May 26, 2017

PRIVATE & CONFIDENTIAL

Joint Committee
c/o Judith Osborne
Simon Fraser University
Strand Hall 3000
8888 University Drive
Burnaby, BC V5A 1S6

RE: SIMON FRASER UNIVERSITY ACADEMIC PENSION PLAN DESIGN REVIEW

Dear Judith:

We are pleased to provide our final report on the preliminary design review project. As requested, it is focussed on the following two options:

(1) a stand-alone target benefit plan, and

(2) joining the UBC Faculty Pension Plan or adding similar decumulation options to the existing SFU Academic Pension Plan

A third option, to potentially join the BC College Pension Plan, is not completely off the table but requires some additional costing and analysis which are out of scope of the current project. As you are aware, we are currently waiting to hear from the College Plan Board on whether they will consider an SFU application in which case they will first authorize their actuary to undertake some additional costings. We will keep you posted when we hear from them on this.

We look forward to discussing this with the Committee on May 30th.

Sincerely,

Aon Hewitt

Rosalind Gilbert, FCIA, FSA
Associate Partner

RG:vc

Encl.

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Summary

SFU currently sponsors a registered non-contributory defined contribution pension plan for its academic staff (the "SFU Academic Pension Plan") which also has a closed legacy Defined Benefit component. SFU and the SFU Faculty Association agreed to jointly explore alternative pension plan models, with a focus on improving the level and predictability of pension benefits, while maintaining acceptable costs. Aon Hewitt was engaged to provide consulting advice and cost estimates for the potential implementation of a target benefit or hybrid pension plan design, and to suggest other possible design options consistent with the objectives in the Pension Letter of Agreement.

Incorporating feedback from our kick-off meeting during which we reviewed the pension landscape and other Canadian university pension plans, the initial objectives in the Pension Letter of Agreement were reframed somewhat to produce a set of plan design Guiding Principles as follows:

- Shared governance aligned with risk
- University contribution rates consistent with existing provisions
- Relatively equal contributions from plan members and the University
- Mandatory enrollment for new SFUFA members
- Optional enrollment for existing Academic Plan members
- A plan that, considering costs and demonstrable savings, can be achieved with costing constraints including but not limited to government mandates and the University's ability to pay
- A plan that minimizes risk to the University and, insofar as possible, limits the University's liability to employer contributions for annual service costs

The deliverables for the project included:

1. a summary of current Canadian university plan designs, plan issues, trends and best practices;
2. an overview of plan design options, issues, assumptions, drivers, risk analysis, and governance models particularly in consideration of target benefit and other hybrid plans;
3. advice or recommendations for particular plan design(s) suited to SFU academic staff and consistent with the terms of the Pension Letter of Agreement; and
4. financial analysis of implementation, actuarial, legal, transition and ongoing costs of the finalist options.

The first three deliverables were prepared and shared in meetings with the Joint Committee on January 10th and February 28th, 2017, along with related discussions.

This report provides some additional requested information related to the two "finalist" design options identified by the Joint Committee as well as providing cost estimates noted as item 4, above. The two options are:

(1) Implement a stand-alone target benefit plan (the Committee confirmed that there was no interest in joining the BCGEU Target Benefit Pension Plan), and

(2) Joining the UBC Faculty Plan or adding similar decumulation options to the current SFU Academic Pension Plan when allowed under applicable legislation.

Option 1—Target Benefit Plan

In the course of this project, we have provided information to the Joint Committee related to our experience leading the first conversion in Canada of a registered defined contribution pension plan to a target benefit pension plan (the BCGEU conversion). This experience enables us to be confident in the considerations, issues, steps, timing, and costs that would be involved in a similar conversion of the SFU Academic Pension Plan.

Pension Legislation

We confirmed in earlier discussions that the BC pension legislation does not currently support single employer target benefit plans. However, the UBC Staff Pension Plan has recently been confirmed as a Target Benefit Pension Plan with a structure that includes participating employers such as TRIUMF, the UBC Faculty Association, etc. We therefore believe that it would be feasible to have the SFU Academic Pension Plan approved as a target benefit plan using a similar participating employer structure.

Conversion Drivers and Considerations

The BCGEU was motivated to convert its Defined Contribution plan to a Target Benefit Plan because it wanted a plan that would provide reasonably predictable lifetime retirement benefits. 75% of BCGEU members participate in the BC College, Municipal or Public Service defined benefit pension plans, but the remaining 25% of its members don't qualify for membership. The relevant collective agreements already provided for fixed employee and employer contribution rates and, since the BCGEU Plan was already a multiemployer plan with prescribed status under the Income Tax Act, it already qualified for the desired treatment under applicable legislation. A Target Benefit Plan was therefore perfectly aligned with the BCGEU's objectives, and there were no barriers to implementation.

For SFU faculty, the drivers and considerations are different. In your case, the main impetus is to improve the level of pension benefits and the predictability of benefits and costs. There may need to be changes made – including the employer structure noted above – in order to meet the legislative requirements to become a target benefit pension plan.

It is important to note that if the SFU Academic Pension Plan converts on a prospective basis only, then union consent is not required, but if all benefits are converted to a target benefit component and may be reduced at any point in the future without the consent of the Superintendent, then union consent is required for any members covered by a collective agreement.

Governance Considerations

There are no specific requirements under the BC pension legislation for the governance structure of a target benefit plan; however, we recommend that a shared governance structure similar to the current arrangement is appropriate given that members continue to be exposed to pension plan risks including longevity and interest rate risks.

Plan Design & Implementation

It is important at the outset to secure confirmation from the regulatory authorities (the BC Financial Institutions Commission in respect of the provincial minimum standards pension legislation and CRA for Income Tax Act compliance) that they would approve the implementation of a target benefit pension plan for SFU academic employees for future service.

It would then be important to decide how to deal with past service. The three choices are:

1. **Retain accrued DC account balances**. This means that the plan will have both DC and target benefit components for many decades.
2. **Convert accrued DC balances to accrued target benefit pensions** for all members. An analysis of the risk involved in "forcing" members to convert DC account balances to target benefit pensions should be undertaken, including obtaining a legal opinion for the Board and SFU.
3. **Give members the option** to transfer DC account balances to personal registered savings vehicles or convert them to target benefit entitlements. Note that giving plan members the choice to withdraw or convert their accrued DC balances dramatically increases implementation costs, due to the need to provide extensive communication, education and support to the members who are making this complex decision in order to mitigate the associated risk. We note that FICOM has repeatedly affirmed that their approval of portability on plan conversion is granted on a plan by plan basis.

Once there is comfort from the regulatory authorities and a decision on how to deal with past service, costings and analysis to develop the Target Benefit plan provisions can proceed. We estimate the design phase would cost about $100,000 including the following components:

- design plan provisions (eligibility, contribution levels, etc.)
- costings (benefit levels that can be supported by total member and University contributions)
- sustainability analysis (stochastic projections of long term changes to benefit levels)
- education (for pension committee / trustees / staff)
- develop member communication strategy

Not including the administration system, the Implementation Phase could cost between $150,000 and $200,000, including:

- $10,000 for Investment consulting (investment structure, investment options, etc.);
- $30,000 to amend Plan documents and policies
- $10,000 for Plan conversion communications
- $50,000 for the initial actuarial valuation
- $50,000 for work on additional plan details, updating costings, and updating the sustainability analysis [updates may be required depending on the time since the initial plan design process was undertaken]; and
- project management fees (estimated $20,000)

If an administration system needs to be built or customized for the new plan, related costs could be an additional $150,000 or more.

As noted above, giving plan members the choice to withdraw their pre-conversion funds dramatically increases implementation costs, possibly by as much as $100,000 which covers the provision of:

- a plan member hotline;
- pre-conversion personalized statements;
- post-conversion personalized statements; and
- populating the administration database with member elections

In addition to the design, implementation, and communication costs noted above, there could be legal, audit and other fees. We would not anticipate that there would be wind-up costs in this case, since the conversion would be done under the existing plan registration number.

Ongoing costs

We estimate ongoing costs in the neighborhood of $150 per member per year for administration fees as well as approximately $100,000 per year for actuarial, governance, and investment consulting.

Option 2—UBC Faculty Pension Plan (FPP)

(a.k.a. Enhanced DC Decumulation Provisions)

In respect of this option, the Joint Committee asked for a description of how the UBC Faculty Pension Plan works both during the accumulation and decumulation phases, including an illustration of potential accumulated account values, and the amount and pattern of benefits a member may receive under a fixed annuity purchased from an insurance company, the within-plan fixed annuity, as well as the 4% and 7% variable annuity options. We note that there is not an internal plan fixed annuity option at retirement, but the other information is provided below:

Contributions[1]

UBC FPP member contributions are made by payroll deduction on a semi-monthly basis as follows:

- 5% of basic salary up to the Year's Basic Exemption (YBE) 2, plus
- 3.2% of basic salary between the YBE and the Year's Maximum Pensionable Earnings (YMPE)3 plus
- 5% of basic salary above the YMPE

The University contributes to members' accounts on a semi-monthly basis as follows:

- 10% of basic salary up to the YBE, plus
- 8.2% of basic salary between the YBE and YMPE, plus
- 10% of basic salary above the YMPE

There is a Supplemental Arrangement available to accommodate excess contributions for members who reach the annual contribution limits under the Income Tax Act.

Investment Options:

UBC FPP members can choose to invest their contributions and the University's contributions in one or more of the Plan's six investment options as follows:

- Balanced Fund
- Canadian Equity Fund
- Short Term Investment Fund
- Bond Fund
- Foreign Equity Fund
- Guaranteed Funds

Members can actively choose and monitor their investments or can select the UBC FPP Balanced Fund, which offers a well-diversified portfolio of stocks, bonds, and real estate. The default investment is the Balanced Fund.

The UBC Balanced Fund Fact Sheet as at March 31, 2017 is included in Appendix A to this report. More information on the investment options, including Fund Fact sheets for the other options can be found at http://faculty.pensions.ubc.ca/investments/options/.

[1] Source: http://faculty.pensions.ubc.ca/overview/

[2] YBE is $3,500 and is the minimum earnings below which CPP contributions are not deducted and benefits are not paid.

[3] YMPE is the maximum earnings on which CPP contributions are deducted and benefits are paid. It is $55,300 in 2017.

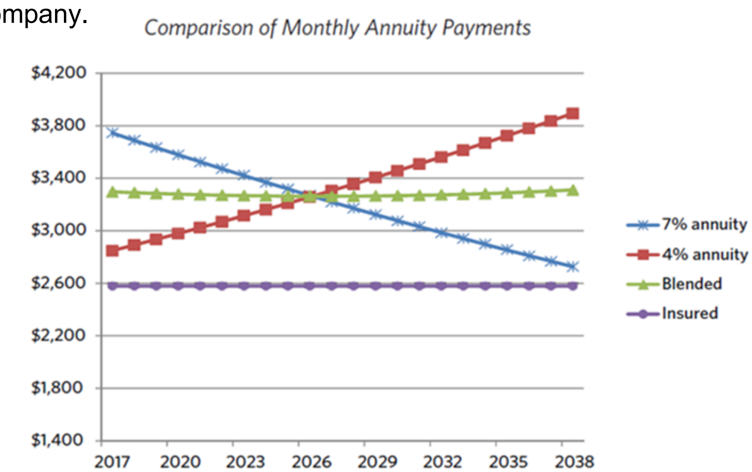
UBC FPP Variable Pay Life Annuity (VPLA):

At retirement (or at age 71 if still working), UBC FPP members may choose to use all or a portion of their accumulated account balances to provide a variable lifetime annuity.

The VPLA option works like this: The lump sum amount that a member wants to use to purchase a monthly annuity is transferred from their account to a retirement annuity account invested in the FPP's Balanced Fund. The investment performance of the VPLA portion of the Balanced Fund determines the investment adjustment to monthly amounts in pay going forward. The VPLA offers two choices – the 7% annuity and the 4% annuity. The initial monthly annuity under the 7% option is calculated based on an assumption that the Balanced Fund will earn 7% each year, and the monthly amount is adjusted each year by the approximate difference between 7% and the Balanced Fund's actual net rate of return in the previous year. For instance, if the Balanced Fund earned 9%, the monthly amount under the 7% annuity option would increase by approximately 2% on the following April 1. Conversely, if the Balanced Fund earned only 1%, the monthly amount would reduce by approximately 6%. Similarly, the initial monthly amount paid under the 4% annuity is calculated based on the assumption that the Balanced Fund will earn 4% per year. Therefore the initial amount of the 4% annuity will typically be 20% to 25% lower (depending on the age of the retiree and spouse) than that of the 7% annuity, but the annual adjustment will be about 3% higher than that of the 7% annuity.

Currently, best estimates for the expected long term net return on the Balanced Fund are in the range of 5.5% to 5.75% based on economic modelling performed by the UBC FPP's actuary. As a result, members are advised that if they choose the 7% annuity, they should expect that their monthly annuity will generally decrease over time. Communication confirms that the investment risk remains with the member and the amount of the monthly annuity under the VPLA each year is directly impacted by the investment return of the Balanced Fund.

The graph below shows monthly annuity amounts assuming a member used $500,000 towards the VPLA and experienced net investment returns of roughly 5.5% each year with negligible survivorship adjustments. It compares three internal variable annuity options – the 4% annuity, 7% annuity, and a blended annuity (50% of each) – along with the monthly amount from a level insured annuity purchased from a life insurance company.



The above chart along with some additional information for members is contained within a recently updated communication on the VPLA. It is available on the FPP website at the following link: http://faculty.pensions.ubc.ca/files/2017/03/annuities.pdf

UBC FPP Balanced Fund Historical Returns

The UBC FPP Balanced Fund is managed internally under the direction of the Executive Director of Investments. The Joint Committee requested information about the historical rates of return achieved by this fund to enable you to compare them to the rates of return achieved by SFU's Balanced Fund which is managed externally. Historical investment returns on the UBC FPP Balanced Fund for calendar years 1994 through 2016 are listed below, both gross and net of fees:

Year	Gross	Net
2016	6.05%	5.62%
2015	6.56%	6.09%
2014	11.44%	10.86%
2013	13.77%	13.18%
2012	10.14%	9.58%
2011	3.18%	2.62%
2010	9.98%	9.37%
2009	12.48%	11.93%
2008	-13.00%	-13.45%
2007	3.19%	2.66%
2006	13.96%	13.58%
2005	12.32%	11.79%

Year	Gross	Net
2004	8.50%	8.09%
2003	12.85%	12.36%
2002	-2.65%	-3.07%
2001	1.01%	0.64%
2000	5.15%	4.77%
1999	11.33%	10.90%
1998	7.19%	6.79%
1997	14.96%	14.54%
1996	19.08%	18.58%
1995	17.55%	17.03%
1994	-0.02%	-0.54%

Governance Considerations

The UBC FPP is governed by an 8-person Board of Directors including four trustees elected by members, and four trustees appointed by the University. The Board employs an Executive Director of Pensions and Executive Director of Investments and also engages third party service providers to assist it in its role of administering and governing the Plan. The Plan record-keeper is Sun Life Financial which also performs some of the administration functions. The UBC Pension Administration Office also performs Plan administration functions and provides comprehensive Member Services on site.

The FPP already incorporates participating employers other than UBC; however, most have some kind of relationship to the University. It is likely that if SFU employees currently eligible to join the SFU Academic Plan became eligible to join the UBC FPP, SFU would just be another participating employer, and would not automatically or necessarily have a voice at the Board table. However, this could be discussed or negotiated at such point as the invitation to join may be made.

Implementation Costs

The Joint Committee has confirmed its understanding that implementation costs will differ depending on whether SFU joins the UBC Faculty Pension Plan or decides to enhance the SFU Academic Plan (if and when that becomes possible). On your instruction, we have provided cost estimates here on the assumption that you would join the UBC Faculty Pension Plan, even though you are aware at this point that the UBC FPP Board of Trustees has not expressed a clear opinion on whether this would be possible or desirable from their standpoint.

Most of the costs would be related to liaison and coordination with the FPP Board and the UBC Pension Administration Office related to the logistics of enrolling the existing SFU Faculty employees and transferring accrued SFU Academic Plan account balances to the FPP. Ignoring any legal services that may be required, we estimate the cost of joining the UBC FPP to be approximately $100,000 to $150,000 including project management, member communication, liaison with UBC and the regulatory authorities, etc.

This scenario would require an actual wind-up of the current SFU Academic Pension Plan. Including final filing and reporting requirements with the regulatory authorities, we estimate total wind-up costs to be approximately $20,000.

Ongoing costs

Investment and administrative expenses are paid out of the UBC FPP, so members' account balances and internal rates of return are net of these fees. For each member, investment fees depend on the investment option(s) chosen.

In 2016, total investment fees and administrative expenses combined were approximately $7.6M, which is about 37bps on assets of approximately $2.1 Billion.

Estimated Savings from Earlier Faculty Retirements

The Joint Committee asked that we incorporate into our final report the “estimated costs to the pension plan and savings to the employer due to members retiring 1, 3 and 5 years earlier than would be otherwise expected”.

If a new pension plan or a revised plan design does incent faculty employees to retire earlier than they would be expected to today, the savings to the University will be the number of “saved” years times the University’s annual contribution (currently 10% of salary) times the difference between the retiring member’s pensionable earnings and the earnings of the new faculty employee who is assumed to replace them. For example, if a long service professor earning $150,000 per annum at age 60 was expected to retire at age 65 but decides due to the new improved pension plan to retire immediately and is replaced by a young new professor earning $100,000 per year, the University’s pension-related savings will be $25,000 ($50,000 salary differential times 10% times 5 years), ignoring savings related to benefits, etc.

As we discussed with the Committee, there are a large number of other factors beyond the pension plan that are likely as or more important in members’ decisions on retirement dates, and we would not expect any of the plan design changes under consideration to have a significant influence on the retirement patterns of SFU faculty employees.

Appendix A

UBC Faculty Pension Plan Balanced Fund Fact Sheet March 31, 2017

Fund Type

Balanced

Sun Life Financial

UBC FPP Balanced Segregated* Fund

Fund Details

Fund Manager Multi-Manager

Investment Objective

The Balanced Fund's objective is to earn an acceptable long-term average rate of return commensurate with a moderate level of risk by investing in a portfolio of stocks, bonds and real estate in a well-diversified global portfolio.

Investment Strategy

A balanced portfolio is a composite of different asset classes, the combination of which reduces the risk of the portfolio while maintaining good return potential. The Balanced Fund asset mix is designed to maximize long-term returns while maintaining risk at comparable or lower risk exposure than the median balanced fund for similar pension plans. The returns of the assets held in the Balanced Fund fluctuate with economic conditions in Canada and globally, individual company and industry performance, political and world events, changes in interest rates and other factors.

The Fund's current asset mix is: 20% Canadian equities, 30% Global equities, 40% Bonds and 10% Real Estate shown as "Other" in the Portfolio Composition Chart. This is managed by 3 Canadian equity managers, 3 Global equity managers, 4 bond managers and 2 real estate managers.

*Part of this fund is not segregated but is held in trust.

Investment Risk

The following risk assessment is based upon the fund's investment objective and strategy.

Low High

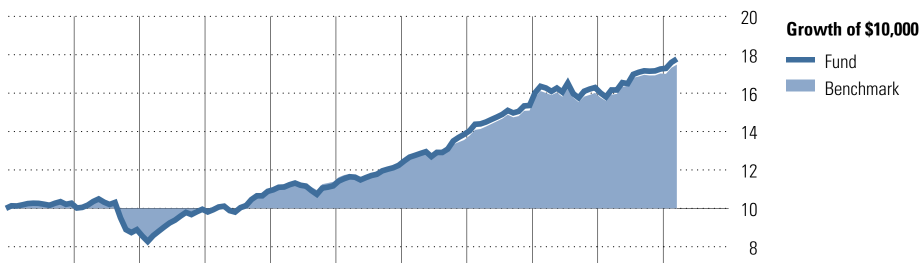
Risk: Moderate

The investment risks for this fund include: Foreign Investment, Issuer and Market Risk. Other investment risks may apply.

More Information

For a more detailed description of the fund manager and investment risks, sign in to the Plan Member Services website and link to Morningstar Canada, or contact Sun Life Financial's Customer Care Centre. For definitions, investment terms and fund performance calculation, check out the Jargon section of the website.

Performance as of 03-31-2017



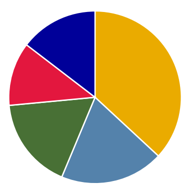
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	YTD	Calendar Year
2.7	-13.4	11.9	9.4	2.6	9.6	13.2	10.9	6.1	5.9	3.0	Fund
2.4	-12.5	12.2	9.3	3.6	7.3	11.1	11.3	6.1	6.3	2.7	Benchmark

1 Yr	2 Yr	3 Yr	4 Yr	5 Yr	10 Yr	YTD	**Trailing Return %**
10.0	4.5	7.3	8.6	8.8	5.7	3.0	Fund
9.8	4.5	7.4	8.3	8.2	5.6	2.7	Benchmark

Benchmark Description: 13.3% S&P/TSX Composite Index, 6.7% S&P/TSX Capped Composite Index, 5% MSCI ACWI Ex-Cda (C$), 20% MSCI World Index Ex-Cda (Net) (C$), 5% MSCI World Ex Canada Minimum Volatility Index (C$), 32% FTSE TMX Canada Universe Bond Index, 8% FTSE TMX Real Return Bond Index, 10% CPI + 4%

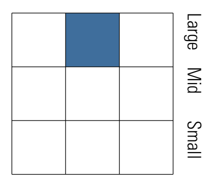
Portfolio Analysis as of 03-31-2017

Composition

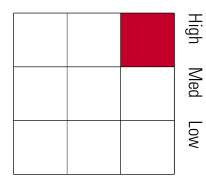


	% Assets
Cash	-2.3
Fixed Income	39.2
Canadian Equity	19.4
US Equity	17.2
International Equity	11.9
Other	14.6

Equity Style



Fixed Income Style



Top 10 Holdings	% Assets
MFS Global Equity	11.5
JPMorgan Global Intrepid	11.0
SSGA Canadian Universe Bond Index	10.0
AB Canada Core Plus Bond Seg Fund	10.0
PIMCO Canada Cdn CorePLUS Bond Trust	9.9
CC&L Canadian Q Growth	7.1
Leith Wheeler Canadian Equity Series A	7.1
Guardian Canadian Equity	6.8
BlackRock CDN Real Return Bond Idx Cl A	6.3
BlackRock CDN MSCI ACWI ex-Canada Index	5.9
Total Number of Portfolio Holdings	13
Total Number of Underlying Holdings	4,641
Total Number of Stock Holdings	2,583
Total Number of Bond Holdings	1,851

Top 5 Countries (Equity)	% Equity
Canada	40.0
United States	35.5
United Kingdom	4.4
Japan	3.3
Switzerland	3.3

Top 5 Countries (Bonds)	% Bonds
Canada	82.5
United States	11.8
United Kingdom	1.0
Netherlands	0.6
Brazil	0.5

Performance and Holdings Information: This segregated fund is an investment product offered under an insurance contract issued by Sun Life Assurance Company of Canada. All amounts allocated may increase or decrease in value according to the fluctuations in the market. The fund rates of return reflect the percentage change in value over a specified time period and if greater than one year, the returns are annualized. To provide a longer performance history, the returns are linked to the performance of the underlying fund. They are stated after investment management fees, administration fees and taxes and include the reinvestment of all distributions and may not match exactly those of the underlying fund. Past performance may not be repeated. The holding information provided reflects the composition of the underlying fund.

MORNINGSTAR

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About Aon Hewitt

Aon Hewitt empowers organizations and individuals to secure a better future through innovative human capital solutions. We advise, design and execute a wide range of solutions that enable our clients' success. Our teams of experts help clients achieve sustainable performance through an engaged and productive workforce; navigate the risks and opportunities to optimize financial security; redefine health solutions for greater choice, affordability and wellbeing; and help their people make smart decisions on managing work and life events. Aon Hewitt is the global leader in human resource solutions, with nearly 34,000 professionals in 90 countries serving more than 20,000 clients worldwide across 100+ solutions.

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About Aon

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