Pension Airwaves

Episode 16 - What is an Actuarial Valuation? (*Transcript*)

Hi there and welcome to this episode about actuarial valuations in the UBC Staff Pension Plan. You might be asking… "What is an actuarial valuation?" and "Why would it be important for me to know about that?"

Well, it all has to do with the financial health and wellbeing of your pension plan. Part of what we want to help reinforce to members is that the Plan is well-taken care of by those that are administering it, directing it, and checking in on it. The whole purpose and intention is to provide you, its members, with stable, lifetime retirement pensions. We want the Plan to be there for you when you need it, whether that's tomorrow or 40 years down the road. So we are truly invested in the long-term health and sustainability of the Plan, and actuarial valuations are a major part of ensuring that long-term health and sustainability. So let's get into it!

I have with me two special guests and two experts in this topic: Derrick Johnstone and Greg Heise. Derrick is our Executive Director of Pensions here at the Pension Administration Office; he's been featured in past Pension Airwaves episodes. And I also have Greg Heise who is an actuary and partner with George & Bell Consulting. It's really great to have both of you here to chat with me and welcome to the podcast!

Greg: Thank you.

Derrick: It's nice to be here again!

Chelsey: So, we've talked about actuarial valuations before, in past years, particularly in past newsletter articles, but for those who might be new to the Plan or who just haven't really tuned in to what actuarial valuations are all about, I'm interested in unpacking it a little bit. First of all, what is an actuary?

Greg: [*laughs*] If I had ten cents for every time I was asked that question, I'd be a rich man. In the broadest sense, an actuary assesses financial risk. So, the easiest way to [explain] would be to give an example.

So, if you think about life insurance, that's a future financial risk. No one knows when they're going to die. And, what an actuary would do would be [to] figure out how much do you need to pay today to provide that insurance to your family when you pass away. Another great example would be car insurance. [If] you're going to get into an accident at some point in time in your life, how much money do you need to contribute to pay for the repairs to your vehicle. That's in the broadest sense.

Chelsey: So an actuary is someone that an individual would consult for an assessment?

Greg: Typically it would be large organizations that would consult with an actuary — a board, a company, a union, etc.

Chelsey: Is there an education skill set that's usually required by actuaries?

Greg: There is. So, typically, actuaries will have a background in math or science, some kind of math or science degree. But it's professional exams after that. Personally I wrote 23 professional exams and it took about seven years after my Bachelor of Math. So it's a long, arduous commitment — but rewarding!

Chelsey: Ok! And then how would you describe what a "valuation" is?

Greg: So if we pick up on that sort of analogy of life insurance and car insurance, think about a pension just in terms of another future financial risk. We want to be able to provide members with a pension payable for their life, and there's a number of risks that go along with that: "When will they retire? Will they terminate before they retire? Will they become disabled? Will they pass away?" And then when you start your pension, it basically becomes "When will that member pass away?"

These are all future financial risks. What we do is we effectively assess how much money is needed today in order to provide for that pension which might not start for 30 years from now (if you're talking about, let's say, a 30-year old in the pension plan). And then, once that pension starts 30 years from now, how long are they going to live. And so we do that, believe it or not, for every single member of the Plan. We assess that and we add it all together, and we figure out the present value of all those future payments [in order to determine] what do you need today to provide for all of those benefits. That's basically a valuation.

Chelsey: I can see why that would be really important to a pension plan. Do all pension plans have to go through that type of assessment?

Derrick: Well maybe I'll step in here… it is a requirement for all pensions to go through a valuation at least every three years. So it's a triennial cycle. Some pension plans may decide to do it more frequently, but it has to be done at least every three years. So we're at our three year term. The valuation that's being conducted right now is for the value date of December 31, 2022. The valuation is coming out with the results, and it's important because it gives insight for the [SPP] Board members on decisions they must make.

As Greg said, it's a lot of math to come to assess where the Plan is financially, and then from that information, the Board makes decisions that impact members directly. Of course, one of the main ones is "What cost of living adjustment to offer for the next three years?" But even at a basic amount is really, "How much of the benefits can be paid out? What is the health of the Plan currently — well-funded or poorly-funded?" and then they have to look at future concerns that may impact the stability of the Plan. Those are all things that are captured within the valuation process.

Chelsey: Yeah, as Greg mentioned, you have to go through every single member in order to make this forecast… how many members are in the Staff Pension Plan now?

Greg: There are roughly 17,000 members at this stage. Back in the early days when computers were really slow, we'd sometimes run these programs overnight. Now they might take three or four minutes. So... we love technology, it's made our job a little bit easier & certainly a little bit quicker. But yeah, there's a lot of calculations that go into it.

Chelsey: How long does the valuation tend to take, overall?

Greg: The process is usually a few months, and then depending on when you can get the Board together to make decisions, you'll add a little bit of extra time at the end. But, once you've hired your actuary and have your actuary in place, the process is basically [this]: The Pension Administration Office here does a wonderful job at collecting and testing all the data, and then it gets sent to the actuary. We do some initial testing on that data, run it through our programs, come up with presentation materials, etc. All these projections we talked about are what those programs do. At the same time that we're running those programs, we're collecting information on assets, information on contributions, we're examining our long-term assumptions.

For example, the most key assumption is: "What do you expect the Plan to earn, as far as return, for the next 25-30 years?" That's how long our projections need to be valid for. So we're looking at all those assumptions at the same time, and then you bring it all together and you prepare a report or a presentation for the Board to go over with them, "Ok, here's our preliminary results, here's some areas where we think we need to spend a little more time talking about these results and what they mean."

Chelsey: Part of the assessment, that I'm aware of, is the Benefits Funding Test. Can you talk a little bit about that, and about that process?

Greg: Sure, that's a great question because it's actually somewhat of a unique process for the Staff Plan. Many pension plans really only look at their benefits accrued to date, so they compare their assets against their liabilities. What the UBC Staff Pension Plan does is it not only looks at assets and liabilities, it also looks at the future. The Benefits Funding Test actually projects out contributions and membership, and all of those benefits members accrue for the next 25 years. And the test looks at not only the past, then, which most plans do, but also the future. And you compare your assets and contributions to all of your liabilities. Once you've got those numbers, you decide what level of margin do you need, or conservatism, so that all of those assets and future contributions are going to be sufficient to pay for the benefits. That's effectively what the Benefits Funding Test does. You come up with a ratio that is basically an assessment of the health of the Plan.

Chelsey: Now what about the consideration of the Plan's *Funding Policy*? Does that have to do with the ratio that we're aiming for?

Greg: The *Funding Policy* is effectively the foundational document that sets out how you will perform that Benefits Funding Test. So it's a key document that you need in order to guide the actuary and the Board on the decisions they're going to make based on the results of the valuation. So [it's an] important document, we're going through an extensive rewrite of it right now because of some changes in legislation, but for the most part the Benefits Funding Test remains as it has for many years for the Plan.

Chelsey: Derrick, do you have any insight on actuarial valuations that have taken place in the past? I'm just wondering if the process has pretty much remained the same or has it evolved over time?

Derrick: You know, the objectives haven't changed much. What has changed in the environment that we work in is that provincial legislation around pension plan funding and testing — those have changed somewhat over time and they will continue to evolve. Some of the tests or analysis that we do now, they change as requirements change under legislation, but essentially we are still trying to determine: "Is the Plan well-funded, or what is its funded level? Is it stable? What level of benefits can the Plan afford to pay out to its members?" So, that hasn't changed.

Chelsey: Once the actuary's results are presented to the SPP Board… then what happens?

Derrick: Well, once the Board has the results, the main decision they make is the level of cost of living adjustments to offer for the next three years. And the Board has set that at 70% for the next three years. So, the first increase will be for January 1, 2024, and it will be three years from there until the next valuation cycle when that decision is made again.

Certainly pensioners will know that's an increase from the cost of living adjustments that's been offered over the past dozen years of 50%, it's based off of the Consumer Price Index (CPI), and now for the next 3 years we'll be able to offer 70% of CPI. Which, of course, is still below the objective of 100% CPI, but it's certainly an increase from the 50% that the Plan had been offering.

Chelsey: Since we've touched on the results of the new cost of living adjustment that can now be applied, can you comment on whether the Plan has a healthy margin, and maybe a high-level description of what that looks like for our Plan in particular?

Greg: Let's go back to that Benefits Funding Test as an example, where we look at assets and contributions, and compare them against liabilities. If you just made them exactly equal, you don't have a lot of room to play with if things should things go awry. For anyone who follows markets, 2022 is a great example, where we saw stock markets & bond markets drop together by a pretty significant percentage — basically a 3-in-100-year event. No one can ever predict the future, so what you want to do with that Benefits Funding Test is you want to have a margin built in. You want the assets and contributions to exceed your liabilities. The question is, "How much should that margin be?" There's no right answer to that question, it's an extremely difficult question to answer. However, you do need to come up with a number. And so, the Board has been operating on the basis of using a minimum 10% margin in the Benefits Funding Test for years now. It won't always exactly be 10%, but the target is to always have at least 10% margin in there to account for those unforeseeable events.

Chelsey: For sure – and immediately I think of the hard times in 2008, or the Covid-19 pandemic. Is that why the margin is there, to kind of provide a buffer during those types of events?

Greg: You're exactly right. Those kinds of events — Covid-19, the 2008 financial crisis, 2022 — those are the kinds of events that are really difficult to predict and why you absolutely have to have some level of margin.

If we talk a little bit about how this valuation might differ from some of the historical ones, there's sort of three things that come to mind for me with the Dec 31 2022 valuation. The first thing is: it comes on the heels of a really bad year for markets, where stocks went down and bonds went down. But one of the key aspects was: the reason bonds lost money in 2022 is that interest rates went up. Interest rates going up isn't great for all of us in our personal lives, you're paying more on your loans, mortgages, etc. Interest rates going up in the pension world is actually a bit of a good thing, because if you're thinking about [the fact that]we have to provide someone's pension 30, 40, 50 years out, that is easier to do in a high interest rate world. So, as much as we all dislike high interest rates personally, it's helping your pension plan's health a little bit. So that's the first thing that's reflected in this last valuation.

The other couple of things were: as Derrick alluded to, we had this change in legislation over the last few years. Target Benefit Plans in British Columbia are a relatively new thing from a legislation perspective, they only came into place in 2015. They had this mandatory margin built into them that was way too high, and that was actually restricting Target Benefit Plans from providing enhancements over the last eight years. Finally, with a bunch of work done by the industry to lobby the Minister of Finance, the government made some changes that took effect this year. This is the first valuation that's being conducted with those new rules in place, and it frees up the Board to make decisions based on their long-term margin, not a government-mandated margin. So that's also a really positive development for this valuation compared to the last one.

Chelsey: That does sound like good news from a legislative perspective. A follow-up to that might be: what about members' perspectives? Active, deferred, and retired Plan members have unique needs and may have different reasons for tuning in and paying attention to the health and wellbeing of the Plan. For example, actives — they may want reassurance about fund management and the longevity of the Plan, especially during those uncertain times mentioned earlier. Can you speak to the message, or the key takeaways, that we can focus on as it relates to this valuation's results?

Derrick: I think for active members, and for all members of the Plan, the main message coming out of this valuation is that the Plan is well-funded and will be able to provide stable benefits for the long term. That's what you want from a pension plan. As Greg has mentioned, we're talking about paying out pensions 30, 40, 50 years from now. So, we need to make sure that the Plan can weather all the things that come at it in that period. And that's what this valuation has fundamentally said — that the Plan is in a solid financial position and it's well-funded.

Now, for an active member, why do they care? Well, I guess the challenge in pension plans is to get anyone to care about their pension until they retire, and then suddenly it's really important. I think for active members, they're contributing to this Plan so they should be concerned (as well as the University [that] is contributing on their behalf) that their contributions are being well-managed, well-invested, and that the decisions made by the Board are in all members' best interests, and to make sure that the Pension Plan pays out what is being promised.

Chelsey: For sure – I'm sure that regardless of age or Plan status, all members will find that reassuring.

Derrick: Oh certainly. So whether you are a 52-year old maybe thinking about retiring in the next five to ten years, or if you've joined the university as a 25-year old somewhere, you may not even be thinking you'll be staying with the university for years and years but somehow time slips away and now retirement income is becoming more important… the Plan has to be for all of these members. It's a stable entity that sort of functions behind the scenes in many ways, but it's there when members need it.

Chelsey: What about deferred members? Are there any takeaways that you think will resonate with them in particular?

Derrick: Well, deferred members, of course, have made the decision that they would rather leave their benefit in the Plan than take it with them as they change, either they've left UBC to go to a different job, or they've just left the workforce, but they've made the decision to leave their benefit in the Plan to receive their benefit down the road as a pension. So they've already made a vote of confidence in the Plan that this is the best place for their benefit to remain. Not all members make that decision but many do, and this is why we've seen our deferred members continue to increase over the years. So, I think the message to them, again, is that they should have confidence that their benefit is being well looked after, it's there when they want it, and it's well in hand.

Chelsey: How about pensioners? They probably care a lot about indexing, or the cost of living adjustment that we talked about earlier. And perhaps there are some pensioners who are still early in their retirement, maybe they've just retired… they're likely also thinking about the long-term health of the Plan for them later in their retirement years.

Derrick: Absolutely. You know, just talking about pensioners, we often just talk about them as a single group, but pensioners can be anywhere from 55 to over 100 years old, so even within that group, they have different needs and different expectations. The first thing is that they're all concerned with the level of indexing. This is what keeps their pension current as cost of living increases. So, the message coming out of this valuation is that their benefit will increase by 70% of the CPI level each year for the next three years, and then it will be reevaluated with that next valuation. So that is, I think, a good news story, that's an increase from the 50% it had been previously. Of course, over the past number of years, pensioners, as all members have, of society, have gone through a spike in inflation. When your pension doesn't keep up fully, it's impactful to many members, and that's something that the Board is highly aware of when they look at indexing decisions. They're well-aware of what pensioners are going through and the world they're living in. But besides that, pensioners should take away the same message that the Plan is stable, well-funded, and that their interests are being looked after by the Pension Board.

Chelsey: Overall, I think that's really good news.

You made a good point just now about the different perspectives, concerns and expectations that different pensioners may have, since there's such a broad age range within their group. But, unpacking that a little further, when we look at all 17,000 + members, that age range then expands from around 18-19 years old, all the way up to well over 100 years old. There must be some aspects that are considered around equity and fairness in terms of what kinds of priorities, actions, or adjustments are made when these valuations occur. You know, like an awareness of which age groups or which other types of members may or may not benefit from certain actions… I'm just wondering if either of you want to speak to how equity and fairness comes into play when the Board makes Plan decisions?

Greg: I'll take a crack at that first… I've got 30 years of experience and I've worked on hundreds of different pension plans at this point, and every board has to approach this decision at some point, and it's not easy. What I would say is that it's all about balance. You have to be fair to all generations of members.

On one hand, you want to provide benefits that are as high as possible. Because if you are overly conservative in a pension plan, then you're holding assets back that really could help. I love using the example of the 90-year old pensioner — they only have a few more years left to get their value out of the Plan, so if you're being overly conservative, you're not being fair to that individual. And so you have to balance their interests against the interests of the, as you said, 18-year old who is in the Plan and wants to make sure there's enough money there for when they retire as well. So, the 18-year old wants you to be a little bit conservative.

That's the aspect of balance that boards need to find when assessing equity and fairness. The way they do that is they establish this margin, and then they reevaluate this margin depending on the economic circumstances at the time. This Plan has been through so many different shocks -- you mentioned the [2008] global financial crisis earlier [which] is just one of them. So it's proven to be stable and sustainable over that period, and the Benefits Funding Test and its margin are working well.

Derrick: I think from the Board's perspective, the decision of basically, equity amongst the different generations or amongst groups of members is really one of the most challenging aspects of their role. As Greg mentioned, their job is to try to find a balance, and it's not an exact science – there's some art here. All of the analysis and number crunching that Greg can provide them still comes down to a decision of what do they think is most fair to all members. Sometimes you can't treat everyone equally, but you have to be fair to everyone. So that is fundamentally one of the Board's primary responsibilities is to establish that balance within the Plan of how benefits are distributed. As Greg mentioned, you don't want to hold back money today for a future generation, when it was this generation that paid for it. You know, you've got to find that balance but you've also got to make sure that the Plan can stay sustainable all through these periods.

The Plan is over 50 years old now. As Greg mentioned, it's endured a lot of shocks, and there will be more shocks to come. That's why setting that margin is important. The Board is happy with where they are now, setting it as a minimum 10% margin – holding back in case something negative happens, but not *too* much, so that more money can be paid out to the members now. As Greg said, it's a balance.

Chelsey: And I think that really speaks to the resilience of the Plan, and also just the long-term view that the Board has in keeping it sustainable and well-funded as you've both said before.

Do you have any final points or thoughts around what the main takeaways are, for Plan members, regarding the results of the 2022 actuarial valuation for the Plan?

Derrick: Well, I think members should feel very confident that their Plan is being well-managed, it is in good hands with the Board, the oversight of the University Board of Governors, it's a strong governance model that makes sure that the decisions that are made are appropriate and in the best interests of members. And, as always, if members have questions, the Pension Adminstration Office is here to answer them. We encourage you to reach out to us if you have any questions about how all of this works.

Chelsey: So I think that wraps it up for now. Thank you so much to Derrick and Greg, for your wisdom and expertise around this topic. We really appreciate having you here, talking about actuarial valuations and how important they are to pension plans. It was a pleasure talking with both of you.

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