THE UNIVERSITY OF BRITISH COLUMBIA

ASSET ALLOCATION CHOICES

One of the challenges of investing in a defined contribution plan is that you, the member, direct how to invest your monies. The decision on how to invest your assets will have a very significant impact on the amount of money you ultimately accumulate in your pension plan for retirement. This article examines some of the key concepts that are important in making your decision on what asset allocation is most appropriate for you. This includes the risk and return trade-offs that apply with different asset allocation choices using the investment options provided by the UBC Faculty Pension Plan (FPP).

KEY CONCEPTS:

- If you do not take on any risk, the chance of having sufficient assets at retirement significantly decreases.
- By investing in riskier assets, the long-term expected return is higher; however, there is no guarantee you will earn a higher return.
- Investing in the stock market may be a bumpy ride, but over the long term, stocks have mostly outperformed other investments asset classes.
- As your personal circumstances change (e.g. life events, aging, risk tolerance, other resources) it may be appropriate to adjust your asset allocation.

What is Pension Plan "Investment Risk"?

Most people intuitively define "risk" as the possibility of losing capital or of having their pension fund balance fall. However, is this the predominant risk for a pension plan member in the longer term?

Typically, the predominant risk for a pension plan member is not having sufficient assets at retirement to afford the lifestyle they desire. Another risk to consider is "Longevity Risk," which is the risk of outliving your savings. Your goal should be to balance risk and return to achieve your investment objectives.

The Asset Allocation Decision

As a UBC FPP member, it is your responsibility to make decisions on how to allocate your investments among the Plan's investment options. In doing so, you will need to assess:

- Your personal investment risks (e.g. negative returns, inadequate retirement income).
- How much risk you are able to take (other sources of retirement income, such a spousal pension, may affect your risk profile).
- The level of risk you are comfortable with.

If retirement is a long way off, then short-term capital losses may be of less concern as you will have a longer timeframe to recover any losses. By investing in assets that are expected to have higher returns (i.e., riskier assets), especially at the beginning of your career, it is more likely that you will have sufficient assets in retirement. However, as you approach the end of your career, you may consider reducing risk in order to lessen the impact that a downturn in the stock market would have on your retirement income. This is the concept of "lifecycle investing," which adjusts risk according to your age and is discussed later in this article.

Risk and Reward

With any investment, it is important to understand the expected risks and rewards. In general, the expectation is that taking on more risk will lead to a higher return. "Risk" here is defined as the volatility of returns, or how wide a range of possible returns there may be in any one time period.

In Table 1, we show the 25-year history of returns of the Canadian stock market, as represented by the S&P/TSX Index, as well as the history of returns of Canadian Treasury Bills (T-Bills).

Table 1: 25-Year History of Returns

25-YEARS (1998-2022)		
	Average Annual Returns	Number of Years of Negative Returns
Canadian Stocks (Equities) (S&P/TSX Index)	8.3%	8 (32%)
Canadian Treasury Bills (FTSE TMX Canada 91-Day T-Bill Index)	2.2%	0 (0%)
Difference	**6.1%**	**8 (32%)**

Table 1 illustrates the difference between a riskier asset class (i.e. Canadian Stocks) and a less risky investment, Treasury Bills (T-Bills), which are representative of the returns of the UBC FPP Short Term Investment Fund. As shown, there was a significantly higher return (by 6.1% per annum) with the riskier asset class. However, this asset class has produced negative annual returns in 32% of the calendar years, whereas the T-Bills had no negative returns in any one calendar year.

It is important to be aware that over time the riskier asset classes will produce more volatile returns (i.e. a wider dispersion of both positive and negative returns). Even though the long-term results show higher returns from stocks, there can be periods where stocks underperform the less risky asset classes.

Ultimately, a less risky investment like the UBC FPP Short Term Investment Fund may be a reasonable investment for an individual concerned about losing their capital in the short term. However, in the longer run, a less risky investment has a materially lower expected return. This lower return (compared to stocks) would lead to a much lower amount of accumulated assets for your retirement.

Investing conservatively may seem like an attractive option however less risky assets typically have a lower expected return. By investing conservatively there may be a lower chance of experiencing negative returns; however, this may also increase the chance of having insufficient assets at retirement.

SOME OBSERVATIONS:

- Investing in the stock market can and should be expected to be bumpy, and negative annual returns are a possibility.
- Even over a median time period (five years) there are a number of cases where the stock market did not outperform T-Bills.
- Over the longer period, investing in the stock market led to higher account balances.
- In order to have a reasonable chance of earning a higher return, you need to take on some risk; however, there is no guarantee that you will earn a higher return.

Investment Options

The UBC FPP offers the following investment options:

- Balanced Fund
- Bond Fund
- Canadian Equity Fund
- Foreign Equity Fund
- Fossil Fuel Free Equity and Bond Fund
- Short Term Investment Fund
- Guaranteed Funds (Guaranteed Investment Certificates - GICs)

Members can find detailed descriptions of the investment options by visiting **faculty.pensions.ubc.ca** and selecting **Investments**.

The Policy asset mix of the Balanced Fund is shown below in Table 2. The Balanced Fund's asset mix objective is to provide a typical member with a target income of close to 50% of their final year's income, after 30 years of investment in the fund.* It was also designed to lessen the short-term volatility that a pure equity fund would have and has a shorter-term objective of minimizing the probability of a negative annualized three-year return. Consequently, the Balanced Fund has exposure to a mix of different asset classes, some that emphasize long-term return, and others that balance the volatility of the riskier asset classes.

Table 2: Policy Asset Mix of the Balanced Fund

Asset Class	% Allocation in Balanced Fund
Canadian Equities	10%
Foreign Equities	33%
Government and Corporate Bonds	37%
Alternatives	
Real Estate	12%
Infrastructure	8%

Many members have chosen to invest some or all of their assets in the Balanced Fund, with its diversified mix of risky and risk-balanced assets. Younger members may decide to invest a greater portion of their assets in the riskier asset classes (the Canadian Equity Fund and the Foreign Equity Fund) that are expected to have higher returns over the long term. Older members might be more comfortable investing a larger portion of their assets in the less risky investment options (e.g. Bond Fund, Short Term Investment Fund, GICs) as they near retirement.

*We recognize that going forward this might be difficult to achieve.

Lifecycle Investing

One common approach to help determine an appropriate asset allocation is "lifecycle" investing. Under this approach, the allocation to riskier assets is higher in your earlier years because there is a longer time to recover from any losses. This allocation to riskier assets reduces as you age because there are fewer years remaining to offset a poor return close to your retirement date. The UBC FPP Fossil Fuel Free Equity and Bond Fund is not included as part of the asset mix examples in Table 3 since this Fund is the only fossil fuel free option available.

The lifecycle asset mix options in Table 3 may seem reasonable for some members but others may want to take on more risk (for example, they may have other assets outside of the Plan) or take on less risk, simply because they are more cautious.

Table 3: Example of Asset Mixes for Lifecycle Investing

Age	Asset Mix		Equity and Alternatives %[1]
20-40	Balanced	50%	82% (72/10)
	Canadian Equity	25%	
	Foreign Equity	25%	
40-50	Balanced	70%	74% (60/14)
	Canadian Equity	15%	
	Foreign Equity	15%	
50-60	Balanced	90%	57% (39/18)
	Bond	10%	
Over 60	Balanced	60%	38% (26/12)
	Bond	30%	
	Short-Term[2]	10%	

[1]The figures in brackets below the total percentage are the Equity and Alternatives percentages, e.g. Age Ranges 20-40, the 82% total is 72% Equity and 10% Alternatives.
[2]Some members may wish to consider using GICs for a portion of this short-term allocation.

On the next page, Table 4 shows some potential asset mixes to consider based on a range of risk profiles.

When looking at the sample asset mixes in Table 4, it is important to note that the "less risky" asset mixes are not necessarily "low risk". These asset mixes take into account that at younger ages there is a greater capacity to take investment risk, and that the risk of having insufficient assets at retirement is lower if the asset mixes are not too conservative.

You may decide on an asset mix based on your current risk profile. Remember that your attitudes toward risk, or your risk profile, will likely change over time. If you set your asset mix based on your current risk profile, it is important to reassess your risk profile and asset mix from time to time.

Members can access an Asset Allocation tool that can assess their risk profile and assist in selecting their investment options. The tool is available by signing in to **mysunlife.ca/ubcfpp**, then under **Investments**, select **Manage plan > my plan > Tools > Asset allocation**.

Table 4: Differing Risk Tolerances Applied to a Lifecycle Investment Strategy

	LESS RISK		LIFECYCLE		MORE RISK	
Age	**Asset Mix**	**Equity and Alternatives%[1]**	**Asset Mix**	**Equity and Alternatives %[1]**	**Asset Mix**	**Equity and Alternatives %[1]**
20-40	Balanced 80% Canadian Equity 10% Foreign Equity 10%	74% (60/14)	Balanced 50% Canadian Equity 25% Foreign Equity 25%	82% (72/10)	Balanced 25% Canadian Equity 37.5% Foreign Equity 37.5%	91% (86/5)
40-50	Balanced 90% Bond 10%	57% (39/18)	Balanced 70% Canadian Equity 15% Foreign Equity 15%	74% (60/14)	Balanced 50% Canadian Equity 25% Foreign Equity 25%	82% (72/10)
50-60	Balanced 60% Bond 30% Short-Term[2] 10%	38% (26/12)	Balanced 90% Bond 10%	57% (39/18)	Balanced 70% Canadian Equity 15% Foreign Equity 15%	74% (60/14)
Over 60	Balanced 50% Bond 30% Short-Term[2] 20%	32% (22/10)	Balanced 60% Bond 30% Short-Term[2] 10%	38% (26/12)	Balanced 90% Bond 10%	57% (39/18)

[1]The figures in brackets below the total percentage are the Equity and Alternatives percentages, e.g. Lifecycle Age Ranges 20-40, the 91% total is 86% Equity and 5% Alternatives.
[2]Some members may wish to consider using GICs for a portion of this short-term allocation.

Historical Returns of the UBC Faculty Pension Plan

Table 5 shows the rates of return of the six UBC FPP funds over different time periods. The Fossil Fuel Free Equity and Bond Fund started April 1, 2020 and only 1-year and 2-year performance is shown in the table below. This history is based on the actual UBC FPP funds since their inception in 1994 (Balanced Fund was established in 1967) and has been estimated using market index rates of return prior to this date (with the exception of the Fossil Fuel Free Equity and Bond Fund due to limited availability of fossil fuel free index data).

Table 5: Rates of Return for UBC FPP Funds

GROSS ANNUALIZED RETURNS TO DECEMBER 31, 2022						
Period	**Balanced**	**Canadian Equities[1]**	**Foreign Equities[1]**	**Bonds[1]**	**Short-Term[1]**	**Fossil Fuel Free**
1 Year	-4.33%	-4.34%	-8.00%	-11.59%	1.82%	-13.98%
2 Years	3.42%	10.03%	4.91%	-6.98%	1.01%	-1.80%
3 Years	5.00%	8.80%	7.05%	-1.94%	0.94%	—
4 Years	7.26%	11.78%	10.18%	0.42%	1.17%	—
5 Years	5.68%	7.27%	8.28%	0.53%	1.24%	—
10 Years	7.49%	8.97%	12.97%	1.66%	1.13%	—
15 Years	6.35%	6.55%	8.35%	3.50%	1.19%	—
25 Years	6.67%	8.10%	6.34%	4.52%	2.44%	—
50 Years	8.84%	9.66%	9.34%	7.65%	5.90%	—

[1] Estimated. Historical index returns used for periods before the fund's inception date.

As might be expected, equities generally performed better than the Balanced Fund over the long term, which in turn performed better than the Bond Fund. However, it is important to remember that although the higher risk funds (e.g. equity funds) have higher expected returns, there is no guarantee that you will earn a higher return over every given period of time.

While past performance is of interest, past performance may be a poor indicator, and is certainly no guarantee of future performance.

Conclusion

Your decision on how to allocate your monies between the different investment options is very important and will have a significant impact on your investment results. If you are not entirely comfortable with making this decision, you should consider seeking assistance from resources such as a professional investment advisor. ■