. Canadian stocks showed good earnings growth and there was strong merger and acquisition activity during the guarter. In the month of June, seven of the ten sectors in the S&P/TSX index retreated, but for the entire quarter only one sector (Health care) did not have positive returns. The S&P/TSX index returned 6.3%, which surpassed the returns of both the S&P 500 at 5.8% and the MSCI-EAFE at 4.9% (in local currency terms). The strength of the Canadian dollar (an 8.4% increase over the quarter) resulted in Canadian dollar returns for the S&P 500 of -2.0 % and -1.9% for the MSCI-EAFE. The Canadian stock market was led by Telecommunication Services (17.4%) and Information Technology (16.4%) in the second quarter. The U.S. equity market showed record merger and acquisition activity and energy, information technology and industrials were the strongest performing sectors in that market.

Interest rates rose sharply during the quarter and the Canadian yield curve became inverted at the very long end. The Bank of Canada maintained its overnight rate at 4.25% during the quarter. The Scotia Capital Universe index had a return of -1.7% during the second quarter and short term bonds performed better than long term bonds. Spreads for corporate bonds widened, leading to underperformance in that sector. Real return bonds underperformed the universe index, with a return of -3.5%. After a strong guarter, the Canadian dollar closed the guarter at 94.09 cents U.S., up from 86.77 cents a quarter earlier.

## Performance of Funds for periods ending June 30, 2007

	_	_	_	
3 Months	<u>1 year</u>	3 years	<u>5 years</u>	10 years
0.88%	15.01%	11.32%	9.84%	7.65%
0.77%	14.63%	10.87%	9.39%	7.23%
0.27%	13.46%	10.31%	9.43%	n/a
6.08%	25.81%	20.91%	17.42%	10.90%
5.98%	25.31%	n/a	n/a	n/a
6.42%	23.25%	19.90%	16.44%	n/a
-1.84%	17.05%	9.32%	6.80%	4.44%
-1.99%	16.62%	n/a	n/a	n/a
-1.81%	17.84%	8.50%	7.32%	n/a
-2.06%	4.40%	4.68%	5.52%	6.21%
-2.11%	4.20%	4.45%	5.28%	5.96%
-1.92%	4.15%	4.88%	5.80%	n/a
1.07%	4.35%	3.37%	3.12%	4.45%
1.03%	4.18%	3.17%	2.92%	4.16%
1.03%	4.27%	3.26%	3.08%	3.77%
	0.88% 0.77% 0.27% 6.08% 5.98% 6.42% -1.84% -1.99% -1.81% -2.06% -2.11% -1.92% 1.07% 1.03%	0.77% 14.63%   0.27% 13.46%   6.08% 25.81%   5.98% 25.31%   6.42% 23.25%   -1.84% 17.05%   -1.99% 16.62%   -1.81% 17.84%   -2.06% 4.40%   -2.11% 4.20%   -1.92% 4.15%   1.07% 4.35%   1.03% 4.18%	0.88% 15.01% 11.32%   0.77% 14.63% 10.87%   0.27% 13.46% 10.31%   6.08% 25.81% 20.91%   5.98% 25.31% n/a   6.42% 23.25% 19.90%   -1.84% 17.05% 9.32%   -1.99% 16.62% n/a   -1.81% 17.84% 8.50%   -2.06% 4.40% 4.68%   -2.11% 4.20% 4.45%   -1.92% 4.15% 4.88%   1.07% 4.35% 3.37%   1.03% 4.18% 3.17%	0.88% 15.01% 11.32% 9.84%   0.77% 14.63% 10.87% 9.39%   0.27% 13.46% 10.31% 9.43%   6.08% 25.81% 20.91% 17.42%   5.98% 25.31% n/a n/a   6.42% 23.25% 19.90% 16.44%   -1.84% 17.05% 9.32% 6.80%   -1.99% 16.62% n/a n/a   -1.81% 17.84% 8.50% 7.32%   -2.06% 4.40% 4.68% 5.52%   -2.11% 4.20% 4.45% 5.28%   -1.92% 4.15% 4.88% 5.80%   1.07% 4.35% 3.37% 3.12%   1.03% 4.18% 3.17% 2.92%

Composite Index 1: 33% SCU, 10% S&P/TSX Capped, 5% S&P/TSX, 5% S&P/TSX 60, 15% S&P 500, 15% MSCI-EAFE, 2% SC 91-Day TB, 10% IPDCPI, 5% SC Real Return Bonds

Composite Index 2: 50% S&P/TSX Capped, 25% S&P/TSX, 25% S&P/TSX 60

**Composite Index 3:** 48% S&P 500, 48% MSCI-EAFE, 4% SC 91-Day TB

Composite Index 4: 86.8% SCU, 13.2% SC Real Return Bonds

## Composition of Funds as at June 30, 2007

	Market Value	
Balanced Fund	(\$ Millions)	% of Fund
Equities - Canada	243.1	21.8%
Equities - U.S.	157.4	14.1%
Equities - EAFE	162.3	14.6%
Absolute Return Hedge Fund	23.4	2.1%
Real Estate - Canada	119.6	10.7%
Fixed Income - Canada	357.7	32.1%
Real Return Bonds - Canada	46.4	4.2%
Cash & Short term	<u>4.3</u>	<u>0.4%</u>
Total Balanced Fund	<u>1,114.2</u>	<u>100.0%</u>
Canadian Equity Fund	<u>78.6</u>	<u>100.0%</u>
Foreign Equity Fund		
Equities - U.S.	18.7	47.1%
Equities - EAFE	19.3	48.6%
Absolute Return Hedge Fund	<u>1.7</u>	<u>4.3%</u>
Total Foreign Equity Fund	<u>39.7</u>	<u>100.0%</u>
Bond Fund		
Fixed Income - Canada	20.5	88.7%
Real Return Bonds - Canada	<u>2.6</u>	<u>11.3%</u>
Total Bond Fund	<u>23.1</u>	<u>100.0%</u>
Short Term Investment Fund	<u>29.7</u>	<u>100.0%</u>