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# MANITOBA PUBLIC UTILITIES BOARD

## Re: MANITOBA PUBLIC INSURANCE CORPORATION (MPI)

## 2019/2020 GENERAL RATE APPLICATION

## HEARING

Before Board Panel:

| | |
|---|---|
| Robert Gabor, Q.C. | - Board Chairperson |
| Irene Hamilton | - Board Member |
| Carol Hainsworth | - Board Member |
| Robert Vandewater | - Board Member |

HELD AT:

Public Utilities Board
400, 330 Portage Avenue
Winnipeg, Manitoba
October 16, 2018
Pages 1 to 482

## APPEARANCES

| | |
|---|---|
| Kathleen McCandless | )Board Counsel |
| Robert Watchman | )Board Counsel |
| Steven Scarfone | )Manitoba Public |
| Anthony Guerra | )Insurance |
| Byron Williams (np) | )CAC (Manitoba) |
| Katrine Dilay | ) |
| Raymond Oakes | )CMMG |
| Erika Miller (np) | ) CAA Manitoba |

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LUKE JOHNSTON, Previously Sworn<br>
GLENN BUNSTON, Affirmed<br>
MARK GIESBRECHT, Previously Sworn<br>
DAVE MAKARCHUK, Sworn

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--- Upon commencing at 9:03 a.m.

THE CHAIRPERSON: Good morning, everyone. Ms. McCandless, could you go through today.

MS. KATHLEEN MCCANDLESS: Good morning, Mr. Chair, members of the Panel. Today we have the MPI Panel Number 2, which is found at Item 5 on page 2 of the procedural outline. It's the testimony of the MPI investments, capital maintenance provision, rate stabilization reserve and Dynamic Capital Adequacy Testing panel.

We will hear from them in their direct this morning and then we'll continue with cross-examination, which I expect will go to the end of the day and run into tomorrow, thank you.

THE CHAIRPERSON: Thank you. Mr. Scarfone..?

MR. STEVE SCARFONE: Thank you, Mr. Chair. Good morning, Panel members. Just before MPIC begins with its witnesses, Mr. Guerra has a few exhibits that we need to file this morning.

MR. ANTHONY GUERRA: Yes, good morning, Chair and members of the Board. MPI does have three (3) exhibits that it wishes to tender this morning. The first is MPI Exhibit Number 22. Sorry, MPI

Exhibit Number 22, which is the presentation from the members of MPI who are giving the investment rate stabilization reserve and capital maintenance provision presentation, and that's been circulated amongst the members present today.

--- EXHIBIT NO. MPI-22: Presentation from the members of MPI who are giving the investment rate stabilization reserve and capital maintenance provision presentation

MR. ANTHONY GUERRA: MPI Exhibit Number 23, which is the presentation from Mr. Makarchuk from -- from Mercer, which has also been circulated amongst the members today.

--- EXHIBIT NO. MPI-23: Presentation from Mr. Makarchuk from Mercer.

MR. ANTHONY GUERRA: And then finally Exhibit Number 24, which is the quarter to financial report from MPI which I understand is being -- is in the process of being circulated. So, MPI wishes to mark all those as exhibits this morning.

--- EXHIBIT NO. MPI-24: Quarter to financial report from MPI

MR. STEVE SCARFONE: And, Mr. Chairperson, before I begin with the introductions of the panel members, if Mr. Christle wants to swear the witnesses in, including Mr. Makarchuk, please.

MPI WITNESS PANEL 2 - MPI INVESTMENTS/CAPITAL MAINTENANCE PROVISION/RATE STABILIZATION RESERVE/DYNAMIC CAPITAL ADEQUACY TESTING PANEL

LUKE JOHNSTON, Previously Sworn<br>
GLENN BUNSTON, Affirmed<br>
MARK GIESBRECHT, Previously Sworn<br>
DAVE MAKARCHUK, Sworn

EXAMINATION-IN-CHIEF BY MR. STEVE SCARFONE:

MR. STEVE SCARFONE: Very good. So before we begin, just to reit -- Ms. McCandless indicated that today's panel will be speaking to the issues of investment, the rate stabilization reserve, the Dynamic Capital Adequacy Test and the capital maintenance provision. I'll begin with introductions on my far left. Mr. Giesbrecht, of course, was on the executive panel yesterday, but he is also new to the General Rate Application process this year.

And so, Mr. Giesbrecht, if I could, sir, could you just briefly describe for the Panel members what your job title is and your job duties with Manitoba Public Insurance.

MR. MARK GIESBRECHT: Certainly. So my title is VP Finance and Chief Financial Officer. I'm responsible for the teams that handle financial reporting, accounts payable, accounts receivable, payroll, banking and treasury, budgeting, as well as the value management office, regulatory affairs and our segregation and special accounts.

MR. STEVE SCARFONE: Thank you, sir. And prior to your arrival at Manitoba Public insurance, what is your experience in terms of both education and work experience, please.

MR. MARK GIESBRECHT: I've been with MPI about one (1) year now. Prior to joining MPI, I was Vice-President of Finance at Western Financial Group where I was responsible for three (3) business units, two (2) were federally related insurance companies, one (1) life and one (1) P&C and I was also responsible for a niche P&C broker. Prior to that --

that was from 2014 to 2017. From 2011 to 2014 I was Vice-President Finance for Western Life Insurance which also is a subsidiary of Western Financial Group, and I first got into the insurance industry about eighteen (18) years ago as a independent broker selling life insurance and financial products.

MR. STEVE SCARFONE: Thank you, Mr. Giesbrecht. And finally, sir, as part of this year's General Rate Application did you have a hand in authoring any portions of the application itself?

MR. MARK GIESBRECHT: My primary role was more of a reviewer. I would have had some authoring but primary as a reviewer of the materials.

MR. STEVE SCARFONE: And that would've been the investments and other related matters?

MR. MARK GIESBRECHT: Correct.

MR. STEVE SCARFONE: Thank you. And next to Mr. Giesbrecht is Mr. Johnston.

Sir, you're the chief actuary for MPIC, correct?

MR. LUKE JOHNSTON: That's correct.

MR. STEVE SCARFONE: And, sir, you've had a hand, obviously, in preparing a number of documents that are before the Board in this year's application?

MR. LUKE JOHNSTON: Yes, definitely.

MR. STEVE SCARFONE: Including the Dynamic Capital Adequacy Test?

MR. LUKE JOHNSTON: Correct.

MR. STEVE SCARFONE: And all the information related to the capital maintenance provision as I understand it, correct?

MR. LUKE JOHNSTON: That's right.

MR. STEVE SCARFONE: Is there anything else that was the focus of your -- of your work as it concerned the application?

MR. LUKE JOHNSTON: Well, in -- in this particular panel investments -- the investment department also reports me in the -- in the organizational chart and actuarial. So, these are very much in my realm.

MR. STEVE SCARFONE: Okay, thank you, Mr. Johnston.

And to Mr. Johnston's right is Glenn Bunston, sir. You're the manager investments for Manitoba Public Insurance?

MR. GLENN BUNSTON: Yes, that's correct.

MR. STEVE SCARFONE: And how long have you been managing the investments at MPIC, sir?

MR. GLENN BUNSTON: I've worked at MPIC for almost 15 1/2 years and been manager of the investment department for about 12 1/2 years.

MR. STEVE SCARFONE: Thank you. And what are your designations, sir?

MR. GLENN BUNSTON: So I'm a chartered financial analyst and also have a second designation in risk management. I'm a chartered alternative investment analyst.

MR. STEVE SCARFONE: Okay. And just briefly could you describe what your duties, your day-to-day duties would be as manager investments?

MR. GLENN BUNSTON: Sure. So I -- responsible for a small group of individuals. We oversee the investment portfolio. We report on the performance and risk of the portfolio to senior management at MPI and the Board of Directors, and we also conduct research to assist the investment committee in -- and -- and the Assistant Deputy Minister of Finance of the province in making strategic and policy type decisions regarding our investments.

MR. STEVE SCARFONE: Thank you. And so I understand, sir, that you sit as a member of the investors group -- or sorry, the working group for the investment committee?

MR. GLENN BUNSTON: Yes. So my group prepares all of the material for that committee, and I attend every meeting and present the material to the committee members.

MR. STEVE SCARFONE: And have you been in that role since you've been manager of investments?

MR. GLENN BUNSTON: Yes, I have.

MR. STEVE SCARFONE: All right. And I understand, Mr. Bunston, that you'll be presenting today on the new investment strategy that MPIC plans to implement; is that correct?

MR. GLENN BUNSTON: That's correct, yeah.

MR. STEVE SCARFONE: And do you adopt this particular presentation as part of your direct evidence here this morning?

MR. GLENN BUNSTON: Yes, I do.

MR. STEVE SCARFONE: And, Mr. Johnston, I was remiss in asking you, sir, I understand you have a role in today's presentation as well?

MR. LUKE JOHNSTON: Yes, I do.

MR. STEVE SCARFONE: And do you adopt what you will be presenting to the Board as part of your direct examination?

MR. LUKE JOHNSTON: Yes.

MR. STEVE SCARFONE: Okay, thank you. And so, Mr. Chairperson, what I propose to do is have the MPIC witnesses first presented to the Board and then when Mr. Makarchuk is up we'll go through briefly his qualifications because he's been prequalified.

THE CHAIRPERSON: Thank you.

CONTINUED BY MR. STEVE SCARFONE:

MR. STEVE SCARFONE: Thank you. So, gentlemen, are you ready to begin?

MR. GLENN BUNSTON: Yes, I am.

Well, I'm pleased to be here and present. I've attended the meetings in the past in the back row, but this is my first opportunity to testify, so, it's my -- my pleasure today to speak to you about the investment strategy at Manitoba Public Insurance.

And so you can see from the agenda before you we'll be talking about our investments and the Asset Liability Management Study that we completed. Sorry, actually if you could turn to the next slide. This is the -- yes. And one (1) more slide.

Okay, so we'll be talking about the -- the objectives for our investment portfolio. The Asset Liability Management Study that we completed; the implementation of the new investment strategy that resulted from the ALM study and, finally, our -- our interest rate forecast.

So next slide, please. So our investment objectives were determined by our Board of Directors and approved by the government and our strategy, essentially, is to try to reduce the volatility of the premium that we charged to customers and we plan to do that by directly matching our investments to our liabilities and specifically developing unique investment strategies for each portfolio.

And, really, the goal is to ensure that we have capital available to pay for claims when necessary. And finally, the goal is to have appropriate levels of risk for each portfolio which is driven by the purpose of each portfolio which are quite distinct and those purposes and risk levels are set out in our investment policy statement which were determined by our Board of Directors.

So as you know, this Board ordered us to complete the Asset Liability Management Study. We hired Mercer to complete that study and worked with them in the fall of 2017. There were three (3) phases. The first two (2) phases were completed by December and the final phase, the third phase, was completed in January of 2018.

So the -- the recommendations coming out of the study was to -- to segregate the assets within our portfolio. We currently have a co-mingled portfolio that supports all of our lines of business and so going forward, we will have unique investment strategies for each of our line -- three (3) lines of business, as well as for our RSR and for post-retirement benefits, which is primarily pension obligations.

Secondly, we plan to significantly de-risk the assets backing our liabilities by removing equities and alternative investments from that portfolio.

Thirdly, we will diversify and lengthen the duration of our fixed income portfolio to be a better match to our liabilities and to provide additional yield. And then we plan to diversify our equity portfolio by adding exposure to global equities and, finally, will reduce our allocation to real estate in order to fund the purchase of additional fixed income assets.

MR. STEVE SCARFONE: Mr. Bunston, just a question on that last slide, sir, sorry to interrupt but what -- can you explain for the benefit of the Panel members, what you mean by "matching of liabilities and assets"?

MR. GLENN BUNSTON: So our strategy has always been to match the dollar amount and duration of our fixed income portfolio to our claims liabilities to the Basic claims' liabilities and that will continue to be our strategy going forward.

However, in the past because we had a co-mingled portfolio and we allocated all of our investments to the different lines of business, it did cause some structural mismatches and -- in that the dollar amount of the fixed income portfolio that was allocated to the Basic line of business was slightly smaller than the dollar value of the claims' liabilities and so going forward that will be corrected so that there will be an exact dollar match and the hedge ratio will -- will increase to -- to approximately a hundred percent going forward.

MR. STEVE SCARFONE: Thank you. And so the effect of all of that would be, as I understand it, to derisk the portfolio?

MR. GLENN BUNSTON: Correct. We should be, and we will be, we expect less impacted by interest rate changes going forward, whether they be increases or decreases.

MR. STEVE SCARFONE: Okay, thank you. Sorry, carry on.

MR. GLENN BUNSTON: So the impacts of the -- of the Asset Liability Management Study. Overall, there will be reduced risk and less rate volatility to the ratepayers over the long term.

The impact on -- on premiums charged to customers in -- in the rating year, in 2019, will be minimal. Approximately a 20 basis point increase in rates as a result of the new investment strategy.

And interest rate risk is going to be reduced by segmenting the portfolios for the reasons that I -- that I just mentioned.

And finally, in the -- in the retained earnings portfolio, or the RSR, it is a balanced portfolio. And so it -- the goals there are a combination of preservation of capital and risk seeking assets. And so the portfolio -- the 50-50 portfolio reflects those goals.

So this slide shows the current asset mix. So we have 70 percent allocated to fixed income assets and 30 percent to growth assets being equities, real estate and infrastructure.

Under the -- the second table at the bottom shows the -- the asset allocations for the new portfolios. So Basic will be a hundred percent fixed income going forward. RSR or retained earnings will be a balanced portfolio with a 50 percent in fixed income, 50 percent in growth assets and then pension will be 60 percent in growth assets, 40 percent in fixed income.

And so that rolls up on a consolidated basis to 84 percent in fixed income and 16 percent in growth assets.

Now, the Basic claims portfolio within that, 60 percent will be in -- in provincial bonds, 20 percent in corporate bonds and 20 percent in nonmarketable or what we call MUSH funds. There will be no equities or other growth assets. And as I mentioned earlier, the -- the hedge ratio, the amount of interest rate risk that is protected by that portfolio relative to the liabilities will increase from 85 percent to 100 percent.

So for the RSR portfolio, it -- it will change from a 70/30 split between bonds and growth assets to a 50-50 split with the -- the amount set out on this -- on this table and, as I mentioned, we are adding exposure to global equities so we'll have about 23 percent in total within this portfolio in -- invested in global equities.

And so we will be adding new asset classes to the portfolio. One (1) of those is private debt and we anticipate investing in investment grade or equivalent to investment grade private debt that is unlisted basically issued by North American issuers. It's less liquid than public debt and as a result, there is a yield premium. We're estimating about 75 basis points for investing in private debt.

Next we'll add global equities so that will be in investments in equities in developed markets and there is a typo here it says, "and emerging mark -- market equities," it should say, "and no emerging-market equities." So we will not be investing in emerging markets.

And then we will also make a small allocation to low volatility global equities. So this is -- these are low equity -- sorry, global equities that the manager will select will have less volatility than the standard global equity securities and the strategy is to -- to try to reduce the overall risk of our equity portfolio.

So we considered many asset classes when we did the study, and some of them were rejected for various reasons and so we have a list of them here. So diversified growth funds was considered and ultimately rejected. This is a -- a strategy that allows the manager significant discretion in terms of what asset classes to invest in. They can -- they can go long and short. They can use leverage and it's very similar to a -- to a hedge fund and so we decided that that was not something that our investment committee was interested in making an allocation to.

We have invested in private equity in the past, although we haven't made new investments in private equity for many years and so we decided not to invest in private equity going forward.

High-yield bonds or these would be below investment grade bonds rated below triple B, decided those were not appropriate for our portfolio. Emerging-market debt, again, decided those were with -- outside of our -- our risk targets.

Commercial mortgages, those were not considered also or rejected.

Strategies involving leverage were considered briefly and decided not to invest in those.

And finally, real return bonds, we

consider those, but also rejected those.

MR. STEVE SCARFONE: Just before -- just before you move on to the next slide, Mr. Bunston, a quick question.

Firstly, these rejected asset classes, were those rejected for the Basic claims portfolio, the RSR portfolio or all of the segregated portfolios?

MR. GLENN BUNSTON: These asset classes were rejected for all of the portfolios.

MR. STEVE SCARFONE: Okay. And the second question, sir, on the last rejected asset class at the bottom, real return bonds, there's been some dispute about whether those -- that asset class should have been included.

Just briefly, sir, what is a real return bond and what does it serve to do in an investment portfolio?

MR. GLENN BUNSTON: So, real return bonds provide a return and then that return is adjusted for actual inflation. So both the principal payments and the interest payments are adjusted by inflation every six (6) months. And so the net result is you -- the return that you get is protected for -- from changes in inflation. So you -- you get a -- the return that you expect to get at the beginning, the real return is unchanged or not impacted by inflation. And they -- they are issued generally by the Government of Canada. There are some provinces that issue them as well. And there are relatively few issuances in Canada.

MR. STEVE SCARFONE: Thank you. So is it fair to say that the real return bonds then protect against rising inflation; is that -- or is that making -- simplifying it too much.

MR. GLENN BUNSTON: That's basically true. They provide a real return. So the -- the return that you -- when you purchase them, the return that is -- the coupon rate is the rate that you will realize at the end of the investment because it is adjusted for actual inflation.

MR. STEVE SCARFONE: Okay, thank you.

MR. GLENN BUNSTON: So the next slide sets out the reasons why real return bonds were ultimately not recommended for investment. So, first of all, the real yield on those bonds is very low at -- it was 60 Basis Points in February of 2018 and are -- our Basic liabilities assume a 2 percent inflation rate, and we have reserves to protect us against that level of inflation and real return bonds will really only add value if inflation significantly exceeds 2 percent for a sustained period of time.

And dollar and duration matching is -- is difficult with real return bonds because there are so few available and so it's hard to get the correct term that you would need to -- to provide the correct duration match.

And finally, they're linked to Canadian CPI while our Basic liabilities are indexed to other drivers such as Manitoba CPI and the Manitoba industrial average wage.

So in terms of our implementation plan, we anticipated taking proximally two (2) years to -- to make these significant changes to our portfolio. One (1) of the first things we need to do is -- is make significant revisions and changes to our investment accounting systems so that they can accommodate the -- the new portfolios and so that is -- is underway. And we -- we can't make those changes to our accounting systems until the end of our fiscal year, so that can't happen until March 1st of 2019.

And on the investment side, we will -- we will and have been reducing our allocation to Government of Canada bonds. It was low to begin with, but the strategy is to invest in -- in provincial bonds. We may have some Government of Canada's just because they provide liquidity to the -- to bond manager.

Corporate bonds. We have begun a search for a corporate bond manager. We have a consultant we're working with on that, and it is underway.

Our nonmarketable bonds, the plan is to not make new investments in those. There are very few available going forward and so we'll collect the principal and interest payments as they -- as they come in and use those to fund the purchase of the -- the new asset classes or the asset classes that are increasing in allocation.

Equities, so we also are in the process of searching for a global equity manager and we'll need to reduce our allocation to Canadian and US equities as well.

On the real estate side, we have advised our real estate manager, the manager of the pooled fund that we need to make a significant reduction to our investment in real estate.

On infrastructure, we need to make a modest reduction there. And so we have identified some investments that -- that we could potentially liquidate or reduce and so we'll begin that in the --

in the new fiscal year.

And then private debt. We anticipate that search beginning early in 2019, again, with the same consultant that we've selected for the other searches.

So we'll increase our allocation to provincial bonds as appropriate within the portfolios. Similarly, corporate bonds we'll increase that allocation once we have the manager selected and -- and approved and in place. We anticipate that starting in -- in the first quarter of our next fiscal year.

Again, nonmarketable bonds we'll have continued to collect coupon and interest payments and use that to fund our investment in the new asset classes.

Equities we'll -- we'll need to completely liquidate our exposure to US equities and we'll either do that at the end of this fiscal year, or the beginning of next fiscal year and we'll make a significant reduction to our Canadian equity portfolio.

Real estate, like I said, we have informed our manager that we need to make a reduction and that will be happening in I believe April of 2019.

On infrastructure, we'll start working in the new year on making the modest reduction that we need to there.

And then private debt, once we have the manager selected and in place, we'll start funding that strategy. We expect that to take probably all of the next fiscal year 2019/'20.

So in terms of interest rate forecasting, our -- our best estimate on interest rates relies on a naive interest rate forecast, and that's because it provides a neutral and unbiased forecast. So going forward the yield on the Government of Canada 10 year bond could increase, it could decrease, it could remain flat and the naive forecast, essentially, uses current rates as the forecast going forward.

And we've presented evidence to show that -- that it is a better predictor and less biased than the 50-50 forecast or the standard interest rate forecast. Over the short term, which is -- we define as 1 to 1 1/2 years, which is the period that we forecast interest rates for for rate setting purposes. The Bank of Canada overnight rate is -- is not a reliable predictor of the direction and magnitude of movements in the 10 year bond rates, and we've presented a significant amount of historical evidence to -- to support that and to show that over the long term there is a relationship, but over the short term the relationship is certainly not direct and, in fact, the two (2) rates have -- have often moved in opposite directions.

So our goal here is -- is to reduce pricing risk and to provide the most accurate forecast of interest rates possible.

So in -- inn conclusion, we are going to develop unique investment strategies for each of the new portfolios that will provide a better match and alignment to the purpose and characteristics of the liabilities associated with that portfolio.

We expect the volatility of the Basic claims portfolio to be reduced since it will contain only fixed income assets going forward.

The impact on -- on rates charged to customers asked is expected to be minimal at 20 basis point increase.

And finally, the expected reduction in investment risk will have a positive impact on our required capital.

MR. MARK GIESBRECHT: And just before moving on, I want to just clarify one (1) point regarding the impact of the strategy on -- on rates.

So we've heard that the impact on this year's application is an increase of about 20 basis points. What we're not factoring in is last year in our application we did have a preliminary step to increase corporate bonds and so that strategy had a reduction in rates of about .7 or .8.

And so that's really considered, you know, phase I or an initial step towards our ALM. So the ALM plan substantiated the increase in corporate bonds and so when you factor in that rate decrease last year with this point .2 this year, the net impact going forward to ratepayers is about a .5 percent decrease. So, it actually -- it's a benefit to ratepayers in the long run, but for this year's application it is a .2 increase.

MR. STEVE SCARFONE: Thank you, Mr. Giesbrecht and Mr. Bunston. So I think Mr. Johnston is going to present next on the other topics.

MR. LUKE JOHNSTON: Thank you. Okay, so moving on to the rate stabilization reserve or MPI's capital targets. Just a quick agenda there, we'll talk about the RSR, the approaches that we use, how MPI compares to the industry, and we'll talk about some of the -- how the new investment portfolio has impacted some of our capital targets and -- and then at the end we'll touch on some new items, capital maintenance provision and the forthcoming capital management plan.

So as you all know, MPI has a rate stabilization reserve. We have this definition in place. Basically, which says, you know, if -- if bad scenarios happen, we need a fund to pay for those items so we don't just pass along those costs to ratepayers and ask them to, you know, have a big rate increase or -- or a rebuilding fee.

Putting aside that definition, M -- MPI is really no different than any other insurer. We should have capital to manage the risks and volatility in our business and I'm -- when I say that, I don't mean that MPI is the same as every other insurer, so. We -- we all know that Basic is a monopoly so they're -- not all the risk are the same. So in that -- in this case, competition risk is zero, but the majority of other risks that MPI has, for example, in -- in the investment portfolio are no different than -- than any other insurer that buys stocks or bonds.

The -- the last point really is that -- the point of having the RSR, obviously to withstand those scenarios. But the other big reason is for rate stability. So if we don't maintain that RSR, and we just wait till it collapses and then ask people for money or wait -- let it grow really big and then give rebates, it's -- it hasn't really served its purpose so we'll talk about that today.

MR. STEVE SCARFONE: Mr. Johnston, could you just provide a couple examples, if you could, of what type of scenario might draw down the RSR? What -- what are we talking about?

MR. LUKE JOHNSTON: Yeah, so there -- some of the more obvious scenarios would be a stock market crash, hail is -- is a risk, but for the most part we do by reinsurance coverage to protect ourselves from that. Interest rates have historically been a risk factor. And then other items relate to, you know, if we have bad winters we get more PIPP claims in a year than usual. We could have adverse development on our claim liabilities.

What we found through a lot of the modelling is there are a few really big scenarios like a stock market crash would be an example but for the most part in our modelling and in our actual results, it's a combination of things. You know, the stock market goes down a little bit, interest rates go down, you have a bad winter, all of a sudden you've lost a

100 plus million dollars, right and -- and we don't make a profit or not -- not by design, anyways.

So when you have a billion dollars of premium and several billion of liabilities, you know, some interest rate changes and a bad winter and a few other things can easily hit a 100 plus million like that and that wouldn't even be considered a 1:40 year; that might be like a, you know, 1:20 or something like that so.

MR. STEVE SCARFONE: Okay, thank you.

MR. LUKE JOHNSTON: Okay, so when we talk about capital targets, what -- like what makes MPI different than -- than other insurers. So, obviously, we talked about the monopolies, that's not a -- that's not a risk and we're -- we're not pretending that -- that it is.

But again, pretty much all other risks that we have are applicable to MPI. I keep hearing the word "solvency" get thrown around, especially when -- whenever MPI mentions anything at all about the MCT, the Minimum Capital Test. We -- we understand that. The government is there, but at the same time we're not going to design a program that, you know, that has us fail and ask for government bailouts. We want to set up Basic to be managed like a -- like a way a prudent insurance company would -- would be managed or run.

There are risks that I would argue that -- or MPI has that make it a greater risk than a typical insurer. So we -- we don't -- on Basic we don't make a profit. So if we're a little bit off on our ratesetting, we lose money immediately. It's not that, like, we make 10 percent profit, oh, now we only made 8 percent. We are off at all, we're losing money.

We do -- there's no other way to say, we have extremely low capital targets relative to anyone. So we'll talk about that.

And then the -- our Personal Injury Protection Program is -- is unique. Like SGI Quebec have no faults injury programs, but pretty much every other P&C insurer wouldn't have several billion dollars of long-tail liability sitting on their books. So that -- that's a big risk for us and you can see the steps we've taken on the investment side to try -- to try and neutralize that.

Just so everybody's familiar with the methodologies that -- that I'm talking about. So there is the Dynamic Capital Adequacy Test which we call DCAT and, really, this is like a -- this is what we -- we use a modified version of this to set the capital targets based on the current Board approved method. Really what this is is a series of scenarios, you call them stress tests on the MPI's base case forecast. And then we, essentially, model these scenarios and say, what would MPI need today in terms of RSR to withstand the scenarios.

So that has -- that has been a lot the -- the -- this collaboration we talk about with -- with PUB and the other stakeholders, this is what we're talking. How to design those scenarios; how to build the models, et cetera.

There is -- there are -- there are definitely a lot of assumptions in these models. So, you know, the actuary, being me, has to, you know, decide on a lot of these assumptions, but management action, how fast to respond to scenarios, what's an appropriate rate increase in response to scenarios are an example of some of -- some of those things.

The -- to my knowledge, I'm not aware of anybody that says we use -- we modify the DCAT to determine the capital target but that -- that doesn't mean that there are people that do that.

MR. STEVE SCARFONE: Just on -- on that point, Mr. Johnston, what is it about the modified Dynamic Capital Adequacy Test that makes it different than the normal, if I can use that word, Dynamic Capital Adequacy Test.

MR. LUKE JOHNSTON: Yeah, the DCAT test would normally just be used to determine if the insurer has satisfactory financial condition and all that means is that, you know, you run the scenarios that we talked about here and basically see if the insurer has enough capital to withstand those adverse scenarios and then the actuary would say yes, based on our modelling, you know, they meet the regular -- regulator's minimum capital requirements and they can, you know, withstand all these adverse scenarios. That would be the -- the typical use of the DCAT.

We've modified it here as a way to -- it's definitely a measure of MPI's risks so we've used that modelling and -- as a way to create RSR targets for the Corporation.

MR. STEVE SCARFONE: No, I understand that, sir, but how has it been modified? Input factors, if any, are different.

MR. LUKE JOHNSTON: The -- so one (1) of the collaborative pieces we did was this iteration exercise. The one (1) kind of modification that MPI struggles with is -- is -- is really this last step where you see transfers from the other lines of business to kind of -- as part of the modelling and -- and MPI just doesn't agree with that piece at all. And I'll talk a little bit about it more later.

MR. STEVE SCARFONE: Okay. Thank you for that, sorry.

MR. LUKE JOHNSTON: The other methodology -- not the -- there may be others, but the two (2) main ones that we talk about here is the Minimum Capital Test and this really is a complete -- completely standardized test of capital adequacy. It appears that every insurer in Canada, P&C uses this test and their capital targets are based on Minimum Capital Test targets.

The -- the test really is completely objective. We -- as long as we have a balance sheet, there's a little other work behind the scenes, but for the most part, it's is not influenced by assumptions made by myself, or anyone, really. And yeah, it measures the -- the risk for all insurers, public or private. And I guess the other thing that it does really well is it gives the -- everyone a -- a way to compare companies.

So if -- from -- if I go to our Board and say, you know, we -- we came out of the PUB hearings with A $180 million RSR target, they might say, Well, how does that compare to SGI? That -- for me to tell them SGI has a $200 million target would be meaningless. The MCT will give you that standardized ratio where I can say, you know, We're 30 percent. SGI is 80 percent. Like, that -- and you can compare the different companies.

Okay. So this table here is really showing the impact of the proposed investment portfolios on the targets. So maybe we'll start with the hundred percent MCT tests. Our -- by modelling out the impact of the new portfolios, the minimum capital test is saying that the capital required at a hundred percent MCT has fallen from 438 million to 358 million. So completely objective, independent test of MPI. I can go to our Board and say, If we do this, you know, MCT is indicating that the 100 percent MCT target would essentially drop by about twenty (20) plus -- you know, about 25 percent.

Our DCAT is also supposed to measure risk. So we would expect to see a similar type of decline in our own modelling, and have you seen -- as you see here, we -- we have -- so the dollars, using the PUB methodology, for lower target -- the target fall from one eighty (180) to one twenty (120). And you'll notice that the MC -- the equivalent MCT ratio is about the same.

So it -- the good thing that we found from this result is that our DCAT, while it's not a hundred percent MCT, it's tracking really well with MCT scores, which tells us that, okay, you know, we're -- we're probably doing, you know, things right, here. I just wanted to make that clear that MPI has really reduced its -- its dollar -- absolute dollar ask considerably in this application, and that is -- is through things like the -- the ALM study.

Okay. So this is a high-level comparison of our peers in terms of capital targets. Everyone is aware that MPI has come here in multiple hearings in the past and asked or suggested that a hundred percent MCT might be a reasonable target for MPI. We -- in order to compare to other insurers, we need to put the targets on a MCT basis. Otherwise, it's very difficult for me to show that in this comparison. So 27 percent is -- is MPI's current calculated minimum capital target in this application, the -- based on the -- the last PUB order.

So just as the slide says, it is a unique approach, and I think everybody knows that. This is a -- a made -- made-in-Manitoba solution for the most part, and the DCAT itself has been modified to -- in some respects.

SGI, ICBC, SAAQ, the Quebec public insurer, they all have some form -- they -- they all latch onto a hundred percent MCT in -- in some form, whether they target and move to that, or that's their stated minimum. But they'll -- they'll all use that.

For -- for private insurer, the regulatory target would be a minimum 150 percent. Most would operate well above that. The -- the latest average I saw was about 220, 225 percent.

MR. MARK GIESBRECHT: Yeah. And just to add to private industry, so I -- I come from private industry, where I work with a life insurance company and a -- a P&C insurer. And so on this slide, you see the -- the 150 percent, and that's the supervisory minimum. And in the private market, you would then, through your DCAT modelling and your stress testing, determine what do you need in excess of that to ensure you never come down to that range?

And so just by way of example of the companies that I worked for in the past, we had targets of 230 and 300 percent. Just to give you an example of what -- and as Luke mentioned, currently averaging the P&C market is about 225 percent. So it is definitely above that -- that one fifty (150).

That -- that's a target that a -- a private insurer would never want to approach, because that means that the regulator OFSI would be all over them in terms of a management plan and wanting to stand what are you doing to get away from this level, because it's, in their eyes, far too low.

MR. LUKE JOHNSTON: And -- and just to be clear, MPI has never come here and said we need private sector capital targets at 150 percent MCT. So we recognize the monopoly position, but again, if you can take my perspective, going to our Board or government and showing them the slide, and they would -- would say, Well, what -- what are you guys doing? Like, we want, you know, we told you to run, you know, this like an insurance company. It looks -- it doesn't look good. Right?

So we're not asking for 150 percent MCT, but an appropriate capital target for -- for MPI, and -- and again, for some of the comments I hear from Intervenors, like, we're taking people's money, or -- like -- or -- things like that, I -- I don't see any base in -- in those -- basis in those arguments.

MR. STEVE SCARFONE: Mr. Johnston, just on that backslide, are there any differences that you're aware of between MPIC and the other public insurers on the slide that would suggest they require a higher MCT?

MR. LUKE JOHNSTON: I won't -- I won't pretend to know the -- the regulatory environment, or the government environment in those jurisdictions. MPI, from a coverage and -- and balance sheet basis is very similar to SGI, and our PIPP program would be very similar to the SAAQ as well. There are different rules in those jurisdictions about, you know, how the regulatory environment to -- who sets the targets and things like that, but I don't see why we would differ considerably in terms of our targets. At every -- every area has different reasons for what they've selected.

So this slide -- it says, "Satisfactory condition cannot assume capital transfers." And I'll explain that. So we want a Basic capital target to be an indicator of the risk of Basic insurance. So if you think back to the earlier slide where we showed how the risk of Basic fell when we implemented the investment portfolios, that's a really good example of showing how we've, you know, to our Board and PUB -- and the PUB how we've lowered risk.

We don't -- when we talk about the

modified DCAT, assuming transfers from other lines of business, we don't want to show or -- or blur the assessment of Basic by capital transfers. We wanted to -- the -- the PUB and others to see this is the risk of Basic, you know, on its own. That's not to say that we -- we know we've transferred capital, but we -- we just want to have that independent measure.

So to the -- to Mr. Chair's question yesterday about the -- about the capital transfers from Extension, obviously, we -- it isn't a -- a process that we want to continue to do, but to your point, you had -- we had $200 million to transfer, and so what do you do? Why do we even have that much? And I -- I get what you're saying, but I'll get into the Capital Management Plan.

But that's where we really -- we would like to lock down our -- our capital targets for all lines of business, our profitability and rate-setting methodologies for all lines of business. And if we have confidence and certainty in that, I think we can go to government and PUB and say, Look, these are the rules that -- that we'd like to follow for the different lines, you know, under these conditions, you know, Extension transfers may occur, and things like that. We don't have all the answers to those yet, but that would be, like, an optimal scenario, from our perspective.

And -- and when it comes to Extension, I know this isn't the place for it, but that's not -- like -- like, the -- the probability targets of the -- government wants, or -- or things like that is -- I'm told, like, that's -- this is what we're doing. Basic -- the mandate is clear. There's no profit. Like, there's a -- there's a clear mandate. So I can't really tell you what the decisions will out of that process, but step 1 would be to really lock down all the targets and -- and methodologies.

Okay. So this looks a lot like an earlier slide you saw. The PUB targets based on the last order are calculated and shown in -- in the bottom two (2) rows. So you've seen the -- the expectation of the investment portfolio changing has dropped those targets considerably. So instead of one eighty (180) to three twenty five (325), it's now 120 million to 251 million.

MPI's only objection to the -- the current Board Order methodology is what the -- this assumption of how that iterative methodology is calculated, basically assuming transfers of money from Extension. That's the only difference in the -- the way we've calculated it. So our applied-for range in this application is 143 million to 305 million.

We would prefer to state that as an MCT target of thirty-four (34) to eighty-five (85). And one (1) of the -- one (1) of the big reasons that we like to do that is we can update everybody on that target, like, at any time, because we can calculate an MCT ratio in any month, and it's a little harder to rerun DCATs and -- and things like that on the fly, so the -- the MCT targets are more -- more dynamic in that way.

So you heard Mr. Graham talk a lot about the direction he's received to reduce volatility, not just for Basic, but for all MPI operations or lines of business. So that -- that volatility is really in -- in absolute terms. So -- so we -- we showed earlier that, you know, our risk of -- on the investment portfolio drops in -- both in dollars and percentage terms.

So some examples of what MPI has done recently to do -- to -- to control volatility. So the investment portfolios have been talked about. We -- we worked with the PUB on accepted actual practice. So that was a -- a big chunk of the interest rate risk issue that we were dealing with.

You've heard in recent years about some of the issues around projects, so improving the value management process was a big -- a big thing that had to happen. The -- the new Board and -- and our new CEO definitely had a -- a much heightened importance on risk management.

So my title has changed. I am now the VP of product and risk management. So risk management is in the executive office. We have -- we're setting up an enterprise risk management function, which we really should have. A company this size, to not have that is -- is not a good thing. Full accountability for reserving, it's -- now reports to me as well. So you see the fifth bullet there, and it talks about centralized PIPP reserving, but the Board obviously recognizes that the biggest risk we have is the -- basically, the $2 billion of claim liabilities and the investments backing them, so they've been taking steps to improve that.

And then the last piece, which we're not really showing anything new in our forecast this year, is that we're going to investigate the reinsurance options more thoroughly. So we -- we really just have protection for big hailstorms right now. We're going to look at other things. That could include, as Mr. Graham talked about, aggregate on coverage, but there are also other products. For example, there is adverse development protection on liabilities. There is other kind of net income smoothing type of products that we've talked about, but they all have cost-benefit, so we have to investigate those.

One (1) of the struggles that -- that I have, especially when talking to our -- some of, like, our Board members, is that the Board believes that we're doing all these things to reduce risk, and so the -- use investment portfolio as an example, we do all those things, and then the targets -- well, then I tell them, Well, we lowered all the targets. So they -- it kind of feels like you've counteracted, you know. So I -- I went in a -- a year or so ago. I said, Well, we have a minimum target of 200 million.

And -- and then they say, Why? And I tell them all the things that are -- that are risky to MPI. They'd approve a bunch of things, like the investment portfolio and other risk reduction efforts, and obviously expect that that's going to reduce risk MPI, and it does. But then I come back and say, Well, I lowered your target to a hundred and twenty (120). So they kind of feel like it -- it nullifies a lot of that benefit. That's kind of how it works, but it -- it feels that way to them. So just -- just so you understand that piece. But, yeah, the point being that going forward, we -- we really need to work with PUB to -- to achieve this kind of low risk appetite that the government has.

Okay. Moving on to the Capital Maintenance Provision. So the -- the CMP is really an additional amount that we're asking to apply to the annual rate indication in order to maintain capital in a given policy year. So another way to think about this is we calculate -- we've always talked about calculating breakeven rates here, and -- and the one (1) time we looked at net income and said, How do we keep that at zero? And then we moved to AAP, the actuarial -- accepted actuarial practice rate making, said, Let's keep that net zero.

What came up last year is this idea that we can't have our capital deteriorate by design in the rate-setting process. So what we're saying is, Well, we agree, and that we think the most fair way to do this is to ask ratepayers for the incremental cost of maintaining capital as part of the rate-setting methodology. And we call that the net CMP.

So to -- a really simple example is

shown below. The bottom two (2) rows show you MPI's forecast if we did not include the CMP in the rate ask. And so if -- if you don't make any net income, you can see the total equity balance basically stays the same the whole time, however, the Company continues to grow, so the MCT score says, you know, you -- relative to the size of business, your -- your capitalization is falling, so from seventy (70) falling to fifty-two (52).

Our proposal is to ensure that the pol -- the policyholder comes in with a 70 percent MCT, they leave with a 70 percent MCT, and -- and they pay -- a -- a fair way to pay their kind of contribution. The alternative is to use the bottom set of rows, let the capital decline until it reach -- reaches kind of dire straits, and then ask that group of policyholders for a bunch of money, or ask them to rebuild it. And if I was that policyholder, I would say, Well, that makes no sense. Why didn't we just, you know, build and maintain all along, right? So that's -- that's the concept that we're -- we're proposing.

So I've already talked about the first bullet point. Net -- the -- the -- this Capital Maintenance Provision is really step 1 of -- of a capital management plan. So this is just -- just the maintain part. Whether we're at 30 percent MCT, or 80 percent MCT, all we ask ratepayers for is to keep it the same, not build a release in -- in the -- in the Capital Maintenance Provision.

And yeah, next slide, please. Yeah.

MR. MARK GIESBRECHT: I just want to add one (1) comment. I -- I think it could be useful to add an analogy. The way I look at it is our -- our current environment is like we're -- we're living paycheck to paycheck, and we're -- we're then vulnerable if we have a big expense come up. And that's kind of like our current level of capital.

If we have no means to maintain capital, we're vulnerable to those adverse events, that -- that bad storm, that bad combination of market factors, the stock market, like we've talked about. And so it -- it really is important, that way that we, you know, we take away that vulnerability by having a means to protect capital.

MR. LUKE JOHNSTON: Okay. So -- so the Capital Management Plan is -- is not being proposed by MPI in this application. We don't believe that the CMP -- the maintenance provision and the Capital Management Plan have to come together. The -- the Capital Maintenance Provision can stand on its own.

But per some of my earlier comments about the other lines of business, in order to have a -- a capital management plan, we -- we would need to have targets for all the lines of business and really understand the rate-making rules and triggers on those lines.

So again, if you're -- so Mr. Graham mentioned, you know, maybe one (1) consideration is that Extension rates could go down as a -- as a -- a possibility. Well, I need to know that, and then need to know the rules of, you know, when -- when can you transfer, and when -- when you can't. Otherwise, you can't really make a plan.

The -- the Capital Management Plan -- like, SGI came and talked about their plan. Really, we're talking about making rules about how you build and release, and always move towards your target. So don't wait until it's in, again, dire straits. Let's con -- sis -- like, so, SGI's a hundred percent. Let's work with the PUB and other stakeholders to figure out how fast you should move to that -- to that target.

So there is some issues in ICBC -- ICBC right now, where they -- they have a capital management plan. It doesn't seem like the -- they want to follow the rules, like, right? So we -- we want to -- because it may be the -- the impact is too large. So we would want to work with the Board to come with a plan that we think we'd actually follow. So -- so DCAT, for example, assumes we would never charge people more than 2 percent for a rebuilding fee in one (1) -- in one (1) year. So why make a capital management plan that assumes you can just ask people for a 10 percent rate increase? Like, that's not really meeting the purpose of the -- the RSR.

Okay. Yeah. And I think I -- I talked about -- about all of these items. Maybe just to touch on the unbiased forecasting line, when we talked about interest rates earlier, and I talked about this a little bit yesterday. We have a current interest rate right now in our hand. It can go up, and it can go down. Our issue -- when -- when we say something's biased, we are forecasting interest rates to go up, and if they don't, there's only one (1) scenario for us, and it's loss.

If -- if we use the current naive interest rate, RSR could take a -- you know, we -- we could get an unfavourable move. We could get a favourable move. RSR has a provision for that.

That's like any other forecast, but on the interest rate one, we're just saying, Let's not take the high number, where really, the expectation is you either get it, or you -- or you lose. It doesn't -- it's not really the 50/50, like, probability that we look for in most of our forecasts. So that's -- that's what we mean when we say unbiased forecasting.

Okay. So in conclusion, so Mr. Bunston's talked about de-risking. So we're doing that through our investment portfolios, but we're definitely looking in other ways to do that on claims, and -- and projects, and things like that.

The DCAT targets -- I've talked about MCT today. MPI has not applied for a hundred percent MCT in this application, but we do want risk-based targets, and we'd like them latched onto MCT scores so we can compare and -- and dynamically use that information.

And then lastly, the Capital Maintenance Provision would be step 1 of what we think is a -- a fair break-even rate-making methodology, and then -- yeah, step 1 of the Capital Management Plan.

MR. STEVE SCARFONE: Thank you, Mr. Johnston. I know we're close, if not already there at our morning break. I just have a couple follow-up questions, Mr. Chair, to the panel members on -- on the presentation that we just heard.

So gentlemen, I'm going to kind of put you on the spot here a little bit, because as I understand it, the -- the new Basic claims portfolio has been the de-risked. Is that right?

MR. GLENN BUNSTON: Yes, that's correct. And as I mentioned, it's only fixed income going forward in that portfolio.

MR. STEVE SCARFONE: Yes, and so in the RSR -- the new RSR portfol -- portfolio, as compared against to -- the Basic claims portfolio has more risk -- risky investments. Is that also right? Is that accurate?

MR. GLENN BUNSTON: Yes, it's a balanced portfolio. So half of that portfolio is invested in -- or will be invested in growth assets.

MR. STEVE SCARFONE: So I'm trying to reconcile how, under the new investment strategy, the rate indication would go up by .2 percent, but it also has the effect of lowering the capital requirements under the Rate Stabilization Reserve.

MR. LUKE JOHNSTON: It's a -- so if -- if you lowered risk on the investment side, generally you expect a -- slightly less return. So in this case, Mr. Graham talked yesterday about taking -- that's a relatively small hit on the return for a very substantial risk reduction, which I -- I believe was about 40 to 45 percent. So that's a trade-off we were quite willing to make.

And then again, as Mr. Giesbrecht mentioned this morning, that -- that increase in rate is relative to kind of that midterm strategy where we talked about buying 18 percent corporate bonds. Ignoring that strategy and going back a couple years ago, this new approach actually would have lowered the rate indication by about fifty (50) basis points because it does invest in -- more in corporate bonds and -- and other types of bonds that have -- that have higher yields.

MR. STEVE SCARFONE: Okay. Thank you. And -- and then one (1) other question. Yesterday in my opening statement, I had indicated that there would be an explanation for the Board on how capital can deplete without a Capital Maintenance Provision. And -- and the reason that I -- I said that is because I don't understand -- there's $211 million in the Rate Stabilization Reserve, and presumably, that money is being invested. There would be an increase in the amount.

How is it that the reserve would deplete if properly invested?

MR. LUKE JOHNSTON: Okay. So there's a -- there's a few pieces to this, I guess. So let's just say we -- we're starting with $200 million in the Rate Stabilization Reserve. One (1) of the things we talked about last year and again this year, I guess, is the investment income earned on the RSR, and what to do with it.

So in -- in the absence of any of the capital maintenance discussion, the suggestion was we should use the lower rates. So that's -- that is a -- an option, but obviously, if you do that, the 200 million stays exactly the same, because its only real source of growth besides good luck was that investment income, because we don't make a profit.

So in a growing business, which we still are, we would have growing PIPP liabilities, or other assets would grow. All else equal, there's bigger risk -- there's greater risk of a loss on those items when they're, you know, bigger in size, so our MCT ratio would fall.

If we had really good luck and everything worked out perfectly, the RSR would just stay at 200 million forever, but the business would be going like this, and relative to the size of business, it wouldn't be as adequate as it was prior to that.

MR. STEVE SCARFONE: This is -- so is it fair to say that the liabilities, then, that the Corporation has would outpace the growth in the RSR? That's the -- is that too -- again, is that too simple an explanation?

MR. LUKE JOHNSTON: No, we are -- no, it's not. The -- the -- our -- our liabilities are continuing to grow. We -- we do expect to plateau at some point. The -- the reason our claim liabilities keep growing is because of the PIPP program.

So we're going to reach a stage where -- so we -- we've had PIPP since 1994, so we're twenty (20) plus years into the program. Right now, we're adding between fifty (50) and a hundred (100) lifetime claimants every year to that program, and -- and those can cost a couple million dollars each, some -- and -- and -- or -- for the big ones.

At some point, there's going to be more than 50 to 100 million people dying from the existing population, that -- more than we're adding. At that point, it'll stop growing, but right now, the add is greater than what's falling off.

So if we could show you the whole

history of PIPP you'd see, you know, a hundred million dollars just growing, growing, growing, growing, but the rate of growth is slowing, and it -- it should -- it should plateau soon. At that point, we wouldn't expect liabilities to grow much anymore, and it is quite possible that as I said men -- yesterday, these net Capital Maintenance Provisions or build and release is the -- there's no reason they have to be positive all the time. They could -- they could definitely turn into a -- a negative, or a -- or a rate decrease.

MR. STEVE SCARFONE: Thank you, Mr. Johnston. So Mr. Chairperson, those are my questions for the panel members.

THE CHAIRPERSON: Okay. We will break at 10:30, then I assume we will be dealing with Mercer 10:30?

MR. STEVE SCARFONE: That's correct.

THE CHAIRPERSON: Okay. We'll break till 10:30. Thank you.

--- Upon recessing at 10:13 a.m.

--- Upon resuming at 10:35 a.m.

THE CHAIRPERSON: Mr. Scarfone...?

MR. STEVE SCARFONE: Thank you, Mr. Chairperson.

CONTINUED BY MR. STEVE SCARFONE:

MR. STEVE SCARFONE: We're ready to move to the next witness which is, of course, Dave Makarchuk. He's here from Mercer Canada.

Mr. Makarchuk, we have already sworn you in so I have a few questions just to ask of you before we begin. We have up on the screen MPIC Exhibit Number 5 which is Mr. Makarchuk's curriculum vitae.

Mr. Makarchuk, sir, can you please briefly describe your background in terms of both education and work experience for the -- for the Board.

MR. DAVID MAKARCHUK: Sure and good morning, everyone. I'll chronologically follow the -- the CV that's on the screen. My foundation is a Bachelor of Commerce, as well as a Bachelor of Science in actuarial science, at the University of Calgary in 1992. My professional designations are a Fellow of Society of Actuaries, Fellow of the Canadian Institute of Actuaries and a Chartered Financial Analyst Charterholder in 2008.

I should go from the bottom in terms of this CV because it's kind of a bit of a build. I actually began my career on the insurance side working for Crown Life Insurance in Regina, working in both the -- the pension asset accumulation, as well as the corporate actuarial dysfunction and so, you know, I have some familiarity with solvency testing. It's interesting to see how it's evolved and its application of the property-casualty side.

Some of my exams as a training actuary were certainly -- touched on P&C topics as well. Moved to -- returned to what was mostly home Calgary with Watson Wyatt as a pension consultant. The next six (6) years after my Watson Wyatt time was with Mercer as a pension actuary, assigning actuary. I transitioned -- if we can go back upward, please, thank you to investment consulting in 2006. Began my CFA Charterholder examinations then. My primary area of consulting now is on the investment consulting side advising clients really across Canada, mostly, funds of a billion dollars and up, with regards to strategy decisions, manager structure decisions, manager selection and things like that.

So, with regard to asset liability studies, which is the purpose of today I've probably worked on dozens if perhaps maybe a 100 over my career. Many for insurance agent -- or organizations like this, many for pension plans, some other organizations as well.

MR. STEVE SCARFONE: Thank you, Mr. Makarchuk. So I see there that you were with Mercer for a number of years and then left the company, is that correct, to work as a consultant?

MR. DAVID MAKARCHUK: No, it was continuous from 1999 to today, different roles in different cities. There was a two-year period probably the date at which you were at the CV that I was based primarily in Toronto. My current primary area of work -- or location of work is in Calgary that was only a month or two (2) ago that we made that transition so. But practically speaking, I work across Canada.

MR. STEVE SCARFONE: Yes, and you've been with Mercer then since 1999, correct?

MR. DAVID MAKARCHUK: Correct.

MR. STEVE SCARFONE: And what's your title currently, sir, with Mercer if you didn't already say?

MR. DAVID MAKARCHUK: So -- yes, so not on this piece. So my primary title is the leader of our wealth business in Western Canada, so Vancouver through -- through or BC through Manitoba. Our wealth business includes the actuarial services that we provide to clients, as well as the investment services that we provide to clients as well.

MR. STEVE SCARFONE: Thank you. And so, Mr. Chair and Panel members, as you're aware Mr. Makarchuk has been qualified already as an expert to give opinion evidence on two (2) areas, one (1) of which is institutional investment planning, which expect speaks for itself, but the second area that you're allowed, sir, to give evidence opinion evidence on is in the area of asset and liability matching.

Just before you begin your presentation, can you explain for us laypeople what that means.

MR. DAVID MAKARCHUK: Sure. I think that while some investors still have the luxury today of investing without regard to a particular obligation, most institutional investors have an obligation they're looking to -- to discharge or meet at some point in the future when we talk about an asset liability study or asset liability modelling or matching, essentially, what we're doing is considering the nature of the liabilities or the obligations, modelling those out in an appropriate way and then looking at different asset classes, the -- the -- the -- how those assets we expect to behave in the future, how we expect the liabilities to behave in the future and the relative trade-offs between different things.

And so, often times those are insurance assets, sometimes they're pension assets. You know, individuals could do them for personal financial planning as well. So there's a broad application that one (1) could do asset liability studies. The study that we did for MPI is -- is one (1) that's typically -- one (1) of the many kinds that we do within Mercers group.

MR. STEVE SCARFONE: Okay, thank you. And then just one (1) further question or a couple questions about your qualifications as -- as an expert, Mr. Makarchuk, you understand that your role in this proceeding is -- is not to advocate for MPIC but to assist the Board in understanding the study that you're about to present?

MR. DAVID MAKARCHUK: That's my understanding, yes.

MR. STEVE SCARFONE: And so there's no further questions, Mr. Makarchuk. You're going to present on the asset liability study that your firm was engaged to conduct for MPIC.

Do you adopt this particular presentation, Mr. Makarchuk, as part of your direct evidence this morning?

MR. DAVID MAKARCHUK: I do.

MR. STEVE SCARFONE: Okay. Very good then if you are ready to proceed.

MR. DAVID MAKARCHUK: Sure. So this is just a short overview of the work that we've done at the request of MPI over the last twelve-ish (12) months or so. I'm just going to quickly summarize the engagement that we agreed to, the members of my Mercer team that help me in this regard.

Some of our key milestones along the ways, talk about the conclusion -- or how the conclusions were ultimately reached, what Mercer's role was, what MPI management and staffs' role was, what the committee and the Board as well. As well just a bit of an update on our current perspective. Markets have moved somewhat over the last twelve (12) months. We've certainly have had some good questions as part of the dialogue in 2018. So just give an update as to what our perspective is today materially twelve (12) months after we began the project.

This is a summary of the engagement

with MPI. We received an RFP on September 12th. It was clearly indicated that time was of the essence in the RFP and that -- that MPI was motivated to conduct this relatively quickly.

We had a number of questions which MPI responded to promptly. We responded to the RFP as scheduled. And by the end of September MPI notified that we were the successful vendor.

We moved quickly to engagement documentation because MPI indicated a motivation to -- to move forward with this relatively quickly. There was a lot of work on the MPI side; a lot of work for myself and my team as well but materially completed the project as scheduled and throughout the balance of 2018, we have supported MPI, both with regard to the General Rate Application, as well as the following Information Requests that -- that resulted.

This is our overall team as it was presented in our response to Request For Proposal. My technical role is as an executive sponsor -- technical -- that was the -- the labelled role. My role expands to peer review, presentation at the investment committee level, as well as participation in all of the -- the management meetings that occurred, as well as authoring much of the response to the Intervenor requests, as well as drafting a number of the different reports.

Angelo DiNoto is a senior consultant at Mercer as well, probably 25 plus years experience. He was the overall project manager and the day-to-day contact for MPI management throughout the project.

Pawel Piesowicz was our senior and primary modelling specialist. So, essentially, the -- the grinder of the numbers. Whenever Angelo or myself requested them, he had direct interaction with MPI staff on certain things as well.

Mariusz Wielocha, was the other of the -- the -- the modellers as well.

If there were certain questions that were pension related or pension specific Jared Mickall who is based here in Winnipeg advised and supported our team on the pension specific things.

And there were specific questions that were more fixed income oriented and so Samatha Cleyn was our specialist in that regard.

So over all, four (4) of us are actuaries by background, two (2) of us are CFA charterholders. All of us had institutional insurance experience prior to this engagement.

This page is just a -- a brief summary

of the different steps that -- that occurred over the project and, you know, the -- as soon as we were appointed, data sharing happened fairly quickly, project planning as well.  There was weekly cant (phonetic) charts and updates as such.

It is important in any asset liability study to -- to establish discussion and dialogue in terms of what are our overall objectives.  It was clear at the outset that there was some things that MPI was looking to achieve.  It was clear at the outset that there was definitely some topics that they were seeking and looking for education before they actually made a decision.  And so I think we learned that in step 1.

Step 2 was our first meeting, our first in-person meeting here in Winnipeg to discuss the objectives, the assumptions, the risk measures and risk philosophies.  That was a great opportunity to educate MPI, share some of our expert perspective, also get some of their perspective on what they want to achieve, why they were doing the asset liability study, kind of what our success measures otherwise might look like.

October 30th, we had done our first review of some the efficient frontier analysis.  There was a first draft of phase -- of the phase I report; that was a -- a long meeting, close to full day as well just in terms of education, hearing MPI's perspective, starting to shape directionally which asset classes would be of interest and understanding, I think by then, you know, the commitment that segregation assets was something they wanted to work toward.

And that's where the step 4, you know, extending our analysis to the other business lines, you know, from a legacy perspective assets were not segregated. When we took on the asset liability study it was not clear that assets would be or would not be segregated and so midway through the project that decision was directionally made by -- by management subject, of course, to confirmation by the investment committee and the board.

And so there's a lot of modelling that happened through the month of November as well, back and forth between ourselves and MPI staff. Our major investing committee meeting was on November 28th and so both Angelo and I were there in person and we'll show you some slides from -- from that presentation today. That was, you know, very important just in terms of confirming at the -- at the oversight level that the investment committee and the board were directionally in favour of the management recommendations that were otherwise coming before them.

Finalizing and documenting everything in the phases 1 to 3 reports. Certainly they started drafting in -- in October. They were finalized all by January. We supported MPI in terms of making the necessary changes to investment policies, statements and that was step 7.

And throughout 2018, we've responded to the follow-on queries and the technical conference earlier in the spring, as well as the GRA support, as well as today.

I wanted to highlight kind of how conclusions were reached and some of the challenges that similar groups have sometimes in terms of making investment decisions. And so the slide top right is a slide that we used often with all of our investors who are making strategic decisions and it's challenging because not every human being, not every investor believes the same thing, invests the same way, ends up in the same result.

But based on our analysis and research and -- and in thought process after reviewing the governance structures of a lot of different entities, I think all of us as human beings we make decisions in this space for four (4) main reasons. We make decisions because of returns. We make decisions because of risk. We make decisions because of cost. And we make decisions because of time.

But it's challenging because even everybody in this room today doesn't perceive all those things the same way and we need to -- we believe that our perspective as consultants is to make sure we have good education on all of these topics so that we can synthesize the relative, you know, implications of whatever decision is going to be made and as best we can, that we can articulate what our objectives are before we do our analysis so that all stakeholders, whether it's management, whether it's an oversight body or whether it's external -- external advis -- external people that are impact -- impacted by the assets, they understand why decisions were made, and that they can kind of coo -- carry forward going forward.

And so, so we walk that through. We certainly walked management and staff through that prior to the committee. I believe the framework resonated with MPI as well as the committee also and then so we summarized for the committee during that meeting the key recommendations and the expectations.

Mr. Bunston summarized some of these already.  The decisions to segregate the assets. The decision to derisk the Basic liabilities.  The decision to lengthen the fixed income portfolio; to diversify as well; to reduce the allocation in real estate.

The headline numbers from -- from our Mercer perspective -- again, these are all slides just taken from the November 2017 presentation was, at that time, to reduce, you know -- you know, we want -- wanted to be transparent.  That one understood what are the return implications, what are the risk implications and what are the costs and time implications.

And so, you know, the headline number that returns would be decreased by .4 percent and it's $11 million not just $11 per annum but the -- the risk would also go down as well in terms of the surplus volatility, as well as what we called the surplus at risk would go down by $67 million per annum.  And then -- but this would also take some time.  This is not a situation where one (1) can wave their magic wand.  It would take roughly twenty-four (24) months to implement the recommendations MPI was bringing.

MR. STEVE SCARFONE: Mr. Makarchuk, sorry to interrupt you, sir. So we see there on slide I believe it's 5, the key recommendations that your firm made to MPIC, but earlier I think on the slide earlier, you indicated that at step 1 that MPIC came forth with some very clear objectives for your firm during this engagement.

Can you say -- can you recall what those objectives were?

MR. DAVID MAKARCHUK: Sure. So there -- there definitely, you know, from the very beginning risk mitigation was -- was clear on -- clearly on the mind of -- of management and staff that's working on this from -- from the outset. Exactly how that was going to happen, and to what extent, that still wasn't clear that was for the facilitation and an education discussion.

But that was, you know, I think the objectives was very much education. We were aware of the eighteen (18) different areas that the CAC had asked to be included in the study. So, you know, being new to the conversation is understanding, well, why are those on the list? How do we work those into the -- to the piece? Where do we need education?

Some of those eighteen (18) areas were not necessarily in Mercer's wheelhouse in terms of expertise, but most of them were and we were able to opine on -- on most of them so.

But to be clear, the recommendation that was brought to the committee that was, you know, based on, you know, the work that we did with management and staff throughout October and November. I would phrase it as a joint recommendation of MPI management and staff, along with the work that Mercer had already done for them on that path.

THE CHAIRPERSON: I'm sorry, to interrupt you, but I just wanted to clarify that point because I had understood your earlier testimony that MPI had come and said, we want to derisk. We want to segregate and that was given to you and then when I read this table it -- it sort of comes across as in, those are your recommendations.

Can -- can you just clarify that because I thought the starting point was MPIC said, here are the things we're looking at.

MR. DAVID MAKARCHUK: Correct.

THE CHAIRPERSON: They came to you, you discuss it with them, you evaluate them and now it sounds -- you come up with some -- some joint recommendation, I think you said.

But can you -- I just want to know --

MR. DAVID MAKARCHUK: Sure.

THE CHAIRPERSON: -- if the starting point is MPI coming to you and saying, here are the things we want as objectives or if it is you saying, you should be derisking, segregating and -- and that.

MR. DAVID MAKARCHUK: So it's good. Let me try and clarify that one (1) more time. So one (1) of our very first steps in step 1 and in to step 2 is Mercer facilitating discussion on what are your projectives, how are we going to get to them, what are we going there -- and there'd be a slide almost certainly in our proposal, but it's one that I've used dozens of times as well is that, whenever we come into an asset mix conversation for any client, whether it's pensions, insurance or whatever, it's really important that we are agnostic, that we are indifferent. Whether you're going to be a return seeking investor; whether you're a risk mitigating investor; whether you're trying to make better use of costs, time, or whatever.

I have clients right now that are re-risking. I have clients that are derisking. I have clients that are moving back into equities. I have clients that are lengthy in duration. It's not for Mercer to singlely decide what our client should be doing. It was facilitation -- and even on the segregation piece, MPI was not committed to segregation at that point, they wanted some analysis and some expert opinion as to whether they should be -- whether they should segregate the assets based on what others were doing.

So to clarify, our job was to facilitate, give expert perspective, understand what MPI is trying to achieve and then we, alongside management and staff, brought a recommendation to the committee that in my opinion was in line with the education and the objectives that management and staff had.

Does that answer your question? Okay.

(BRIEF PAUSE)

MR. DAVID MAKARCHUK: So these were, you know, so, you know, the topics from phase 1 and so many of these questions or topics were either -- came straight from the CAC recommendation, or perhaps they're MPI's as well but there was important questions and, number 1 was: Should there be a unique asset allocation. The analysis discussion, essentially, was our executive summary in fifty (50) words or less which is sometimes tricky to do. You can appreciate that often times there were supporting documentation that -- that supported here.

But again and at this point it was a decision that -- very much depended on the dispersion of objectives because our perspective was, if each bucket has more or less the same objectives we don't necessarily see the merits in terms of segregation, but if each bucket very much has different objectives then we'd recommend you segregate.

And it's to MPI, it's ball and bat not mine, it's MPI to decide are the decisions -- or the recommendations distinct enough based on what we learned over the couple of months that we worked on this. We think they were and we supported their recommendation to segregate.

The investment goals, one (1) of the first things we did once we were hired was to take the current investment policy to read it, to try and summarize what we read into it and you see those in the -- in the centre box there, that risk mitigation was important, minimizing premium levels was important as well, but that our conclusion, the MPI conclusion, was to do this at the business line level because the investment policy did not have business line specific investment objectives.

The inflation linkage of liabilities, it was, you know, we learned early on -- early on that much of the obligation -- many of the obligations were linked to future inflation. We were very transparent from the very beginning that real return bonds are the best hedge for future inflation, but that given low inflation expectations MPI made a decision to hedge nominal but not real interest rate risk. We'll be speaking about that more today I'm sure. We supported that recommendation at the time. We continue to support that recommendation based on where markets are, based on what peer practice is, based on the relative pricing of different assets.

We talked about the merits of new growth profile exposure. MPI provided a list of asset classes they were otherwise intrigued by and wanted more education on. Glenn summarized some of them already. We provided some education on each of them, including both those that were included and the recommendation, as well as many like diversified growth funds that were assessed but, ultimately, decided not to go forward with

And so, that covers the left-hand side of the slide. We talked about a wide spectrum of fixed income options as well. We talked about levered bonds. We talked about commercial mortgages, as well as those that were included. MPI just chose to implement private debt and corporate bonds as part of their recommendation. We talked about the interest rate risk management strategy. Again, the duration, the nominal duration to match 100 percent of the Basic liabilities was the decision that was made.

There's different ways to do the projections. We talked about cashflow matching. We talked about duration matching. As MPI developed -- developed out its systems, as technology has moved -- and technology has moved an awful long way. One can be more sophisticated in terms of how one projects its obligations and then does the modelling.

The liability to benchmarks methodology that we used for this particular study is a very efficient way to do a projection, both in terms of time, as well as cost. There are ways to do projections policy by policy. They are more time-consuming. They are more costly to do as well. And so I just want to make sure that we understand the trade-off that was made there. Materially, I don't think that impacted the conclusion that was -- that was raised, but there are different ways to do risk mitigation in that regard or model it anyway.

Let's talk about assumptions. So Mercer has a core set of assumptions that we use for all of our Canadian clients, whether they are insurance based, pension based, endowments, what have you. We introduced those to MPI as we would with any one (1) of our clients. MPI is a more sophisticated institutional investor than many of other clients who otherwise running a widget business that does -- really not in the financial space.

So MPI had its -- some of its own views and it made sense both to them as well as to us to have a interest rate projection that was consistent with their overall business model. We reviewed it. We agreed that it was professionally reasonable. It wasn't exactly the same as our projection, but it was certainly plausible and so we agreed that implied forward rates would be used for our projection work rather than Mercer's long-term assumptions set.

Phase 2 objectives, some of them are a little bit redundant and I'm going to spend less time in this slide today, but it was to, you know, look at the risk of the different kinds of liabilities, quantify and show things under different asset mixes.

So the ultimate recommendation that the investment committee approved was the end product of many, many different iterations of different charts and graphs and slides that MPI saw throughout the process. And so there definitely was a lot of quantitative modelling that happened through the piece. There was an awful lot of qualitative input that happened as well. And so, you know, that -- there's a lot of analysis that happened along the way.

We talked about availability and implementation ability, you know, the fund here is large, but it's certainly not the Canada pension plan, it's not a massive plan and so there's some practical limitations that have to happen as well. And, you know, so we considered that also.

On the right-hand side we, you know, also talked about the ranges for the different asset classes. We talked about, you know, some specific things in terms of what the corporate allocation should be. We talked about, you know, linking things with the corporate objectives overall. And so, that was a very full meeting where we walked things through. It was clear that the investment committee had pre-read a lot of our material. Their questions were very much on point and we had a number of healthy discussions on most of the topics on the last couple of slides.

The next few slides were important as well. I'm just showing the -- the slides here for Basic. Again, this is all about, you know, defining the purpose of all our diff -- different buckets and also articulating the return risk, costs and time objectives as well. And so, the bottom right is a sample as the articulated return and risk objectives that MPI and Mercer worked together to articulate and so in the bottom right here. Again, this is very transparent to the investment committee, to the board and everyone in terms of: What are we trying to achieve from a return perspective? What is trying to be achieved from a risk perspective? And so there was willingness to accept some credit risk. Matching dollar duration was key and that it was clear that mitigating risk was more important than maximizing returns.

And so, the top left of the steps show the liabilities. I'm not going to go over that for the group today, but it's important to make sure we're all grounded just in terms of we knew how much was in scope as we went through the different groups, where we are right now and how the liabilities work.

Glenn's already covered the actuarial allocation. This is how it looked back in November 2017. The recommendation was substantially was -- is unchanged from what was recommended in November to what was brought forward to you today.

The Basic portfolio being 100 percent fixed income with no private debt. RSR being a more diversified portfolio with half fixed income, half equities and alternatives.

Glenn summarized, you know, some fairly significant changes in terms of selling out the Federals in the bottom right. Adding to the provincials in the corporate somewhat significantly. The MUSH bonds going down eventually and private debt having to increase somewhat.

This is a bit more detail on the equity allocation, the alternative allocation. Again, having no impact on the Basic line of business. For RSR, you see kind of what the target was. All these numbers were as of August 2017. I'm sure they've update -- they'll update somewhat once the time -- gets time for implementation. But you'll see in the bottom right in the red, you know, definitely a reduction in real estate, private equity and infrastructure.

To finish a reading with kind of recap just in terms of what are the key questions that we believe -- and the slide on the left-hand side we use for pretty much all our clients, regardless of whether we're doing a manager search, whether we're doing an asset liability study, but I encourage all fiduciaries and even the Public Utility Board as well as terms of -- all right, if a change is going to be made, how does that impact the expected return?  How does it impact expected risk?  How much is this change going to cost?  And how much time it's going to take?

And so, as we walked those through and we tried to summarize in our return, risk, costs and time framework on the right-hand side, what the headline implications were on -- on those different elements, as well as realistically what's the cost implications and realistically what's the timeline implications as well.  And so, I was quite satisfied that we had had a -- a thorough discussion at the committee level.  I was satisfied that MPI understood the implications of all those different decisions.

The CAC and P -- the PUB have raised a number of substantive issues over the last few months, and as part of my opening presentation, I just want to address what I'll suggest are the four (4) topics that

I think were the most prevalent.

And the first one is, you know, should liabilities have been modelled with a real benchmark? I think we're all on the same page but I just want to make sure we understand the difference between a nominal benchmark and a real benchmark.

And so, a nominal benchmark -- maybe I'll start with the real one. A real benchmark is a benchmark that, essentially, assumes that inflation will be volatile into the future. When we talk about a real return bond, a real return bond guarantees a real return. Generally you're going to get the .6-ish percent that they yield, plus whatever inflation is going forward. So if inflation is higher, you'll get more; if inflation is lower you'll get less. You'll always get that real return of .6, but you'll never get more or less than that .6 that you otherwise are going to get from the time you buy the bond.

When you but a nominal bond or if you use a nominal benchmark, it's a total return and it doesn't differentiate between the real or the after inflation component, or -- and the inflation components. So, essentially, there's two (2) different components there.

CONTINUED BY MR. STEVE SCARFONE:

MR. STEVE SCARFONE: Sorry, to interrupt again, Mr. Makarchuk. So that is one (1) of the questions that I had for you at the end of the presentation but I think this might be a good opportunity for it because there's a number of different concepts that all sound the same to me, one (1) of which is the nominal liability benchmark versus the real liability benchmark and then yesterday we heard counsel for an Intervenor that MPIC hedged nominal real interest rate -- or nominal interest rate and not real interest rate risk. And there's also the concept of real return versus nominal return.

MR. DAVID MAKARCHUK: Right.

MR. STEVE SCARFONE: So are all of these concepts the same as what you've just described where it concerned nominal versus real?

MR. DAVID MAKARCHUK: Right. I think in real simple -- I didn't mean to use the word "real" there. In simple terms nominal returns are the total return an investor receives from an investment and we'll try and keep things to bonds here.

A real return is the after inflation return. The issue I think that's been discussed here is: Should the MPI yil -- liabilities have assumed variable levels of inflation as part of the liability modelling? We definitely want to acknowledge, from an education perspective for the entire group, and I think MPI very much understands as well, that a real liability benchmark would have better reflected inflation volatility.

MPI as part of our initial discovery -- and you'll see as part of the -- the -- the evidence that was -- was provided as part of the technical conference, cooly indicated by the end of October that after education on inflation, volatility, and the infla -- in education on different levels of risk, a willingness to accept inflation, volatility, to model its liabilities, assuming a more conservative 2 percent level of inflation, and to hedge nominal risk, in other words, total interest rate risk as opposed to only hedging the inflation risk, which you otherwise would have achieved through modelling with real return bonds.

Real return bonds at the time of our study had an implied level of inflation. When I say it's implied, it's the difference between what an investor would pay and yield for a long-term Canadian nominal bond and a long-term Canadian real bond. There's a price difference there that essentially says this is what the market's assuming inflation's going to be.

And for those that has investing background, and I'll try and be rather simple, here, there's otherwise an arbitrage opportunity if there's a price gap between what one expects inflation to be and how those two (2) different securities are otherwise priced.

And so at the time that we did the study, bonds -- real return bonds and nominal bonds were implying future inflation at about 1.6 percent. The gap today, as of a least a week or two (2) ago, was about 1.7, maybe 1.75 percent. From our perspective, professionally, at the time when we did the study, we said, All right. The market's pricing inflation at 1.6 percent. MPI is going to project its liabilities with a more conservative 2 percent inflation assumption. From our perspective, that's a more conservative expectation, because the market is telling us inflation is probably going to be only 1.6 percent.

We were satisfied that that liability modelling method had a level of conservatism that we felt was professionally appropriate. MPI had indicated they were willing to accept inflation volatility, in part because of the pricing gap that was otherwise there, and that they clearly had an investment belief, they clearly -- clearly had an investment objective that they wanted to hedge nominal rather than real risk.

And so we would definitely acknowledge that if one was motivated and one clearly had an objective to hedge inflation risk, that a real liability benchmark would have been a better choice. But that was not the decision that MPI otherwise made.

I'll give you some context on other investors in -- in my -- in my final slide, but I just wanted to clarify that perspective on -- on that point.

MR. STEVE SCARFONE: Thank you. Thank you. So -- and I'm sorry, I -- I have one (1) more question: Had the Corporation decided to hedge real interest rate risk, and not the nominal that you've just described, how would that have impacted the returns on the portfolio, if at all?

MR. DAVID MAKARCHUK: Sorry. So if the decision was that MPI wanted to completely hedge inflation risk, the expected returns would have been materially lower. The opportunity set for the investments would have been materially lower as well.

An investment allocation that completely hedged inflation risk as part of our preliminary modelling would have been roughly two-thirds (2/3) real return bonds. MPI had made it clear that they were not interested in using leverage to achieve -- and I'll talk about that in a moment -- that they do not want to use leverage to achieve that. And so the diversified portfolio of provincials, of corporates, private debt, would not have been achievable in this situation, and MPI otherwise would have accepted a lower level of return.

We didn't do an awful lot of analysis on real return bonds at the time after MPI made that decision because, you know, cost miti -- you know, there was -- there were time limitations of cost mitigations as well. Over the last month or two (2), at the CAC's request, we reproduced some of that analysis, but, you know, given MPI's objectives stated at the time, that was the -- the resulting recommendation.

MR. STEVE SCARFONE: Thank you.

MR. DAVID MAKARCHUK: So that extends -- actually, go back one (1), just to the bottom, there. They extended quest -- you know, piece is, should the asset mix of include -- hedged -- should have -- should have a hedge inflation risk? The top one is just about how should the liabilities be modelled? The ultimate decision is, you know, should we have used assets to hedge inflation risk?

And so, again, that was not a stated objective of MPI. When we look at many pure investors, whether they're similar insurance investors, whether they're pension funds as well, most pure investors accept inflation risk, and those that do hedge typically only hedge a portion.

There's a number of reasons for that. In general, real return bonds are relatively expensive compared to best estimate expectations of inflation. There are only so many that are out there. They don't trade as frequently as investors otherwise would like. And -- and so, in particular, given that it was not a stated objective, it wouldn't have made sense. And when we did the modelling, real return bonds fell off rather quickly if one has a nominal liability.

We acknowledge that headline inflation has certainly risen since the study, but the consensus expectation for long-term inflation has not. So from our perspective, there is still some margin between where consensus inflation will be over the long term, and what MPI has modelled, so we continue to remain comfortable supporting the recommendation that was concluded back in the fall of 2017.

There's a discussion on overlays, whether they should have been used to hedge inflation risk as well. I'm not -- I just want to make sure the group has a reasonable level of comfort of what leverage overlays are. Essentially, it allows an investor to borrow -- lever -- their portfolio to get more exposure than they otherwise would be able to simply with direct investments.

Some investors are very comfortable borrowing to invest. Some investors are very uncomfortable borrowing to invest, either in their personal portfolio, or in the corporate portfolio, or the institutional portfolio, they are otherwise able to oversee. I'll acknowledge that sometimes that those perspectives are based on academic persp -- academic research, and sometimes they are based on just personal experience, or personal perception, or just the -- one's overall risk tolerance.

MPI decided they were not comfortable with leverage or overlays. That decision does not place them as an outlier relative to pure investors. Many pure investors are not comfortable with leverage, as illustrated in some of the different efficient frontier studies. Some investors are, and some investors have done quite well as a result of it, but there are risks associated with leverage and overlays, and MPI indicated they were not prepared to take those on.

And finally, it was writ -- MPI, too, relying on quantitative models. From our perspective, while quantitative models certainly were the foundation for a lot of the work that we did, there definitely was a healthy dose of qualitative input that came both from management and staff, from the investing committee as well, and from our perspective, especially when you look at all the different peer asset liability studies that I have done over my career, I would suggest that quality considerations were more than adequately recommend -- or reflected in the final asset mix recommendation.

My final slide is just going to reaffirm some of the things I already talked today, but it's cosigned by each of Angelo, Pawel, and myself. We facilitate a discussion with regard to return, risk, cost, and time, both with management and staff, as well as the investment committee as well. And from our perspective, we certainly acknowledge that different investors can and will draw different conclusions on those different -- on those different factors, but that we believe that based on our understanding of MPI's business, our understanding of MPI's overall objectives, that the recommendation they brought forward is a reasonable and prudent recommendation that balances those four (4) objectives: Enhancing returns, mitigating risks, mitigating costs, and making good use of time.

We'll definitely acknowledge that inflation has moved since we did this study. That having been said, we continue to believe that a 2 percent projection of inflation over the long-term is prudent and reasonable, and that the merits of hedging inflation risk do not exceed the merits of hedging nominal risk over the long term.

I think that's my last slide. Yes.

MR. STEVE SCARFONE: Thank you, Mr. Makarchuk. Just a couple follow-up questions, if I may.

Sir, in your -- in your presentation, during your presentation, you indicated that Mercer -- or you said you didn't do a lot of analysis of real return bonds at the time. I understand that following the preparation of the study, your firm was again engaged to do some further modelling. Is that right?

MR. DAVID MAKARCHUK: That's correct.

MR. STEVE SCARFONE: And that, I understand, was in fact to take into account -- or do an analysis of purchasing real return bonds for the investment portfolio. Is that right?

MR. DAVID MAKARCHUK: I think the primary -- the -- the initial purpose was to model the liabilities using a real liability benchmark, and then it was plausible that real return bonds perhaps would be an asset class that would come out of the recommendation. So I think the -- the starting point was to model.

MR. STEVE SCARFONE: Right. So without -- without making use of a real liability benchmark, you can't have real return bonds. Is that fair?

MR. DAVID MAKARCHUK: One could still choose to invest in real return bonds, even if you had a nominal benchmark. Those are separate decisions. They just -- the real return bonds would model very poorly relative to a nominal objective, and that's why they -- real return bonds were never excluded from the asset class options in 2017, but as soon as we started running an efficient frontier model with a nominal benchmark, there were clearly other asset classes that had better characteristics.

When we re-did the analysis last month, and if a real liability benchmark was used, real return bonds then do become part of a recommended asset class strategy going forward, and then the percentage one would have -- it would depend on how much inflation risk one was trying to mitigate.

MR. STEVE SCARFONE: I see. And do you recall, sir, if the -- if the recommendation to do modelling on the real liability benchmark, if that request included all of the four (4) factors that you identified that you say should be considered when providing investment advice, that is the cost, risk, return and time?

MR. DAVID MAKARCHUK: Yeah. We would have talked about all of those as we -- as we went through the -- the conversation with -- with management in terms of what are the expected returns from real return bonds? What are the risks? What's the volatility of those as well?

The time piece is more about governance and implementation. It would take longer to build a real return bond portfolio, given their liquidity issues, than perhaps for -- for corporates or the like. And again, if one wanted to build them quickly, there are some cost implication also.

So we would have talked about all of those factors. I think Glenn could tell you he's sick of me hearing -- saying return, risk, cost, and time, over and over throughout the project.

MR. STEVE SCARFONE: Also during your presentation, Mr. Makarchuk, you mentioned that part of the engagement was to have Mercer consider the eighteen (18) recommendations that I think you understood to come from Mr. Valter Viola. Is that correct?

MR. DAVID MAKARCHUK: Correct. Those were provided to us at the outset.

MR. STEVE SCARFONE: Yes. And in your estimation, Mr. Makarchuk, does the study and the recommendations made by Mercer fully take into account the eighteen (18) recommendations of Mr. Viola?

MR. DAVID MAKARCHUK: Yeah. They were all addressed in -- in different levels of detail. Throughout -- throughout the study, we needed some input from MPI to -- to ground ourself on -- on a couple of them. Some of them were a bit outside of -- or of -- of Mercer's day-to-day consulting expertise, but we were definitely able to offer perspective on each of the eighteen (18).

MR. STEVE SCARFONE: And you may have mentioned this, but I just want to confirm -- or get your thoughts on whether MPIC's projections of the volatility of inflation were in line with Mercer's projections on inflation.

MR. DAVID MAKARCHUK: I don't specifically recall exactly what the delta was in terms of ours versus theirs. I do recall that they were materially consistent.

One needs to consider our starting point for inflation, and where the federal, you know, federal bank, central banks are. There was inflation volatility from the '70s and '80s that I don't think is relevant in our -- today's starting point session, but materially, I think we are in the same -- in the same ballpark, there.

(BRIEF PAUSE)

MR. STEVE SCARFONE: Just give me one moment.

MR. DAVID MAKARCHUK: Okay.

(BRIEF PAUSE)

MR. STEVE SCARFONE: Yes, you did mention at the outset about the experience level -- or the experience that your firm has, and you personally, in the preparation of ALM studies, Asset Liability Management Studies.

For a sophisticated institutional client like Manitoba Public Insurance, Mr. Makarchuk, how often would your firm recommend having such a study performed?

MR. DAVID MAKARCHUK: Sorry, that's a good question. And so a general rule of thumb on -- on strategy, like, this is a starting point of four (4) years, sometimes as short as three (3), sometimes perhaps five (5). Whenever we're doing asset mix studies, one (1) of our first statements -- and we'll try and guide as long as Canada's trying not to let short-term noise impact long-term decisions.

And MPI was fairly clear at the beginning that they were looking to make a long-term strategy decision. We were definitely supportive of that. Studies like this you shouldn't have to refresh every six (6) to twelve (12) months. If you do, you probably have some governance issues you need to sort out, but I also appreciate that if you need to review it every six (6) to twelve (12) months, you're more of a tactical investor as opposed to a long-term strategic investor.

And the tools that we probably used aren't really meant for investors who are shifting every six (6) to twelve (12) months. These are studies that should be done every four-ish, four (4) or five (5) years and implemented over time.

MR. STEVE SCARFONE: Thank you. And so if the Corporation was to engage your firm again for an ALM Study in four (4) or five (5) years, as -- as you have said, is there any bars or anything that would prevent MPIC from purchasing different investments under the strategy that now -- that's now been implemented and proposed?

MR. DAVID MAKARCHUK: I'm not sure I understand the question. Can you --

MR. STEVE SCARFONE: Well, certainly, there -- there seems to be some suggestion that other asset classes could have been considered, perhaps maybe even modelling on a -- on a real liability benchmark.

Do any of these factors -- or -- or is the Corporation pre -- precluded under the new investment strategy from adopting any such modelling in the next -- in a -- in a study that might occur in four (4) or five (5) years?

MR. DAVID MAKARCHUK: No, I don't think so. I think the -- the asset classes that you're otherwise recommending, particularly for Basic, but also for RSR as well, are all relatively liquid. The private debt allocation might take a bit of time to unwind if, for whatever reason, you were to change your mind, but there's no real recommendations in terms of where you're going in terms of an asset class decision that you would be able -- would not be able to undo four (4) or five (5) years from now. Is that what you're getting at?

MR. STEVE SCARFONE: It -- it was, yeah --

MR. DAVID MAKARCHUK: Okay.

MR. STEVE SCARFONE: -- in terms of liquidation, and changing the mix, and -- and so my final question, sir: So the -- the -- if -- I think you might agree that the big change would be from the co-mingled portfolio to one that's segregated.

Is that fair?

MR. DAVID MAKARCHUK: For -- yeah, there's definitely one (1) of the bigger ones. I'm thinking which the biggest one would be. That -- that's one (1) of the biggest ones. Yeah.

MR. STEVE SCARFONE: Yes. And -- and so is that a common thing in -- that -- in your experience that you've seen with institutional clients, where they move into segregated portfolios, where before, they'd been in a co-mingled state?

MR. DAVID MAKARCHUK: Some other clients have been segregated for a long period of time, so I'm not sure how many have shifted recently. I've advi -- advised insurance clients a lot smaller than you. I've advised insurance clients a lot larger than -- than the situation.

I think more and more, as reporting standards have grown, as risk mitigation standards have grown, segregation makes a whole lot of sense, and co-mingling is tougher and tougher to defend, unless you have a really simple business strategy, maybe just one (1) line of business.

MR. STEVE SCARFONE: Thank you. So, Mr. Chairperson, I said that was my last. I do have one (1) further the question about -- I just wanted your thoughts, sir, on what role or how important the risk tolerance that your firm was provided was in the strategy that reco -- that was ultimately recommended by Mercer?

MR. DAVID MAKARCHUK: How important

the risk tolerance was?

MR. STEVE SCARFONE: Yes.

MR. DAVID MAKARCHUK: So this certainly is very important for us, as quickly as we can when we are introduced to a new client -- we weren't actively working with MPI prior to our engagement, so we had to get to know management and staff. We had to get to know, you know, what the management's perspective, and what the Board would accept, and what they wouldn't. We need to figure that out really quickly, in -- in terms of having a -- an efficient and successful engagement in the context of our independent education, as well.

As I mentioned before, it's not for us to decide on the risk tolerance an investor should have. This was a -- clearly a situation that MPI was motivated to -- to mitigate risk. So yes, it was certainly very important in the situation.

MR. STEVE SCARFONE: Thank you. Those are all my questions for Mr. Makarchuk, Mr. Chair.

THE CHAIRPERSON: Thank you, Mr. Scarfone. Are -- are there any other people who are going to be testifying for this panel, or -- or is that the end of this panel?

MR. STEVE SCARFONE: That is the end

of the panel, and I was just reminded by my co-counsel to -- Mr. Makarchuk is available for cross-examination both this afternoon, and again tomorrow.

THE CHAIRPERSON: Good.

MR. STEVE SCARFONE: Yeah.

THE CHAIRPERSON: Okay. Well, I -- I understand the entire panel is.

MR. STEVE SCARFONE: Okay. Yeah. Yes.

THE CHAIRPERSON: Yes. We have this quarterly financial that's already been in, is a -- an exhibit. Is this for the next panel?

MR. ANTHONY GUERRA: Mr. Chair, that is filed in response to minimum file -- filing -- excuse me --

THE CHAIRPERSON: Okay.

MR. ANTHONY GUERRA: -- minimum filing requirement 4(a).

THE CHAIRPERSON: So there is no direct testimony on this, then? This is simply in response to a filing requirement --

MR. ANTHONY GUERRA: That's correct --

THE CHAIRPERSON: -- and then reply? Okay.

MR. ANTHONY GUERRA: -- Mr. Chair.

Thank you.

THE CHAIRPERSON: Ms. McCandless --

MS. KATHLEEN MCCANDLESS: Thank you.

THE CHAIRPERSON: -- would you prefer to start now, or would you prefer to have the lunch break now?

MS. KATHLEEN MCCANDLESS: I would suggest that I start -- pardon me. I can start now. I have one (1) section that will probably take me to the lunch break, so.

THE CHAIRPERSON: Okay. Okay.

CROSS-EXAMINATION BY MS. KATHLEEN MCCANDLESS:

MS. KATHLEEN MCCANDLESS: And so, Mr. Makarchuk, thank you for your presentation. I will have questions for you this afternoon. We do have a fair amount of ground to cover with this panel, so just so that the panel's aware, a roadmap of my cross-examination. I will start with interest rate forecasting. That will probably take me to the lunch break. After the lunch break, I will get into the area of investments, and following investments, we'll have questions of Mr. Makarchuk.

Depending how long that tech -- takes, that may take me to the end of the day. If not, then

I will continue on with Capital Maintenance Provision, and some other DCAT and RSR questions. But my -- my cross may run into tomorrow morning.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: So thank you. Following on that, I will start with some questions about interest rate forecasting, about which we spoke a little bit yesterday and heard again from you this morning, Mr. Bunston.

Kristen, could you please pull up -- you have it in front of me, here. A few steps ahead of me. Thank you.

So in support of its position -- in favour of using the naive interest rate forecast, the Corporation did prepare this -- what would be a historical analysis of interest rate forecasting over the period spanned by the 2005 GRA to the 2018 GRA, yes?

MR. GLENN BUNSTON: Yes, this is the chart that we've prepared and presented for several years now on interest rates.

MS. KATHLEEN MCCANDLESS: And if we just scroll down to the narrative, here, three (3) lines down, it says:

> "Over twelve (12) months, the naive forecast had a lower standard error compared to the 50/50 forecast and the SIRF."

Yes?

MR. GLENN BUNSTON: Yes, that's correct.

MS. KATHLEEN MCCANDLESS: Then scrolling onto the next page, at figure INV-11, you see that before you?

MR. GLENN BUNSTON: I see that.

MS. KATHLEEN MCCANDLESS: And that's the historical analysis of the SIRF, so the Standard Interest Rate Forecast 50/50 and naive forecast from 2005 to 2018 GRA?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: Now, from the table, I can see that the naive forecast has a standard error of .15 percent. That's on the right-hand side, at line 15?

MR. GLENN BUNSTON: Yes, that's correct.

MS. KATHLEEN MCCANDLESS: And -- line 19, pardon me. And the 50/50 forecast has a standard error of .16 percent. That's the centre at line 19, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: Just for the education of the panel, what is standard error, and what does it tell us?

(BRIEF PAUSE)

MR. GLENN BUNSTON: So the -- the standard error just simply measures the -- the average deviation between one (1) set of data versus the -- the other set of data.

MS. KATHLEEN MCCANDLESS: And so is the difference between the two (2) standard error statistics, here, so being .15 percent and .16 percent, relatively large or relatively small in this particular context?

MR. GLENN BUNSTON: Well, the standard errors are quite similar at point-one-five (.15) versus point-one-six (.16), but I would point out that the average differences are significantly different, at point three-four (.34) versus .15 percent.

MS. KATHLEEN MCCANDLESS: So in other words then, did the naive forecast perform significantly better than the 50/50 forecast or only marginally better?

MR. GLENN BUNSTON: Well, in terms of the standard errors, they're not significantly different, but the naive forecast also has less bias in that it is closer, on average, to the -- to the actual number while the 50-50 forecast is biased in an upward direction.

MS. KATHLEEN MCCANDLESS: Thank you.

When I scan my eye down one (1) of the actual columns in figure INV-11, it appears that with respect to the pattern of change in the 10 year Government of Canada bond yield at least up to and including the 2016 GRA, it's dominated by downward movements, yes?

MR. GLENN BUNSTON: Yes, interest rates from 2005 decreased up until 2016.

MS. KATHLEEN MCCANDLESS: And it appears that, in fact, over those eleven (11) years the 10-year Government of Canada bond yields only increased twice, correct?

MR. STEVE SCARFONE: Perhaps, Ms. McCandless, just because I don't think he was expecting that, can you identify the years in which they increased?

MS. KATHLEEN MCCANDLESS: Lines 10 and 14. Pardon me, 2010 and 2014.

MR. GLENN BUNSTON: Yes, it appears that the yield on that -- the actual yield on the Government of Canada 10-year bond increased twice during that period of time.

CONTINUED BY MS. KATHLEEN MCCANDLESS:

MS. KATHLEEN MCCANDLESS: Thank you.

And if we returned to the previous figure, INV-10, over the same period, it appears the banks have been persistently forecasting an upward movement in interest rates, yes?

MR. GLENN BUNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: So what we can take from this then, it seems that the naive forecast is almost bound to have a lower standard error than anything tied to the bank forecasts, like the 50-50 forecast.

MR. GLENN BUNSTON: Yes, that's our position. That's why we recommended the naive forecast.

MS. KATHLEEN MCCANDLESS: However, if a longer history could be assembled for this type of an analysis, it's possible that a different conclusion would be reached, yes?

MR. GLENN BUNSTON: Certainly that's possible if more data was used, they might have a different conclusion.

MR. LUKE JOHNSTON: And just stepping in. Depending on how you're suggesting we make that decision. If you're suggesting that we take this chart of history and measured standard error, then -- then perhaps.

But the long-term moves on interest rates are very much -- about 50 percent chance of going up, 50 percent chance of going down.

I think there is overwhelming evidence here that banks aren't very good at predicting it. If this chart doesn't tell you that, I don't know what does.

So again, naive is the current rate, we're suggesting we update it as late as possible. Whether these are up, down or straight I don't think it changes our opinion on that. We're not interested in making a bet based on performance that looks like this.

MS. KATHLEEN MCCANDLESS: Thank you. Kristen, could you please pull up MPI Exhibit 20, page 14. This is the Corporation's rebuttal evidence files to the prefiled evidence of Dr. Simpson and Ms. Sherry for CAC.

And you see under 2.4 at line 1 it starts:

> "The recommendation of Dr. Simpson and Ms. Sherry to adopt the 50-50 interest rate forecast on the basis of the naive is inferior to the 50-50 in recent years, amounts to ingraining recency bias into the forecast while rejecting the breadth of historical evidence."

Do you see that before you?

MR. GLENN BUNSTON: Yes, I see that.

MS. KATHLEEN MCCANDLESS: Can you explain what is meant by "recency bias" here?

MR. GLENN BUNSTON: That would refer to taking into -- providing a larger weight to recent data than to older data.

MS. KATHLEEN MCCANDLESS: Would it be possible that the Corporation's use of only the latest 14 years for this analysis, say compared to the history of -- basically since its inception, would also be subject to recency bias?

MR. GLENN BUNSTON: That's possible,

but the reason that we haven't gone back further is because we don't have bank forecasts going back further. So while we would like to provide that data, it's just not available.

MS. KATHLEEN MCCANDLESS: Now at PUB-MPI-1-11A, the Corporation was asked to discuss the statistical significance of a sighted improvement in standard error using the naive forecast over the 50-50 forecast, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And then in its response to this Information Request at pages 2 to 3, the Corporation introduces the concepts of bias and efficiency of estimates, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: Can you explain what both of those terms mean?

MR. GLENN BUNSTON: So my understanding is that efficiency is how disbursed and scattered the -- the forecast is, and bias is whether it tends to be above or below the -- the actual number.

MS. KATHLEEN MCCANDLESS: Now, if we scroll down, this response includes a statistical test at figure 1. Do you see that before you?

MR. GLENN BUNSTON: Yes, I see that.

MS. KATHLEEN MCCANDLESS: And this is a paired sample T test on the sample mean to determine if the differences between the 50-50 forecast and the naive forecasts are statistically significant, yes?

MR. GLENN BUNSTON: Right.

MS. KATHLEEN MCCANDLESS: Could you please just explain what is shown in this analysis?

(BRIEF PAUSE)

MR. STEVE SCARFONE: Ms. McCandless, so the person who provided this figure is sitting behind the gentleman, if they could caucus with him for a second so they can understand it.

MS. MCCANDLESS: Yes, that's fine.

(BRIEF PAUSE)

MR. LUKE JOHNSTON: Hi, just chiming in here. Sorry, I had to bring up the question.

So yeah, like per the -- per the answer we're -- we're basically using a statistical test of the difference it means to see if there's a statistically valid difference, or if it's just a random occurrence.

And per the -- per the -- per the response, it did show that the naive forecast, at least for this set of data, is significantly different result than the 50-50 forecast at 99 percent confidence.

CONTINUED BY MS. KATHLEEN MCCANDLESS:

MS. KATHLEEN MCCANDLESS: The significant difference, does that go to efficiency or to bias?

MR. LUKE JOHNSTON: It would be, again, per the question, how variable the forecast is relative to the -- to the actual.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: Thank you.

This analysis uses the same 14-year history when the banks were persistently forecasting upward movement while interest rates were predominantly falling, is that right?

MR. LUKE JOHNSTON: That's correct. And not to cut off your line of questioning, but I -- when you talk about recency bias, I actually think the opposite of what you're talking right now is true.

So we've heard Dr. Simpson come here and say, you know, it doesn't take a genius to predict that interest rates are going to go up when we're at the lowest levels of all time. And I -- I would agree with him. Like, where are they going to go, right?

The fact that the naive forecast perform better in that environment is the most extreme example I could give that the naive forecast is better, because everyone in the world, like apparently knew interest rates were going up and they didn't for the whole entire time.

That should have been the -- the most likely scenario where your upward interest rate forecast was going to be correct and it wasn't and it still didn't do as good as the naive over that period. That tells you that, man, if we were in a regular period of time where the -- everyone wasn't saying 100 percent chance rates are going up, it would do even better would be my expectation.

So I think the recency bias actually benefits the 90 forecast, not the -- not the other one.

MS. KATHLEEN MCCANDLESS: Thank you. Kristen, can you please pull up MPI Exhibit 20, page

16, this is again the rebuttal evidence filed by MPI. And if we scroll to the bottom of the page there's a graphic of a dartboard analogy, do you see that?

Could you just please describe what this graphic depicts?

MR. GLENN BUNSTON: So this graphic is -- is trying to illustrate the difference between bias and -- and variance.

So, as I mentioned, a forecast with a high bias is going to be significantly different than the actual or the -- which is depicted here by the bulls-eye.

A low bias would be very close to the -- to the actual figures and then variance just indicates how different the very -- the forecasts are from each other. So we se them on the left-hand side, they're scattered and less concentrated.

And then in the second chart there we see that there's high variance, but low bias. So their forecasts are scattered, but they're clustered around the -- the actual figure or the bull's-eye.

MS. KATHLEEN MCCANDLESS: So where would both of the 50-50 and the naive forecasts fit within this graphic?

MR. GLENN BUNSTON: So the 50-50

forecast has a higher bias than the naive, and the -- the naive has a -- has a low variance, since it's one number. And the -- the 50-50 forecast, since it comes from several different forecasters would have a higher variance.

MS. KATHLEEN MCCANDLESS: Thank you. Kristen, can we please turn to page 28 of the investment section.

At the top of the page, current page 26 here, so if we go to page 28. Pardon me. Go back up, I think I saw the reference I was looking for. Yes.

So at the top of the page here, starting at line 1, the Corporation sites the support of its external actuary, Mr. Joe Chang, for the use of the naive forecast, yes?

MR. LUKE JOHNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: And then Mr. Cheng in his October 2017 external review of the prior Basic DCAT investigations, so that's at DCAT section attachment A, page 7 at item 1.

MR. LUKE JOHNSTON: Yes.

MS. KATHLEEN MCCANDLESS: Mr. Cheng says:

> "This report introduces a naive
> interest rate assumption throughout

> the forecast period. Previous increasing rate assumptions have proved to be incorrect compounding forecasting errors. In my opinion, a naive interest rate assumption is appropriate for the base scenario. Notwithstanding  the two (2) recent rate hikes by the Bank of Canada, I do not see any material risk in assuming a naive interest rate as a base case. My initial guess is an increase in interest rates should strengthen the financial position of Basic."

Yes?

MR. LUKE JOHNSTON: Yes, from -- from this quote on the previous page. So I think Mr. Cheng is saying what we're saying, is that people don't forecast interest rates very well. And -- and I think we're pretending if we think that these bank forecasts are incredibly accurate. So he just came out and said nobody can forecast this, so -- right?

And then this -- on this report, obviously, he -- if there's two (2) recent hikes, we know about it. So it would be silly for him to say that, you know, the old naive forecast remains valid if he knows of two (2) interest rate hikes, right.

But that's really the same thing we're saying here too. Of course, we can update our forecast for new information and if rates do rise 50-60 basis points we would be happy to provide updated forecasts and rate indications just beyond that, I'm assuming large increases doesn't seem like the best estimate or -- or good practice for MPI.

MS. KATHLEEN MCCANDLESS: So just to take you back, Mr. Johnston, the Corporation cited Mr. Cheng as support for the naive and then I've taken you to item number one in the DCAT attachment, page 7.

So my question is: Is what's included in item number 1 here, the cornerstone or the foundation for the Corporation's evidence of Mr. Chang's support for the naive forecast?

MR. LUKE JOHNSTON: I would have to look if -- I know we had conversations with Mr. Cheng on interest rates. I'm feeling that there's another source that we're pulling from, but I can't recall it, but we'll look at that and if I do have anything else, I'll bring it after the break or let you know that I don't. This is one (1) of the sources though.

MS. KATHLEEN MCCANDLESS: Thank you.

I do have some other questions about what Mr. Cheng has written, so it may tweak your memory. But if we could go back for a minute to PUB-MPI-1-11C, attachment A, page 1 at the bottom of the page.

This is again from Mr. Cheng and in this response to this IR, Mr. Cheng confirmed that his opinion on the use of the naive forecast was in the context of a DCAT investigation of Basic satisfactory financial condition and specifically not on a Basic ratesetting context, yes?

MR. LUKE JOHNSTON: That's correct. I will say though that MPI's base case is also its ratesetting forecast.

MS. KATHLEEN MCCANDLESS: Then -- sorry to make you jump around, Kristen, but if we could go back to page 7 of the DCAT attachment.

And if we go back to the last sentence of Mr. Chang's observation at 1, which was:

> "My initial guess is an increase in
> interest rates should strengthen the
> financial position of Basic."

Do you see that before you?

MR. LUKE JOHNSTON: That is generally true and we have evidence that supports that in lots of previous hearings.

As we segregate the portfolios the benefit will be a little bit less. Like in the old -- if you recall from prior hearings when interest rates went up, Basic did well and the competitive lines did poorly.

Now that we've segregated the portfolio, there's more of a hedge, but there is still a -- there's obviously a benefit of getting higher yields like on your new investments and such. So there is a, hey, he's right, there is a pause -- a strengthening or an increase in net income.

MR. GLENN BUNSTON: If I could just add to that. The investment section of the GRA does speak to this specifically. Figure INV-9 talks about the impact of 100 basis point increase in -- in interest rates on the Basic line of business. This is page 27, INV-9.

And so before we made the -- sorry, in last years GRA the average impact of a 100 basis point increase in interest rates was around $35 million. And in this year's GRA, because of the changes to our investment strategy, the average impact is $300,000.

So that is because of the new investment strategy and because of the new -- the better interest rate risk management from that strategy.

MS. KATHLEEN MCCANDLESS: Thank you. I was going to take the panel to that figure in a moment. I will have some questions in a minute about that.

I just would like to take the panel back to that sentence that Mr. Cheng had stated, which was:

> "My initial guess is an increase in interest rates should strengthen the financial position of Basic."

My understanding is that Mr. Cheng is saying here that the use of the naive forecast effectively raises the bar for Basic to meet the requirements for a satisfactory financial condition, which is fine in a solvency-based DCAT.

Would you agree?

MR. LUKE JOHNSTON: I might have to ask you to repeat that one.

MS. KATHLEEN MCCANDLESS: Essentially my interpretation of what Mr. Cheng is saying here is that the use of the naive forecast would effectively raise the bar for Basic to meet the requirements for satisfactory financial condition, which would be appropriate in a solvency-based DCAT -- solvencyfocused DCAT.

MR. LUKE JOHNSTON: I do not get that interpretation. I would hope that Mr. Cheng would evaluate our base case on accepted actuarial practice and not -- you know, and let us know if -- if he thought that base case was biased in any way. So I'm not -- I'm not getting that interpretation from -- from him.

If Mr. Cheng said, you know, a reduction and collision frequency would strengthen Basic's financial position. That would also be true, but that wouldn't be a best estimate forecast either. So I just -- I didn't interpret it that way.

MS. KATHLEEN MCCANDLESS: If we could go to page 3 of this attachment.

The table here, Mr. Cheng provided a high-level summary of the interest rate forecasting practices of the five (5) largest insurers for which he reviewed DCAT investigations in 2017, yes?

MR. LUKE JOHNSTON: That's right.

MS. KATHLEEN MCCANDLESS: And we see from the table that a -- it's ranked -- the five (5) insurers are ranked by the size of their annual premium. So the third column in.

MR. LUKE JOHNSTON: I didn't hear that

last part, but I -- I see the ranking and I agree, yes.

MS. KATHLEEN MCCANDLESS: And then we also have the fourth column and is the ranking by fixed income portfolio, yes?

MR. LUKE JOHNSTON: Correct.

MS. KATHLEEN MCCANDLESS: If we look to insurers 1 and 2, which would be the two (2) largest and then we go to the rightmost side of the table under Interest Rate Forecast, we see that they both chose to forecast rising interest rates, yes?

MR. LUKE JOHNSTON: So there is a -- there's a somewhat short term view. But again, not surprising given that at the time of this report interest rates were about as low as they've ever really been. That would be the expectation, yes.

MS. KATHLEEN MCCANDLESS: And their fixed income portfolios would be broadly comparable to MPI, yes?

MR. LUKE JOHNSTON: That I don't -- I don't know.

MS. KATHLEEN MCCANDLESS: In size only.

MR. LUKE JOHNSTON: In -- possibly in size and interest rate sensitivity, probably not, because ours is designed to -- to match the liabilities. I doubt theirs would have that same profile, but possible.

MS. KATHLEEN MCCANDLESS: Just with respect to size was...

MR. LUKE JOHNSTON: Size, yes. Dollar size, yes.

But that is a diff -- a different -- if I have a billion dollars and really short-term fixed income, I'm not as concerned or sensitive to interest rate movements as MPI, which has a very interest rate-sensitive portfolio.

MS. KATHLEEN MCCANDLESS: Thank you.

And then the three (3) smaller insurers, so insurers 3, 4 and 5 opted for a naive forecast beyond any actual year-to-date movement, yes?

MR. LUKE JOHNSTON: That's right.

MS. KATHLEEN MCCANDLESS: Now, at the bottom of page 2 in this IR response, so in the attachment, pardon me, Mr. Cheng also says:

> "Most insurers review what the large chartered banks and the Conference Board of Canada are forecasting in terms of future interest rates and making a subjective judgment."

Do you see that?

MR. LUKE JOHNSTON: I see that.

MS. KATHLEEN MCCANDLESS: Would you say that this is what the Corporation does as well?

MR. LUKE JOHNSTON: Make a subjective judgment? So we're definitely saying we don't know. We're not pretending that we're expert interest rate forecasters, but we're also not pretending that the banks are very good at it either, because that's -- pretty clear that they're not.

What you will notice in the table that you just looked at, that was showing insurers by size, the -- you can see that they are not forecasting 100, 200 basis point increases in interest rates like some of the -- the standard interest rate forecasts were doing a few years ago.

There is some near term changes and I think in the near term, that those -- some of the predictions are valid because we know a lot of, you know, things better in a three (3) to six (6) month period than we would three (3) years from now.

But you can see beyond a quarter point or so, we're generally talking very little change by any of these com0panies.

MPI's response to this would be from

pricing perspective, yes, we're quite willing to update for these near term changes, but doesn't appear anybody else is willing to bank on huge increases over the long term, it would be the same.

MS. KATHLEEN MCCANDLESS: Just so I understand your evidence then, Mr. Johnston, it is that the bank forecasts are of some relevance to the Corporation?

MR. GLENN BUNSTON: Maybe I could just add that we do collect the forecasts from -- the interest rate forecasts from the banks, we do review that information.

And you know, we've used our judgment to rely on a naive forecast because of the poor forecasting history of the banks. But there is no judgment in terms of the -- setting the naive forecast. It is what the current rate is.

And I would also say from this -- the takeaway that I have from this chart here shows that three (3) out of these five (5) financial institutions have forecasted no change in interest rates, they're using the naive forecast.

So, regardless of their size, 3 out of the 5 are expecting no change or forecasting no change and the other two (2), a modest increase in interest rates.

MS. KATHLEEN MCCANDLESS: Thank you.

Mr. Chair, just to let you know, I'm maybe five (5) more minutes of this area. Thank you.

So is the Corporation aware of any reason why the Canadian chartered banks would prepare their interest rate forecasts on anything other than a best estimate basis?

MR. GLENN BUNSTON: No, we're not. Our understanding of the methodology followed by the chartered banks is basically mean reversion over a relatively short period of time. And again, you can see from the chart of their performance that over the last ten (10) years that that has not performed very well.

We did have a presentation from the Deputy Chief of Commerce from the Bank of Montreal recently and he did speak to this point, and he acknowledged the poor performance of -- of their forecasting history and the fact that they're not happy with it and it causes issues for them internally within the bank.

So I don't think -- I think they want to get it right, but they -- we can clearly see they have -- have not got it right.

MS. KATHLEEN MCCANDLESS: And as the Corporation would be aware, the issue with respect to interest rate forecasting in this GRA is any change in circumstances that would justify deviation from the use of the 50-50 forecast, which was approved by the Board in last year's Order, yes?

MR. STEVE SCARFONE: I just asked if they understood the question, because I didn't.

Maybe you could rephrase it?

MS. KATHLEEN MCCANDLESS: I'm simply reiterating what's in the issues list, so we can pull up the issues list if the panel needs it but....

MR. LUKE JOHNSTON: I would just like to hear it again. I want to make sure I got it.

CONTINUED BY MS. KATHLEEN MCCANDLESS:

MS. KATHLEEN MCCANDLESS: If we turn to -- it's Order 82/'18, there's an issues list at the end of the Order.

If we -- it's issue 4(d), which is justification for the use of the naive forecast for ratesetting and target capital purposes. In particular, any change in circumstances, since the issuance of Order 130/'17 that would warrant the use of the naive interest rate forecast.

And I'm simply putting that on the record so that the panel's aware of the basis for my next question, which is apart from what we've discussed thus far, what change in circumstances or new evidence is the Corporation aware of that would support its position in the use of the naive interest rate forecast?

(BRIEF PAUSE)

MR. LUKE JOHNSTON:   I'm struggling with the right answer to -- like, how to give this answer, but like our team is -- is responsible for all the forecasting, not -- not the banks.

I'm accountable to -- to the results of the Corporation.  Naive is the best estimate, in my view, and maybe we didn't think that three (3) or four (4) years ago in light of where we were.

But given our -- if I was talking to my Board, and again I'm accountable for the results, naive is the best estimate and the willingness of MPI to update that forecast for pricing purposes as late as possible further reduces that volatility for our board and government.  But that -- that's really all I can say.

MR. MARK GIESBRECHT: Additionally we do have new members of our executive team that bring a new outlook to this topic.

So while there is not really any significant changes maybe in the environment of the marketplace, there are executives that have a different viewpoint and that support which -- what Mr. Johnston spoke to in terms of best estimates.

MS. KATHLEEN MCCANDLESS: So does the fact that an estimate proves to be wrong necessarily mean that it was not a best estimate?

MR. MARK GIESBRECHT: The best estimate, you know, it can be described in different ways depending on who's asked and what the definition of that is.

What it boils down to is that, yes, definitely it could be wrong, even though it was a consensus best estimate, and the reality is no one is going to get these things right 100 percent of the time and actually even what we've proven to see is any of the time. And so best estimate based on academics and theory quite often turn out radically different than reality.

MR. GLENN BUNSTON: Maybe if I could just add to that.

We -- there was an IR on this, CAC-1-7. And part B, and the question was: What is the definition of a best estimate?

Our response was "it means an unbiased forecast," which again is the rest -- the reason that we're putting forward the naive as the best estimate at this time.

MR. LUKE JOHNSTON: Just sort of my struggle with this particular issue, is why is everybody thinking that we need to use this rising interest rate forecast? What evidence -- and like, I know that the onus is on us to -- to support our forecast, but what evidence do other parties have that I should be using this forecast, and if I'm reporting to my board and saying you know what, we should really use this standard interest rate forecast and I showed them that graph and they'd be like what do you mean, why -- why would you recommend that?

I have no support for that other forecast, I have nothing to show that it's a good forecast. So why would I recommend that to our Board?

So like, I -- if I had something great to show you that said interest rates would go up and it's a better estimate then -- then I would consider bringing that here but I don't have that.

MS. KATHLEEN MCCANDLESS: Thank you.

Kirsten, could you please turn to page 27 of the investment section under 2.3, just briefly in this section of the GRA the Corporation stated that interest rate forecasting risk is a significant concern for MPI as an accurate forecasts have made -- have had material impacts on the financial results of the Basic line of business.

Would the Corporation agree that the capital transfers from competitive lines and into Basic, which have been undertaken by the Corporation over recent years, have largely been made necessary -- been made necessary by interest rate forecasting error?

MR. LUKE JOHNSTON: A large chunk of them, and just to be fair to all -- all parties involved, the way we calculated the losses from interest rates was really just to say here is what -- here is the interest rates were used in pricing. Here's what they would've been if we would've just use naive and calculate the premium difference.

I'm not suggesting that anybody would ever get that perfectly right every time. But in this particular case, especially in the years where SIRF was considered, we really took a leap beyond what current rates would've been and that cost us a lot of -- a lot of  money.

MS. KATHLEEN MCCANDLESS:   Thank you. If we scroll up to the top of the page, this was the figure that, Mr. Bunston, you spoke about a moment ago and explained how -- how this figure shows basic sensitivity to interest rate risk.

So my question is:  Now does the fact that Basic is now much less sensitive to interest rate risk lessen the Corporation's concern over the choice of the interest rate forecasting approach?

MR. LUKE JOHNSTON:   This is actually a good -- a good -- very good question.  I touched on it briefly yesterday.

So these -- the move to a segregated portfolio will eliminate this issue we had before with how investment income was allocated to different lines of business and there could be winners and losers from -- based on how interest rates moved.

So by segmenting a separate Basic claims portfolio and dollar duration matching that portfolio, once we have the claim liabilities we can, not perfectly, but neutralize the impact of interest rates better than the results would've been in the past.

So that -- for that piece, absolutely we've reduced interest rate risk considerably and that shows up in -- in the Mercer report as well.

On the pricing side, there is no liabilities yet, you're just setting out a price there for policies, and if you get that wrong and it's, say, you know, a $20 million impact, there is no hedge to that. We just put the wrong price out on -- on the market based on a biased or flawed assumption, or maybe not, maybe just bad luck. That we can't hedge ourselves from.

So my example I used yesterday, if naive was a $1000 rate and we want to be really optimistic and say, you know, rate should only be $950 because interest rates are going to go up, then it just stays the same, well we've lost $50 -- we mispriced by $50 a policy and there's no getting that back. It's -- it's -- we just priced wrong.

Does that make sense? We can't -- we can't hedge that piece.

MS. KATHLEEN MCCANDLESS: Depending on what the forecast is, though, you could be wrong on either the upside or the downside, yes?

MR. LUKE JOHNSTON: And that part we're definitely willing to accept based on the current rate.

So there's lots -- although we don't have historical forecasts from the banks, there is decades and decades worth of how interest rates have moved from their current levels. And that's what we modelled in the DCAT, you know, what -- what's the probability if you go up 50, down 50 from its current level? You know, what protection do we need from that?

That can be modelled and put in the DCAT and -- and tested. How do we vary from this outside external number that's just placed 100 basis points higher than current day's rates, like, how do we measure the risk of that? That just seems to be a really high -- like already biased up number that it's very unlikely that we're going to do better than that number.

So we've essentially biased our forecast, increasing the likelihood that we're going to have poor results as opposed to neutral.

MR. MARK GIESBRECHT: And just adding to that, so while it can go either direction, just putting it in very simple terms, we don't want to count our eggs before they hatch. Rates, they may rise, they may fall. If we expect that they're going to rise and that does not take place, but we price with that assumption, then we're going to have that loss and there's no way to recover that.

So again, we don't want to count those eggs before they hatch. Simply put.

MS. KATHLEEN MCCANDLESS: Okay, this will be my last two (2) questions. Kristen, if you could please just pull up Figure 1 from page 3 of PUB-MPI-2-39.

So figure 1 in this IR response shows movement in the Government of Canada 10-year bond rate -- bond yield and the Bank of Canada overnight rate over about the last two (2) years. Yes?

MR. GLENN BUNSTON: Yes, that's correct.

MS. KATHLEEN MCCANDLESS: And I don't know if it's Mr. Bunston or Mr. Johnston that will -- or Mr. Giesbrecht that would answer this question, but from among you one could agree that there is a clear predominantly upward pattern to both lines on this graph, yes?

MR. GLENN BUNSTON: If you just look at it in general, both have moved upwards, but it would say that it's not always been in lockstep and that the yield on the Canada 10-year bond in some cases has gone up and then come back down, so there's not been a one-to-one relationship between the two (2).

MS. KATHLEEN MCCANDLESS: Yes.

Now, would you agree that there are still reported expectations in the business press, including from the Bank of Canada, of more increases to come in the overnight rate?

MR. GLENN BUNSTON: Yes, I think the expectation is that the Bank of Canada will continue to increase the overnight rate gradually over the next twelve (12) months.

MS. KATHLEEN MCCANDLESS: So in the face of this information, does the Corporation believe that it is reasonable at this time to assume that interest rates will not rise over the full five-year forecast period of this GRA? From February 20 -- 2018.

MR. GLENN BUNSTON: Well, there were other IRs asked on this topic, CAC-2-1 was one (1) of those where we provided data going back further than this. This is about a two-year period.

And so we pointed out that there were many periods of time, as recently as 2010, when the overnight rate increased and the yield on the

Government of Canada bond fell and the difference between the two (2) can be as large as 400 basis points.

So there is -- there is no guarantee that a rising overnight rate will translate over the outlook period, the rate setting period of 1 to 1 1/2 years into an increase in the yield on the Canada 10-year bond.

MR. LUKE JOHNSTON: And again, we've -- we've been talking about this story for a long time now, about the, you know, for sure a rise in interest rates that's going to happen. Why? Why would we, when it happens, let's lower rates when -- until then, I don't see why we would -- we would do that.

So again, to the -- call it whatever you want, counting your eggs before they hatch, whatever, but I just don't see why we would continue to make this bet -- updated based on the lat -- latest rates for sure. If we get a great big increase in interest rates, let's update the rates next year immediately, but I don't see any certainty that that's going to happen based on, you know, my experience anyways.

MS. KATHLEEN MCCANDLESS: So just to clarify, the question was with respect to at this point.

So now, going forward, would it not be reasonable to assume that interest rates will rise based on what is in figure 1 before you?

MR. STEVE SCARFONE: Ms. McCandless, just to clarify, are you talking about the overnight rate or the 10-year bond yield?

MS. KATHLEEN MCCANDLESS: Ten-year bond yield, but since February 2018.

MR. LUKE JOHNSTON: I would continue to suggest that we should update our rate indication based on the latest actuals, but I would not recommend making another bet on rising interest rates. A lot can change, just as fast as this change is an upper direction, it can go in the other direction.

You know, we've talked -- if you put parallels to other forecasts we makes, so say we have a road safety initiative and we're expecting it's going to reduce claims or whatever, do we make the bet on that before it happens, or do we wait until we actually see it in evidence and then book that into the rates.

We're saying let's see it happen and let's stop making this bet, which has turned out bad pretty much every single time for the last seven (7) years.

Maybe we had one (1) or two (2) years were it wasn't too bad, but I got at least 160 million reasons to not like it.

MS. KATHLEEN MCCANDLESS: Thank you.

I apologize for my inaccurate estimate of time, but I am concluding now the questioning in this area. Thank you.

THE CHAIRPERSON: Thank you.

We will adjourn for an hour. Thank you.

--- Upon recessing at 12:19 p.m.

--- Upon resuming at 1:27 p.m.

THE CHAIRPERSON: Good afternoon. Ms. McCandless...?

CONTINUED BY MS. KATHLEEN MCCANDLESS:

MS. KATHLEEN MCCANDLESS: Thank you. So for to the panel, I'm now going to move into some questions in the area of the investment portfolio and investment perform -- income.

And, of course, we've heard from the panel that as a result of the recently completed ALM study the Corporation intends to incorporate the results and implement the five (5) new investment portfolios which are Basic claims, RSR, employee future benefits, SRE and extension, yes?

MR. GLENN BUNSTON: Yes, that's correct.

MS. KATHLEEN MCCANDLESS: And if we could go to slide 12 of MPI Exhibit Number 21, that was the presentation from this morning.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: So for the Basic claims the target asset mix we see 100 percent in total fixed income securities, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And the Basic portfolio is designed to mitigate interest rate risk. So that's 100 percent fixed income with no growth assets, yes?

MR. GLENN BUNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: And I understand that -- that transition is expected to occur at the end of Q4 in 2018/'19?

MR. GLENN BUNSTON: Right. It -- it's

expected to occur -- occur in the first quarter of our next fiscal year in 2019/'20.

MS. KATHLEEN MCCANDLESS: Okay. Now if we could go to figure INV-8, that's page 25 of the investment section.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: So this is a table depicting the ALM impact on Basic line of business, yes?

MR. GLENN BUNSTON: Yes.

MS. KATHLEEN MCCANDLESS: And as of the end of 2018/'19, if we see at line 4, Basic net income is forecasted to increase by $95 million, yes?

MR. GLENN BUNSTON: That's right.

MS. KATHLEEN MCCANDLESS: And so I understand this is largely due to the result of realization of capital gains that were included in -- in accumulated other comprehensive income on equity assets?

MR. GLENN BUNSTON: That's right.

MS. KATHLEEN MCCANDLESS: Then if we can go to figure INV-38, that's page 69 of the investment section. And if we scroll down to the bottom. So this is 2018 GRA investment income for Basic.

So the second column in is the -- if you scroll to the top -- sorry, Kristen, to make you jump around -- we see 2018/'19 forecast. And then at the very bottom of the page at line 31 we see for the Basic line of business total -- this is page 68, pardon me, we should keep going to page 69 and to the bottom.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: Can we scroll up to the top of the page just for a minute. So this 40, we should be going to 38, pardon me. I think the page numbers may be different than what I've got. Right.

Okay, so at the bottom there for Basic line of business total we see $191.8 million for Basic, yes?

MR. GLENN BUNSTON: Yes.

MS. KATHLEEN MCCANDLESS: And the second quarter financial report was filed today as MPI Exhibit Number 24, and perhaps we could pull up page 6 of that exhibit. If we could scroll down, keep going.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: So if we look at investment income on the far left-hand side of the table -- Kristen, if you could please scroll up -- we see for the three (3) months ended August 31, 2018 and so that would be for the end of the second quarter. Yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: For investment income, we see $41.2 million for the three (3) months ended August 31, 2018?

MR. GLENN BUNSTON: Yes, that's correct.

MS. KATHLEEN MCCANDLESS: And then for the six (6) months ended August 31, 2018 that's 70 million, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And this is on a corporate level?

MR. GLENN BUNSTON: I believe so, yes.

MS. KATHLEEN MCCANDLESS: So with respect to the Basic line of business approximately 86 percent of that investment income would be allocated to Basic, is that right?

MR. GLENN BUNSTON: About 85 percent, yep.

MS. KATHLEEN MCCANDLESS: So, rough math approximately $60 million for the six (6) months ended August 31, 2018, yes?

MR. GLENN BUNSTON: Sounds about right.

MS. KATHLEEN MCCANDLESS: Thank you. So halfway through the fiscal year then we saw that the forecast for 2018/'19 was 191.8 million. Based on these second quarter financial results, how are we tracking for meeting that forecast?

MR. GLENN BUNSTON: Well, a significant portion of that $191 million was the realization of equity gains, as you had mentioned, that hasn't happened yet. It -- that likely will happen in the last quarter of the fiscal year, when we get the global equity manager selected and in place and we will liquidate our US equities and significant portion of our Canadian equities and, of course, anything can happen between now and then. So the unrealized gain could increase or decrease between now and then.

So that represents I think about $95 million of the expected net income. And so...

(BRIEF PAUSE)

MR. MARK GIESBRECHT: Yes, so I'll just jump in here and to speak to our investment income through six (6) months and how we're tracking to -- to plan.

So we -- we are ahead of where we expected to be at this point in the year. Part of that did come from some realized gains that we had triggered already. We know there's a big portion to come later this year or early next year but we have realized about $17 million through the sale of a portion of our Canadian equities and so that has -- that's a one-time gain that is, you know, helping -- can of push us over our -- our prior year levels.

One (1) thing to keep in mind when looking at our investment income is there is interest rate impacts based on where the market moves in our -- our -- what that does to our unrealized gains on our bond portfolio.

And so just looking at that impact, we see that relative to last year was $18 million lower as a result, and you won't see that in the -- in the financial report, but I'm just looking at some of our internal reporting and so that is playing an impact into that -- that number, but we are tracking in general to how we had expected if we normalize for these market impacts and do expect to be close to that forecasted number.

MS. KATHLEEN MCCANDLESS: Thank you. What is the outlook for net income for Basic based on the Q2 results.

MR. MARK GIESBRECHT: Yeah, so we are expecting to -- sorry, I'm thinking consolidated numbers in my head. We -- in terms of Basic we are tracking ahead of our plan. I don't have with me exact forecasted number -- if you are looking for exact forecast. However, we are -- have -- had experiencing favourable claims this year. And so we are on track to what we had expected.

MS. KATHLEEN MCCANDLESS: Thank you. Kristen, could you please pull up INV-6.6. It should be page 48 of the investment section.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: No, you'll have to scroll up for whatever reason our page references are different. There we go.

Okay. So this section of the filing

relates to the turnover rate -- ratio. As programed in the model indicates how often equity holdings are sold and based on what's written here a 20 percent turnover ratio was used for 2018/'19.

After separation of asset classes in the financial model, the forecasted turnover rate will be 0 percent as it is expected that equity holdings will be held in pooled funds, yes?

MR. GLENN BUNSTON: Yes, that's what the section says.

MS. KATHLEEN MCCANDLESS: Is there a forecasted turnover used in each individual portfolio for the pooled funds?

MR. GLENN BUNSTON: Well, there may be turnover within the pooled fund, but those gains or losses won't be distributed to -- to the unitholders so the -- it would only be sales of the actual units that would trigger a gain or loss from MPI's accounting perspective.

So a turnover within the fund would cause the unit price to increase which would cause our -- our market value to increase, but wouldn't trigger a realized gain from MPI's perspective.

MS. KATHLEEN MCCANDLESS: Okay.

MR. GLENN BUNSTON: So sorry, to

answer your question directly, we don't forecast the turnover within the pooled funds because it's not relevant from our accounting perspective.

MS. KATHLEEN MCCANDLESS: Thank you.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: Could you please go to figure INV-27, Kristen, thank you.

So this is a real estate summary table and at the bottom at line 8, we see investment property income for 2018/'19 at $4.23 million. And then it's forecasted to drop to $642,000 the following year in 2019/'20, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And so what is the reason for the significant decrease there?

MR. GLENN BUNSTON: Well, our allocation to real estate is going to be dropping significantly going forward.

MS. KATHLEEN MCCANDLESS: Now, Kristen, could you please pull up PUB-MPI-1-24, and at question (b) the Corporation was asked to explain what options were considered to minimize transactional costs related to the portfolio segregation, yes?

MR. GLENN BUNSTON: Yes, that's correct.

MS. KATHLEEN MCCANDLESS: At item (b) the response. The Corporation indicated that it would fund the new asset classes, including private debt purchases using MUSH bond maturities. Yes?

MR. GLENN BUNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: And MUSH bonds and redemptions from the Greystone Real Estate Fund are estimated to be 52 percent of the withdrawals required to segregate the assets into the five (5) new portfolios, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: So in follow-up to this IR, PUB-MPI-2-13, the Corporation was asked at question (c) how it intends to find the remaining 48 percent or assets required to segregate the portfolio and the expected transactional impacts, yes?

MR. GLENN BUNSTON: Yes.

MS. KATHLEEN MCCANDLESS: And the response at (c), the Corporation indicated that it is estimated that the remaining 48 percent of the new investments will be funded by selling 55 percent of Canadian equities, 100 percent of US equities and 23 percent of infrastructure. Yes?

MR. GLENN BUNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: And that a transition manager will be engaged in order to oversee the transition, yes?

MR. GLENN BUNSTON: That's the expectation, yes.

MS. KATHLEEN MCCANDLESS: How long is it expected for the -- this transition to take?

MR. GLENN BUNSTON: So on the public equities it should be very short. They're -- they're quite liquid and so we can implement that change as soon as the global equity manager is selected and approved by our investment committee and the Minister of Finance. We expect that that will either happen in the -- toward the very end of this fiscal year or the very beginning of the next fiscal year. I would say that that can be done in a matter of days, maybe -- maybe a week.

On the infrastructure because that's a private investment, that's a little more difficult and so we'll have to work with some of the -- the general partners that manage our investments to determine if they have other investors who are willing to or interested in purchasing our positions. So we'll have to have discussions with them so that could take longer, but optimistically that could take a quarter maybe.

MS. KATHLEEN MCCANDLESS:   Okay, thank you.  At PUB-MPI-2-17 at question (a), the Corporation was asked why the separation of assets into unique portfolios hesitates the triggering of the gains on the portfolio.  Yes?

MR. GLENN BUNSTON:   That's right, yeah.

MS. KATHLEEN MCCANDLESS:   And the response at (a) was that 70 percent of equity holdings were liquidated to implement the new investment strategy causing gains to be realized, yes?

MR. GLENN BUNSTON:   Correct.

MS. KATHLEEN MCCANDLESS:   And it appears that the remaining 30 percent will be transitioned to the pooled funds which will cause a gain to be realized as well, yes?

MR. GLENN BUNSTON:   That's right.

MS. KATHLEEN MCCANDLESS:   Are the positions going to be sold to buy units in pooled funds?

MR. GLENN BUNSTON:   That remains to be determined.  We may be able to do a in-kind transfer where the securities are transferred into the pooled fund and we receive units in the pooled fund in exchange for the securities, but, we anticipate that we will transition in to pooled funds because our allocations within each of the four (4) portfolios that have equities will be quite small and, therefore, I think there was another IR on this that the dollar amounts would not meet the minimum required to qualify for segregated accounts with our managers and so, therefore, pooled funds are -- are necessary.

MS. KATHLEEN MCCANDLESS: Okay, thank you. If we scroll down to figure (c), we see that approximately $18 million in gains are realized as of July 2018?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And when does the Corporation expect to complete the transition?

MR. GLENN BUNSTON: Within the equity portfolio?

MS. KATHLEEN MCCANDLESS: Yes.

MR. GLENN BUNSTON: Like I said, as soon as the search for the global equity manager is complete and the manager's approved then we'll move to begin the transition. So either -- either February or

March of 2019.

MS. KATHLEEN MCCANDLESS: And we understand from the presentation this morning that the manager search is underway?

MR. GLENN BUNSTON: It is, yes.

MS. KATHLEEN MCCANDLESS: Thank you. If we could please go to figure INV-14.

Now, this is a figure depicting the total marketable bond summary table broken down by fiscal year. At -- at the top of the figure we see... -- just bear with me for one moment. I've got a different reference up.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: All right, with respect to line 6, with the separation into unique portfolios it's expected that total marketable bonds will make up 67 percent of the portfolio in 2018/'19, yes?

MR. GLENN BUNSTON: Yes. So this is for the Basic claims portfolio and the RSR portfolios combined together, which make up the Basic line of business.

MS. KATHLEEN MCCANDLESS: Okay, thank

you. And they will increase to 75.3 percent for up to 2022/'23, yes?

MR. GLENN BUNSTON: That's right, yes.

MS. KATHLEEN MCCANDLESS: Thank you. Now, f we can turn to figure INV-2. Now, his is with respect to the Basic line of business investment income. We see that for the 2018/'19 forecast budget, at line 6, that interest income will increase as a result of the change from approximately $61 million in the current year through to 73.4 when fully implemented in 2019/'20, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And at line 13 dividend income is expected to be less than a third of what was previously earned; is that right?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And is this due to fewer equity investments over all?

MR. GLENN BUNSTON: Yes, the allocation to equities within the Basic line of business will be decreasing within the Basic claims portfolio, which is by far the biggest portion of the Basic line of business will be zero, and within the RSR portfolio I believe it's 25 percent.

MS. KATHLEEN MCCANDLESS: Now, the

2018/'19 fiscal year applies a methodology consistent with the prior year's forecast so net equity allocation formula?

MR. GLENN BUNSTON: Sorry, could you repeat that question?

MS. KATHLEEN MCCANDLESS: For the 2018/'19 fiscal year, it applies a methodology consistent with the prior year's forecast, so, a net equity allocation formula?

MR. GLENN BUNSTON: That's right. Investment income is allocated in a current year as it has been in the past.

MS. KATHLEEN MCCANDLESS: And for 2018/'19 MPI's proposing to allocate investment income based on the net equity related to each portfolio?

MR. GLENN BUNSTON: The net equity of each line of business. Yes.

MS. KATHLEEN MCCANDLESS: And, Kristen, is two (2) steps ahead of me again. So at figure INV-31, this is a line of business allocation. Based on this methodology we see at line 17 that MPI is allocating 86.28 percent of investment income this year?

MR. GLENN BUNSTON: That's right, 86.28 percent of the investment income is allocated to the Basic line of business, yes.

MS. KATHLEEN MCCANDLESS: And allocating $116.3 million of 134.8 million of corporate investment income at line 18, yes?

MR. GLENN BUNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: I understand this will no longer be required next year with the tracking of separate portfolios; is that right?

MR. GLENN BUNSTON: That's right. There would no -- be no need for allocations because each portfolio will be directly matched to a line of business and so this will not be necessary.

MS. KATHLEEN MCCANDLESS: Thank you. I also understand the Corporation plans to track investment returns through something called the support portfolio asset management?

MR. GLENN BUNSTON: We have investment -- an investment accounting system, which we will continue to use to track the -- our investment holdings. We were going to have to make significant changes to it to accommodate the new portfolios that's underway right now, but, yes, we'll continue to use that system going forward.

MS. KATHLEEN MCCANDLESS: Thank you. Could we please pull up PUB-MPI-2-13. There's a table at the second page.

And this is a summary of Basic line of business investment income as a proportion of corporate investment income.  At line 30 of the table we see that based on this new methodology for the forecast 2019/'20, under Basic forecast MPI will be allocating approximately $81.2 million of investment income?

MR. GLENN BUNSTON:   In '20 -- '19/'20 the table shows $82.1 million for Basic investment income.

MS. KATHLEEN MCCANDLESS:   Yes, or 87 percent as depicted on the percentage column?

MR. GLENN BUNSTON:   That's right.

MS. KATHLEEN MCCANDLESS:   Thank you. Does this negate the need for an allocation of investment income?

MR. GLENN BUNSTON:   Right.  As I said previously, we won't be allocating investment income because we'll have a portfolio that's dedicated to the Basic line of business.

MS. KATHLEEN MCCANDLESS:   With respect to the Basic share of pension assets, how will they be allocated?

MR. GLENN BUNSTON:   So my

understanding is that pension will be allocated based on employees who are directly working on each line of business.

MS. KATHLEEN MCCANDLESS: And do you know what that percentage will be?

MR. GLENN BUNSTON: Sorry, I don't know the number off the top of my head. We will get back to you with that.

MS. KATHLEEN MCCANDLESS: If you can provide that information by way of undertaking that would be appreciated. Thank you.

MR. GLENN BUNSTON: Certainly.

MS. KATHLEEN MCCANDLESS: Yes, it will be the proportion of the pension benefit portfolio based on the relative size of the payroll to be allocated to Basic.

--- UNDERTAKING NO. 2: MPI to provide the proportion of the pension benefit portfolio based on the relative size of the payroll to be allocated to Basic

CONTINUED BY MS. KATHLEEN MCCANDLESS:

MS. KATHLEEN MCCANDLESS: So in this figure 2 here at page 2 of PUB-MPI-2-13, we see that the Basic line of business is not forecasted to be receiving a share of realized gains or losses. Yes?

MR. GLENN BUNSTON: Sorry, what was the line reference again?

MS. KATHLEEN MCCANDLESS: Bear with me for one (1) moment. It's line 18 through 20.

(BRIEF PAUSE)

MR. GLENN BUNSTON: Could you just repeat your question for me, please.

MS. KATHLEEN MCCANDLESS: It appears that the Basic line of business is not being forecasted to receive a share of realized gains or losses, can you explain?

MR. GLENN BUNSTON: Yes. So, for -- in relation to the equity portfolios, as I mentioned, it's anticipated that our investments will be in pooled funds, and therefore, as I mentioned earlier, for -- for accounting purposes we're not planning to sell any units and, therefore, there would be no -- no realized gains triggered because we need a sale of the units to trigger the gains.

So while there may be trading within the pooled fund that -- that wouldn't cause a realized gain from an accounting perspective for MPI.

MS. KATHLEEN MCCANDLESS: There are forecasted future gains on equities, yes?

MR. GLENN BUNSTON: While we forecast our equity investments to grow, we forecast the total rate of return of 7.2 percent, but from an accounting perspective, we only can realize gains when there is turnover. So when there's a sale of the -- of the either the security or the units, so in this case we're not forecasting a sale of the units.

MS. KATHLEEN MCCANDLESS: And so all the unrealized gains are in AOCI?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: Thank you. If we look to the far right column here on this figure 2, at line 26 there is an allocation of investment fees paid. It appears that Basic is being charged 47 percent of investment expenses, is that right?

MR. GLENN BUNSTON: Yes, that's what the table shows.

MS. KATHLEEN MCCANDLESS: And what is Basic incurring the investment fees from?

MR. GLENN BUNSTON: So those are fees

charged by the investment managers. So, in this case, the fixed income managers for the provincial bond portfolio, the nonmarketable bond portfolio and the corporate bond managers who are in the process of selecting.

MS. KATHLEEN MCCANDLESS: Thank you. If we scroll to figure 1, in this IR response, it's the Basic line of business investment earnings summary. At line 4, we see that Basic's share of income of pension assets declines from $15.2 million in 2019/'20 to $13.9 million in 2020/'21, yes?

MR. GLENN BUNSTON: Yes, I see that.

MS. KATHLEEN MCCANDLESS: And can you explain why that's the case?

(BRIEF PAUSE)

MR. GLENN BUNSTON: We'll have to look into that and get back to you on the reason for that decrease.

MS. KATHLEEN MCCANDLESS: Okay, if we could have that by way of undertaking then to provide an explanation for the decrease in Basic's share of income on pension assets from 2019/'20 to 2020/'21.

MR. GLENN BUNSTON: Yes, certainly.

MS. KATHLEEN MCCANDLESS: Thank you.

--- UNDERTAKING NO. 3: MPI to provide an explanation for the decrease in Basic's share of income on pension assets from 2019/'20 to 2020/'21

CONTINUED BY MS. KATHLEEN MCCANDLESS:

MS. KATHLEEN MCCANDLESS: So as is clear on the record from earlier today, if interest rates change, there will be an impact based on the ALM strategy that's being implemented by the Corporation, yes?

MR. GLENN BUNSTON: As was indicated earlier, the impact of interest rates on Basic will be significantly reduced to, essentially, zero going forward.

MS. KATHLEEN MCCANDLESS: But nonetheless there will be an impact.

MR. GLENN BUNSTON: There will be a small impact, yes.

MS. KATHLEEN MCCANDLESS: So if we could look at PUB-MPI-1-25, on page 2, figure 1. This table shows the financial impact to the Basic line of business based on a March 2018 50-50 interest rate forecast. Yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And it shows the impact on net income by the ALM strategy as well. So we see the following, if we look to line 4 there's a difference of $4 million in investment income for 2019/'20 as compared to 2018/'19, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And at line 8, we see that Basic investment income will be $7.5 million lower in 2019/'20 as compared to 2018/'19, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And at line 12, we see Basic total income will be $7.3 million lower in 2019/'20 compared to 2018/'19, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And at line 16 the Basic MCT ratio will be higher by 16 percent. Yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: Now, if we assume that interest rates will increase based on

Mercer's standard interest rate forecast so at figure 2 on page 3. This is -- this depicts the financial impact to the Basic line of business for Mercer's SIRF.

Based on the results here, would you agree that the changes in income are less significant in 2019/'20 as compared to the table we just reviewed?

MR. GLENN BUNSTON: Sorry, is your question, is the difference between the GRA forecast under ALM versus non-ALM, is that difference smaller than in the previous table?

MS. KATHLEEN MCCANDLESS: Yes. We can discuss specific references if --

MR. GLENN BUNSTON: Could we scroll back to the previous table?

(BRIEF PAUSE)

MR. GLENN BUNSTON: And then back to the second. So in 1920, yes, the impact is -- is smaller.

MS. KATHLEEN MCCANDLESS: Thank you. So, for example, at line 4, we see that the -- the difference is $2.3 million, yes?

MR. GLENN BUNSTON: Yes.

MS. KATHLEEN MCCANDLESS: And roughly $5 million for -- at line 8, yes?

MR. GLENN BUNSTON: Yes, line 8 is 5 million approximately.

MS. KATHLEEN MCCANDLESS: And at line 12 we see a difference of $5.5 million, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: For total equity. Now, if we could pull up PUB-MPI-1-28 and figure 2 on page 3.

So this table depicts Basic investment and claims net interest rate impact with a 50-50 forecast as at July 2018. Yes?

MR. GLENN BUNSTON: Yes, that's correct.

MS. KATHLEEN MCCANDLESS: And as a result of using a 50-50 interest rate investment income declines as a result of forecast changes in the marketable bond yield, yes?

MR. GLENN BUNSTON: Yes, investment income is decreasing going forward after 2018/'19.

MS. KATHLEEN MCCANDLESS: So at line 8 of the table under the 2018/'19 forecast budget, we see losses of $13.5 million, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And for 2019/'20, $21.2 million?

MR. GLENN BUNSTON: That's right.

MS. KATHLEEN MCCANDLESS: And for 2020/'21 $11.1 million, yes?

MR. GLENN BUNSTON: Yes.

MS. KATHLEEN MCCANDLESS: And claims' liability declines as well?

(BRIEF PAUSE)

MR. GLENN BUNSTON: So net claims incurred is -- is increasing, but the -- the interest rate impact on line 12 is -- is decreasing.

MS. KATHLEEN MCCANDLESS: Thank you.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: So if we look to line 17 of the table then, this is moving forward from 2018/'19, that's the net impact of the new ALM strategy, yes?

MR. GLENN BUNSTON: Yes, line 17 shows that the net impact of interest rates is dramatically reduced going forward from -- ranging from 6, 7 million to as high as 75 million but going forward it's under $10 million.

MS. KATHLEEN MCCANDLESS: It was -- it's 12 million positive for 2018 forecast budget and then moving forward it's negative, yes?

MR. GLENN BUNSTON: Yes, it's negative moving forward but I'd just point out that the -- in absolute value terms the -- the volatility is much less and the numbers are smaller.

MS. KATHLEEN MCCANDLESS: If we could pull up Figure INV-48. At this table we see the impact of a 100 basis point increase in interest rates on the 2018 as compared to the 2019 GRA, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And it appears from these results that a 100 basis point increase in interest rates would have a negative impact on MPI, yes?

MR. GLENN BUNSTON: The table shows in 2020/'21 and 2021/'22 small negative impacts, yes.

MS. KATHLEEN MCCANDLESS: All right, thank you. I now have some questions about the investment policy statement. And in the filing we have the April 30, 2018 investment policy statement, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And then MPI recently filed as Exhibit 19 the transitional investment policy statement as well, yes?

MR. GLENN BUNSTON: Yes.

MS. KATHLEEN MCCANDLESS: Now I understand that among the material changes in the investment policy statement as of April 30, 2018 was that to include that the minimum credit rating was changed from A to BBB, is that right?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And that was to conform to the standard definition of investment-grade securities which includes triple B investments?

MR. GLENN BUNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: Now, if we could put pull up PUB-MPI-1-22, Figure 1.

This table depicts MPI's investments in corporate bonds as of June 30, 2018. Yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And it appears that at least as of that date that MPI had not invested in any triple B rated bonds, correct?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: Are any

triple B investments held to date?

MR. GLENN BUNSTON: Not right now, no. So the province of Manitoba is currently managing our fixed income portfolio including corporate bonds. It's not their core area of competency and so they have agreed that they're not going to buy any more corporate bonds for us until we've hired the external manager, at which point, the external manager will have the freedom to buy tripe B rated bonds if they so choose.

MS. KATHLEEN MCCANDLESS: Thank you. If we could pull up PUB-MPI-2-12, Figure 1.

The Corporation provided a forecasted yield on corporate bonds for 2018 and '19 -- pardon me, 2018/'19 and 2019/'20?

MR. GLENN BUNSTON: The table shows the expected market value of our holdings in corporate bonds.

MS. KATHLEEN MCCANDLESS: And is the goal still to have, by the end of this year, 21 percent, or approximately $619 million in corporate bonds, as depicted in line 3?

MR. GLENN BUNSTON: No. That is -- is not our goal. As I said earlier, we need to have our accounting systems revised to accommodate the -- the new portfolios, and that can't happen until our -- until our fiscal year is concluded. So that work is underway, and -- so the new portfolios will be implemented in the system and be ready for March 1st of 2019.

MS. KATHLEEN MCCANDLESS: Thank you. Now if we could look to the transitional investment policy statement, which is MPI Exhibit 19. And as I understand this document, it -- it reflects revisions to the initial investment policy statement included in the filing, and it's incorporating the implementation of the ALM Plan. Is that right?

MR. GLENN BUNSTON: Yes. So it includes the current asset allocation for the co-mingled portfolio, the 70/30 split between bonds and -- and growth assets, and then the asset allocation for the five (5) new portfolios, starting on March 1st.

MS. KATHLEEN MCCANDLESS: Thank you. Is a black line version of this policy statement available?

MR. GLENN BUNSTON: We could make one available, if that would be helpful.

MS. KATHLEEN MCCANDLESS: That would be helpful, thank you, if you could undertake to provide that.

MR. STEVE SCARFONE: Yes, the MPIC will make that undertaking.

MS. KATHLEEN MCCANDLESS: Yeah. That's to provide a black line version of the transitional investment policy statement.

MR. STEVE SCARFONE: Yes. Thank you for repeating that, and the earlier undertaking, we -- we were remiss in not asking that it be repeated, but I think we'll check the transcript tonight.

--- UNDERTAKING NO. 4: MPIC to provide a black line version of the transitional investment policy statement

CONTINUED BY MS. KATHLEEN MCCANDLESS:

MS. KATHLEEN MCCANDLESS: Now, I understand that this investment policy statement, the transitional -- I understand the transitional investment policy statement has been approved by the Minister of Finance as of -- or as effective July 31, 2018?

(BRIEF PAUSE)

MR. GLENN BUNSTON: It's been approved by our investment committee, and I believe that approval by the Minister is -- is still pending.

MS. KATHLEEN MCCANDLESS: Okay. Thank you. Now, will it ultimately be the intent of the Corporation to file separate investment policy statements for each of the portfolios, or will they -- will they all be contained in one (1) document?

MR. GLENN BUNSTON: So we did consider having separate documents. In the end, we decided that one (1) document was easier to administer, since there is -- would be significant overlap between the documents, and so our plan is to have one (1) investment policy statement going forward.

MS. KATHLEEN MCCANDLESS: Thank you. At the bottom of page 3 and running into page 4 of the transitional investment policy statement, there's a list of the statements of investment beliefs. I understand that there have been some updates, but that 1 through 6 remain unchanged from the previous investment policy statement. Are you able to confirm?

(BRIEF PAUSE)

MR. GLENN BUNSTON: I can't recall

right now what changes, if any, were made to this, so I think once the black line version is -- is produced, then it will be apparent to everybody what changes were made.

MS. KATHLEEN MCCANDLESS: Yes, that makes sense. Thank you.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: If we could turn to page 10 of the transitional investment policy statement. And again, Mr. Bunston, if it's going to be too difficult to answer these questions in the absence of a black line, let me know.

With respect to item 5.4, I gather that it has now been broken up into subparts as listed below to recognize the different port -- portfolios that were proposed by Mercer. Is that right?

MR. GLENN BUNSTON: Yes, that's right. So significant edits were made to this portion of the investment policy statement, because previously, it referred to just the commingle portfolio.

MS. KATHLEEN MCCANDLESS: So I will ask some questions about the subparagraphs here, then. With respect to Basic claims liabilities, right at the beginning of that section, it indicates that the objective is to back policyholder claims and to ensure funds are available as liabilities come due, and to minimize interest rate risk through duration matching. The funds are intended to pursue modest incremental returns while maintaining risk management as a top priority, yes?

MR. GLENN BUNSTON: Yes, that's correct.

MS. KATHLEEN MCCANDLESS: Can you explain what is meant by a modest return?

MR. GLENN BUNSTON: So the portfolio has only fixed income assets in it, and we have increased the allocation to corporate bonds to 20 percent of that portfolio, and that is an effort to increase the yield of the portfolio. We also have nonmarketable bonds in that portfolio which have a higher yield than marketable Province of Manitoba bonds. So those are those are -- those are efforts to try to ensure that the yield of the portfolio is -- is increased on a reasonable basis.

MS. KATHLEEN MCCANDLESS: Thank you. The last sentence at section 5.4.1 states:

> "The -- the timing and amount of payments beyond twelve (12) months are

estimated, and long-term investments
are held to cover these liabilities."

So just to confirm, there are no equities, then?

MR. GLENN BUNSTON: No, there's no equities within the Basic claims portfolio.

MS. KATHLEEN MCCANDLESS: With respect to the 5.4.2, that's in respect of the Rate Stabilization Reserve, the objective is to ensure sufficient levels of capital are maintained such that the line of business remains healthy and in an actuarially-determined state of satisfactory financial condition.

The RSR port -- portfolio must have sufficient capital to withstand plausible adverse events and to deliver rate stability and predictability, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: Perhaps you could just explain what this means.

MR. GLENN BUNSTON: So this portfolio needs to have some liquidity so that if there -- if there is a -- a net loss by the Corporation, that money is available to fund that net loss. And on the other hand, we also want the portfolio to have some growth. So that's why it's a -- it's a balanced portfolio going forward, with 50 percent in fixed income and 50 percent in -- in growth assets.

MS. KATHLEEN MCCANDLESS: And then in the middle of the section, there is a sentence that starts, "Given" -- it's just at the very right, four (4) lines down. It states:

> "Given that there are no specific backing obligations, duration management does not apply, and the fund's objective is to generate real returns to facilitate stable premium rates."

Can you explain what is meant by facilitating stable premium rates?

MR. GLENN BUNSTON: Well, it means that if there is a net loss, that funds can be transferred from the RSR to -- to Basic to -- to ensure that we don't have to go back to customers to cover that loss.

MS. KATHLEEN MCCANDLESS: Thank you. And what's meant by real return in this sentence?

(BRIEF PAUSE)

MR. GLENN BUNSTON: So the portfolio has, as I said, an allocation of 50 percent to growth assets, so that will include Canadian equities, global equ -- global equities, infrastructure, and real estate, and those asset classes provide, obviously, expected over the long term, higher total rates of return than fixed income.

The use of the word 'real return' here was not meant to refer to real return bonds, and it was -- it was not meant to be a -- a statement linking to inflation protection.

MS. KATHLEEN MCCANDLESS: So if, for example, the Corporation lost $20 million in Basic, would it not -- it wouldn't have the intention of selling any investments to cover that loss?

MR. GLENN BUNSTON: Well, the intention would be to have liquid investments, i.e., fixed income investments that have regular payment to principal and interest, and likely some money in cash that could be used, but we might have to liquidate some of the parts of the fixed income portfolio.

MS. KATHLEEN MCCANDLESS: If we scroll to page 11, at 5.6, here, the -- the table here, I understand, depicts the benchmarks that the Corporation is going to use to measure its expen --

its success, pardon me, and they've been expanded. Is that right?

MR. GLENN BUNSTON: Yes, this sets out the benchmarks for the fixed income -- well, for all the parts of the portfolio, yes.

MS. KATHLEEN MCCANDLESS: And the benchmarks were developed with Mercer. Is that right?

MR. GLENN BUNSTON: That's right.

MS. KATHLEEN MCCANDLESS: Now, on the left-hand side of the table here, under "asset class," we see Canadian bonds. I understand with the expansion of fixed income investments, the benchmarking will be against specific indexes matched to the characteristics of those investments? Is that right?

MR. GLENN BUNSTON: Yes. So the plan is to have blended benchmarks that will provide us with durations that are similar to the durations of the underlying liabilities.

MS. KATHLEEN MCCANDLESS: With respect to private debt, how did the Corporation establish the expected annual return for private debt? So that's based on a universal bond index plus seventy-five (75) basis -- basis points?

MR. GLENN BUNSTON: So that was set in

-- in conjunction with Mercer, and by our research into the expected yield of private debt. And again, we're looking at private debt that's on the lower end of the risk spectrum, so investment grade, and so the -- the yield pick up there is seventy-five (75) basis points, much lower than you would expect from private debt that is higher risk and higher return seeking. And again, this is to try to obtain some diversification and some additional yield for the portfolios.

MS. KATHLEEN MCCANDLESS: Can you give an example of the investment grade?

(BRIEF PAUSE)

MR. GLENN BUNSTON: So it could be debt that's issued by an infrastructure project, for example. It could be corporate debt, and it -- it could be real estate related debt. So will -- our plan is to select a manager and the manager will select the specific securities on our behalf.

MS. KATHLEEN MCCANDLESS: Thank you. With respect to Canadian equities, which are on this -- the next page, am I correct in understanding that the benchmark is the same as that which was used previously?

MR. GLENN BUNSTON: Yes, the S&P/TSX Cap -- Composite is the current benchmark, and this will be used going forward.

MS. KATHLEEN MCCANDLESS: Okay. And with respect to global equities, the MSCI World Total Return Index plus one hundred and fifty (150) basis points over a rolling four (4) year period annualized, can you please explain this index?

MR. GLENN BUNSTON: Yes. So this is the common benchmark used for global equities. It includes equities from developed markets only, and I can't name all the countries, but I believe it's members of the OECD, the Organization for Economic Cooperation and Development, so about thirty (30) countries would be included.

MS. KATHLEEN MCCANDLESS: And so why use a rolling four (4) year average?

MR. GLENN BUNSTON: So that is what we've always used for our equity managers. It's meant to try to capture a full market cycle from market bottom to market peak, just reflect -- reflecting the fact that some managers outperform at different periods of time in the -- in the investment cycle than others, and so we look at -- we always look at performance over rolling four (4) year periods for equities.

MS. KATHLEEN MCCANDLESS: Thank you. And then with respect to alternative investments at the bottom of the table, again, am I correct in understanding there is no change from the previous investment policy statement?

MR. GLENN BUNSTON: That's right. The IPD index is what we all -- we've always used for Canadian real estate, and infrastructure has always been CPI plus 5 percent.

MS. KATHLEEN MCCANDLESS: Thank you. At page 15 of section 7, we see the asset allocation until February 28, 2019 in the table below that section 7.1, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And then on the next page, at 7.2, I understand this is the target allocation for each portfolio after February 28, 2019, for Basic, yes?

MR. GLENN BUNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: Scrolling back up to page 15, we see that with respect to government bonds, the range was previously 40 percent as a minimum to 60 percent as a maximum, with a normal level of 45 percent, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And then if we -- sorry, Kristen, to make you keep going back and forth. If we scroll down to 7.2, under "fixed income provincial bonds," this would be equivalent to previous government bonds, correct?

MR. GLENN BUNSTON: More or less. It's anticipated that we'll reduce our allocation to federal bonds and have primarily provincial bonds going forward.

MS. KATHLEEN MCCANDLESS: And we see the minimum target allocation here, 50 percent, to a maximum of 70 percent, with a mid target of 60 percent, yes?

MR. GLENN BUNSTON: That's right.

MS. KATHLEEN MCCANDLESS: And then corporate bonds we see previously had a range of zero percent to 10 percent, with a normal target of 5 percent, yes?

MR. GLENN BUNSTON: Yes.

MS. KATHLEEN MCCANDLESS: And if we scroll down, then, to 7.2, we see that has been expanded to a minimum of 10 percent, a target of 20 percent, and a maximum of 30 percent, yes?

MR. GLENN BUNSTON: That's right.

MS. KATHLEEN MCCANDLESS: And the nonmarketable bonds depicted here at the bottom of the table, under "asset class," those would be MUSH bonds?

MR. GLENN BUNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: And I understand that the target ranges have been lowered from what was previously the target. On the table before you, you see a minimum of 10 percent, and the target level is at 20 percent, but the maximum remains at 25 percent. Is that right?

MR. GLENN BUNSTON: The target and the maximum are unchanged. The minimum has decreased from 15 to 10 percent.

MS. KATHLEEN MCCANDLESS: Is it the intent of the Corporation to maintain MUSH bonds at a level of 20 percent?

MR. GLENN BUNSTON: No, it is not. The reason is because new MUSH bonds are very limited in terms of issuance going forward. That's because the Province has changed how it funds schools, and they were the primary issuer of MUSH bonds in the past, so it's in the future, municipalities issuing them only, and so they're just not available. So they will be -- as they mature, we will not be able to replace them.

MS. KATHLEEN MCCANDLESS: Thank you. Page 17 shows the target allocation for Basic, RSR, Extension, and SRE portfolios, yes?

MR. GLENN BUNSTON: Yes, it does.

MS. KATHLEEN MCCANDLESS: So the transitional investment policy statement, then, it groups these three (3) portfolios together, yes?

MR. GLENN BUNSTON: That's right. They all have the same asset allocation at this time.

MS. KATHLEEN MCCANDLESS: Is it the intent to monitor separate investment portfolios with the same target levels reached?

MR. GLENN BUNSTON: Yes, we will have separate portfolios for each of these lines of business, and RSR, and we'll monitor them going forward, and it may be possible in the future -- we may modify the asset allocation targets for some of these, and they could be different in the future.

MS. KATHLEEN MCCANDLESS: And these portfolios will carry fixed income instruments, yes?

MR. GLENN BUNSTON: Correct, yeah, 50 percent fixed income.

MS. KATHLEEN MCCANDLESS: Yeah. And that would include MUSH?

MR. GLENN BUNSTON: Yes, it will.

MS. KATHLEEN MCCANDLESS: Is it the intent to segregate the MUSH portfolio and assign some of the -- those issues outside of the Basic claims portfolio, to be held by these other portfolios?

MR. GLENN BUNSTON: Yes, we will have to identify specific securities that will be held in the separate portfolios.

MS. KATHLEEN MCCANDLESS: And right now, do you know the total amount that is going to be allocated?

MR. GLENN BUNSTON: Off the top of my head, I -- I do not. We have started that exercise. We've been working with our investment accounting team to, on a preliminary basis, identify fixed income securities that would be allocated to the different portfolios, mainly based on the duration of those securities in relation to -- and trying to match the duration of the underlying liabilities, where there are. So that was for -- for modelling purposes, really, so the investment accounting team could begin to make modifications they need to the investment accounting system.

MS. KATHLEEN MCCANDLESS: And who will be managing that?

MR. GLENN BUNSTON: Transitioning the portfolio from the commingle to the future? Well, myself and my team will be, in conjunction with the fixed income manager at the Province of Manitoba.

MS. KATHLEEN MCCANDLESS: Thank you. If we see the maximum allocation on the right-hand side of the table here, at public equities, up to 17 percent of the portfolio will be in Canadian equities. Is that right?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And it appears also that just two (2) lines below global and global low vola -- volatility equities will have a prominent weighting in the portfolio, yes?

MR. GLENN BUNSTON: Yes.

MS. KATHLEEN MCCANDLESS: And those global and global low volatility equities, they will have a significant level of exposure to US investments?

MR. GLENN BUNSTON: Yes, about 50 percent of the MSCI world index is allocated to the US market.

MS. KATHLEEN MCCANDLESS: And for total public equities, we see the new portfolios will have a range of 25 percent as the minimum, 35 percent as the target, and 45 percent as the maximum for equity exposure, yes?

MR. GLENN BUNSTON: That's right. Yes.

MS. KATHLEEN MCCANDLESS: And I understand previously the range for the commingle portfolio was 10 percent at the minimum, fifteen (15) at the target, and 20 percent at the maximum, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: Now if we could go to INV-3 from the investment section of the filing. And this is a table depicting the investment portfolio asset val -- values for the Basic line of business.

Under 2017/'18 actual, at line 6, we see that the portfolio had $226 million in Canadian equities, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And at line 7, we see $124 million in US equities, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And then at 2018/'19 forecast budget, with the new allocation targets into the separate portfolios, we see Canadian equities at line 6 is now $40 million, yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And US global equities is $43 million at line 7?

MR. GLENN BUNSTON: That's right.

MS. KATHLEEN MCCANDLESS: And low global volatility equities are $33 million at line 8?

MR. GLENN BUNSTON: Global low volatility equities are 33 million, yes.

MS. KATHLEEN MCCANDLESS: So in total, that's $116 million?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: Or a third (1/3) of the size of exposure to growth assets, then, in 2019?

MR. GLENN BUNSTON: Sorry, you're saying that the total of the -- of equities is one-third (1/3) of growth assets?

MS. KATHLEEN MCCANDLESS: Yes.

(BRIEF PAUSE)

MR. GLENN BUNSTON: Well, growth assets includes real estate, infrastructure, and equities. So the target weight to equities is 35 percent of the total portfolio. The target to alternatives is fifteen (15), so equities is about two-thirds (2/3) of the growth portfolio. Sorry, it's 70 percent of the growth portfolio.

MS. KATHLEEN MCCANDLESS: If we could go back to the transitional investment policy statement at section 8.6. By this section, we see that the Finance Department -- or we expect the Finance Department will approve the Corporation investing in bonds with credit ratings below A, yes?

MR. GLENN BUNSTON: Yes. We were informed recently that that recommendation has been sent to Minister of Finance, and we expect it to be approved shortly.

MS. KATHLEEN MCCANDLESS: And at this time, can you provide any insight into what percentage of the portfolio the Corporation intends to invest in those types of issues?

(BRIEF PAUSE)

MR. GLENN BUNSTON: So the modelling that we did in the past was that we expected to have about 30 -- I'm sorry, 38 to 40 percent of the corporate bond portfolio in triple B rated bonds, and that number is approximately equal to the -- the market weight within the -- within the benchmark to triple B rated bonds. But that will depend somewhat on the manager we select, and their investment strategy, so it remains to be determined.

MS. KATHLEEN MCCANDLESS: Thank you. I understand that Mercer recommended no emerging -- emerging markets exposure. Is that right?

MR. GLENN BUNSTON: Mercer recommended that we include emerging markets in our global equity exposure.

MS. KATHLEEN MCCANDLESS: And emerging markets would be BRIC? So that's an acronym for?

MR. GLENN BUNSTON: Those are some emerging markets. Those are four (4) of the --

MS. KATHLEEN MCCANDLESS: Brazil, Russia, India, and China?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: So -- now you mentioned previously that finance was going to be managing the bond portfolio. Is that only a portion of the bond portfolio?

MR. GLENN BUNSTON: The Department of Finance currently manages a hundred percent of our fixed income portfolio. Our plan is to hire an external manager for corporate bonds, and -- and that

-- that's -- process is underway. We have -- we're working with a consultant right now to select an external manager for corporate bonds.

MS. KATHLEEN MCCANDLESS: I just have a handful more of -- more questions for the MPI members of the panel before I'll move on to Mr. Makarchuk. So I think we can probably break after that, if that works. Okay.

Kristen, can you please refer to PUB/MPI-1-30, figure 1 on page 2. And this is with respect to benchmarking performance of MPI's investment portfolio.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: So this table depicts a comparison of investment returns for MPI as against the Civil Service Superannuation Board, Teachers Retirement Fund, Worker's Compensation Board, and Saskatchewan General Insurance for 2013 to 2017, yes?

MR. GLENN BUNSTON: That's right.

MS. KATHLEEN MCCANDLESS: If we look at the average annualized return over six (6) years, so at line 6, the other organizations have higher levels of return on average compared to MPI's, yes?

MR. GLENN BUNSTON: Yes, the other organizations have higher returns.

MS. KATHLEEN MCCANDLESS: And from MPI's standpoint, are these entities considered comparable?

MR. GLENN BUNSTON: Well, not entirely. SGI would be most comparable, since they're in the same business as us and their liabilities are similar to ours. Their portfolio, I believe, is -- has more equities than ours slightly.

So -- and then the first two (2), our Civil Service Superannuation Board and Teachers Retirement Allowance Fund, both of those are pension plans, and so their risk profiles and durations are different than ours, so they're not directly comparable. They have larger allocations to growth assets than we do, which is the reason you see the outperformance.

And -- and then the Worker's Compensation Board, more similar to us than a pension plan, but again, they're not auto insurance, so they have some differences. So SGI would be the best comparator, in our mind.

MS. KATHLEEN MCCANDLESS: Thank you.

And at lines 11 to 13 of figure 1, MPI provided a value-added asset allocation adjusted return, yes?

MR. GLENN BUNSTON: Right. So we adjusted the asset allocation of the -- our peers to -- to match ours.

MS. KATHLEEN MCCANDLESS: Okay. And so can you just explain what adjustments were made, or why MPI made those adjustments?

MR. GLENN BUNSTON: So we've got the returns for each asset class that each of the -- each of the peers, here, earned, and then we weighted those assets -- the returns within each asset class by our target asset allocation, so the 70/30 split, so that the asset allocation was the same across all -- everybody, and therefore the only difference was the returns within each asset class.

MS. KATHLEEN MCCANDLESS: Thank you. Those are my questions for this section of cross-examination.

THE CHAIRPERSON: So we will take fifteen (15) minutes for the afternoon break.

--- Upon recessing at 2:36 p.m.

--- Upon resuming at 2:58 p.m.

THE CHAIRPERSON: Thank you. We'll resume, Ms. McCandless.

MS. KATHLEEN MCCANDLESS: Thank you.

CONTINUED BY MS. KATHLEEN MCCANDLESS:

MS. KATHLEEN MCCANDLESS: I now have some questions for Mr. Makarchuk on the Mercer ALM study. Mr. Makarchuk, thank you for being with us today. Kristen, if you could please pull up investment section 2.1 from the filing, just for the record to refresh everyone's memory.

This is with respect to the ALM study and it was broken down into three (3) phases about which we heard this morning. So phase 1 was to analyze the merits of adopting unique asset allocation and investment policy statement for Basic, extension, SRE, RSR and pension.

Phase 2 included a discussion of new asset classes along with the rationale for inclusion and exclusion, proposed asset allocations for each portfolio, including estimates of risk and return and implementation consider -- considerations were addressed in phase II.

And then Phase 3 was to finalize responses to CAC's eighteen (18) recommendations, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: Thank you. Now if we could pull up investments Appendix 12. It's also found in the book of documents at Tab 19. This is from the Phase I report, Mr. Makarchuk?

MR. DAVID MAKARCHUK: Yes, looks like it.

MS. KATHLEEN MCCANDLESS: And as I understand this table, Mercer outlines asset classes that could be considered or could have been considered by MPI to aid in assessing each option and providing general guidance on the relative ability of each asset class to fulfil the objectives at the top, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: I'm not sure if we can shrink it down, Kristen, so that it all fits into one (1) screen? Thank you.

Mr. Makarchuk, could you just elaborate or explain what's on the table before you?

MR. DAVID MAKARCHUK: Sure. So this would have been part of the education phase in October where we were going over the relative merits of different fixed income investments as broad asset classes and, again, in one (1) page, ideally, to summarize primarily the ability to match, in other words, mitigate or eliminate risk; the ability to enhance investment returns and the ability to protect principle. Investors on fixed income typically are on fixed income for some --- ideally all but practically very difficult to do all three (3) of those objectives. And so it shows asset class by asset class, the relative merits of each. Again, this was very early in our project before we had done any modelling.

Did you want me to go asset class by asset class?

MS. KATHLEEN MCCANDLESS: As an overview that's fine, thank you.

With respect to the Phase 2 report, Kristen, if we could pull up investment's Appendix 13 and this is a table here with respect to an overview of MPI's obligations. Yes?

MR. DAVID MAKARCHUK: Correct and this would have been a little bit later in the project.

MS. KATHLEEN MCCANDLESS: Okay. And, again, if you could just at a high level explain what's depicted on the table here.

MR. DAVID MAKARCHUK: Sure. So this is a point of the project where collectively we had discussed the relative objectives of each of the business lines, understanding the relative size, understanding the relative purpose of the different asset classes.  MPI were experts in this regard.  This was grounding us in terms of -- in order for us to provide best practice advice, but also help MPI in terms of articulating their objectives in that regard.

And so near the end we had facilitated and documented what MPI's return expectations were for each bucket, the risk tolerance as well.  You'll notice it is generally moderate with the extension -- with the exception of Basic at the time and then the interest rate sensitivity or duration which was calculated based on data that MPI would have provided to us.

And so you'll see that the duration of the different buckets varies considerably, and that helped ground the discussion in terms of risk tolerance and fixed income matching as it made sense.

MS. KATHLEEN MCCANDLESS:  Thank you. At page 5 of the report -- or it could be page 6 of the PDF.  It's section 2 of the Phase 2 report.  Yes, thank you.

This the key recommendation section and the first recommendation is directly below the heading there, Consolidation versus Segregation, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And Mercer recommended the identification and segregation of unique asset allocations by component with three (3) reasons provided, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And perhaps you could just elaborate on Mercer's recommendation to segregate the portfolio.

MR. DAVID MAKARCHUK: Sure and so -- I don't think we need to go back to the table you just showed but I think it demonstrated that the relative obligations were fairly different, and both in terms of size, in terms of purpose, in terms of duration. To some extent, you know, Basic was very different than the rest in terms of risk tolerance and return expectations as well.

And so, after we had facilitated that discussion and understanding, we facilitated and discussed with MPI the recommendation that you had just shown which is, these are different enough that we think that it makes sense to segregate them.

MS. KATHLEEN MCCANDLESS: Thank you. If we go back to the narrative just below number 3, Mercer wrote that MPI has recommended unique policy allocations for the Basic and pension components along with a consistent policy allocation for each of RSR, SRE and extension.

And from Mercer's perspective why should they be a similar portfolio allocation for RSR, SRE and extension?

MR. DAVID MAKARCHUK: So we can go back to the -- the chart just to twig but from memory they were smaller, the duration -- yeah, so these are the smaller buckets. Their duration is either low or not really applicable at all. So RSR, the reason the duration there is shown as not applicable and so there's no specific obligation that RSR is covering that one could measure or forecast into the future.

But from our perspective -- and again, it was, you know, MPI's decision but we were supportive that extension, SRE and RSR were close enough in aggregate to have three (3) modest sized buckets as opposed to -- I'm not sure what they would've achieved by having five (5) distinct buckets.

MS. KATHLEEN MCCANDLESS: Thank you. Under "new asset classes" under key recommendations, Mercer stated:

> "As part of the overall review of MPI's risk and return objectives,

several new asset classes were considered to assess the extent to which they would be expected to improve the risk/reward/trade-off of the fund relative to the underlying obligations."

And then if we continue down on to the next page we see a table depicting asset class and then the rationale for inclusion and recommended asset allocations, yes?

MR. DAVID MAKARCHUK:    Correct.

MS. KATHLEEN MCCANDLESS:   And then the following page we have another table sorted by asset class with a rationale for exclusion and recommended asset allocations, yes?

MR. DAVID MAKARCHUK:   Correct.

MS. KATHLEEN MCCANDLESS:   Perhaps again at a high level, you could walk through these tables and explain.

MR. DAVID MAKARCHUK:   Sure.  Do you want to go back to the included one?

MS. KATHLEEN MCCANDLESS:   Yes, please.

MR. DAVID MAKARCHUK:   Sure.  So here by asset class we've gone through the ones that ultimately made the recommendation.  The decision to include would've been based on some of the efficient frontier work that we've done, some of the qualitative observations that you see here. And this list where the asset class is chosen by MPI in terms of the asset mix is going forward.

For example, corporate bonds we kind of noted -- and, again, this is somewhat of an executive summary, you know, what type of corporate bonds we're thinking about here. So, practically speaking, these are investment-grade corporate bonds. These are not below investment-grade corporate bonds that were otherwise under consideration. We otherwise would have bucketed those in high yield which I think are in the excluded bucket that follows.

And so, we get some insight just in terms of the duration opportunities that are there; some commentary in terms of this isn't just simply buying index corporate bonds. We think that due diligence is important, making sure you maximize the value of credit spreads, things like that. And there is a observation in terms of excess returns recently.

Similarly, for private debt global equities and low volatility equities. You'll see, you know, the different recommendations and discussion on each of the asset classes. There are different kinds of private debt that investors may choose. MPI indicated a preference for less risky private debt. And so the preference here that MPI had indicated was North American. Some of our clients might prefer a global portfolio of private debt. At the time recommended an all country world index equity portfolio that included emerging markets.

Subsequently MPI made a decision to exclude emerging market equities and then there's the marital low volatility equities in the -- in the bottom box.

MS. KATHLEEN MCCANDLESS: Thank you. Just to clarify then, it was Mercer's recommendation to include emerging markets, yes?

MR. DAVID MAKARCHUK: Correct. I think Mr. Bunston indicated that earlier so. That was an MPI decision to exclude it.

MS. KATHLEEN MCCANDLESS: And then with respect to the excluded asset classes?

MR. DAVID MAKARCHUK: Sure. So here we go asset class by asset class. Again, this was after discussion with MPI in terms of which asset classes fit for their investment objectives, for their return objectives, for the risk objectives. Cost and time to some extent as well.

So real return bonds are first on the list acknowledging that there is a link to inflation of Basic and pension liabilities but based on the fact that yields were relatively low, based on the fact that Basic liabilities already included a fixed 2 percent inflation rate and, in general, real return bonds will really only be worth their cost if inflation over the long term is higher than 2 percent.

If duration -- there are some challenges with matching duration with real return bonds.  There is only so many issues.  Only seven (7) of them really trade.  None of them practically speaking are linked to Manitoba CPI, which is our understanding of the primary bogy for MPI's obligations.

We talked about levered bonds as well. I've talked about leverage briefly before.  They do provide investors the opportunity to increase their allocation to an asset class, whether it's a matching asset class like fixed income or an asset class like equities or something as well.  And so MPI had indicated and the investment committee reiterated that while they understand the relative merits of levered portfolios, they weren't comfortable with the taking on additional leverage within their portfolio at this time.

Talked about diversified growth funds as well, which are perhaps more prevalent outside of North America than in Canada. They do provide balanced return drivers but there is a limited opportunity set that a fund of this size can then put in and if Basic wasn't going to use growth assets, I think that's the primary reason why diversify growth funds fell off the table.

I think this chart maybe spills on to another page from memory.

MS. KATHLEEN MCCANDLESS: Yes, it does.

MR. DAVID MAKARCHUK: And then there's a discussion on private equity. Again, a great return enhancer but again if Basic was not going to have private equity within it, practically speaking, there's just not enough assets in the other buckets to -- from our perspective to warrant -- and MPI's as well, to warrant the governance effort with additional allocations to private equity.

MS. KATHLEEN MCCANDLESS: Thank you. With respect to real return bonds, several reasons were provided for the exclusion of real return bonds and you spoke about them a fair bit this morning.

Just with respect to Mercer's work in other jurisdictions, is it typical to exclude real return bonds from portfolio allocation?

MR. DAVID MAKARCHUK: So when we say "exclude" here, this is MPI's decision to not include, right. So they were included in the analysis and it would be typical in any asset liability study to include it as a plausible asset class, unless we knew for sure that the liabilities had no indexed provision.

But generally for clients that do have an indexed provision, whether it's full CPI or partial CPI, it will be on the table. I can think of many sponsors, most of Mercer's -- many of Mercer's clients are pension sponsors, but others are similar to MPI in that regard that have either fully or partially CPI index obligation. Many of them have no CPI -- or no RRBs in their portfolio at all, some that do would only have a small subset.

I'm not sure I can personally identify any that fully match the inflation risk that otherwise is part of their liability obligation.

MS. KATHLEEN MCCANDLESS: Thank you. And I believe you indicated in your presentation this morning that two-thirds level of real return bonds would provide 100 percent protection from inflation, would that be accurate?

MR. DAVID MAKARCHUK: More or less. So in the sum -- the follow-up work -- and it's actually is even part of the work that we did back in the fall of 2017. The liability benchmark portfolio, which was identified and, you know, we identified a nominal liability benchmark and a real liability benchmark in October of 2017 and walked MPI through that.

From memory it was 66 percent real return bonds, but also a healthy dose of cash, partly because the duration of the real return bond index would be too long for the obligations that MPI has in terms of its -- its policy obligations. And so if MPI's objective was to fully eliminate inflation risk parallel to its other objective to fully eliminate nominal interest rate risk, by our calculation at the time a portfolio of roughly two-thirds real return bonds would have been required.

MS. KATHLEEN MCCANDLESS: And what would be the current level of protection afforded by real return bonds?

MR. DAVID MAKARCHUK: The portfolio does not have real return bonds.

MS. KATHLEEN MCCANDLESS: So for other portfolios of which you are aware that would have real return bonds.

MR. DAVID MAKARCHUK: Okay. Most often 0 percent, occasionally small 5 percent, maybe 10 percent allocations. I can think of many more index sponsors that have no RRBs than some that do. Some do certainly, but I haven't placed RRBs for a client in years.

MS. KATHLEEN MCCANDLESS: For those clients for which you have, what -- what do they do to protect against inflation?

MR. DAVID MAKARCHUK: Right. So, again, a lot of our clients are pension -- pension related. They have longer-term horizons. Perhaps have capital requirements that are different than -- than the MPI.

They will look to a diversified portfolio perhaps of equities; perhaps domestic real estate; sometimes to infrastructure, but I'd otherwise caution that diversify global infrastructure has a very loose connection with Canadian CPI, Manitoba, in particular. Those sponsors are willing to accept -- and I use the term "basis risk" in perhaps a different way than the -- than the CAC and the PUB have used the term "basis risk," but basis risk in terms of a different kind of inflation protection that comes from assets that generally do better in an inflation environment, not just RRBs.

MS. KATHLEEN MCCANDLESS: Thank you. If we could go further down the page on page 9 and this is the recommended policy portfolios by business line and pension obligations. Yes?

MR. DAVID MAKARCHUK: Yes.

MS. KATHLEEN MCCANDLESS: And, again, at a high level, if you could just describe what's depicted on the table here.

MR. DAVID MAKARCHUK: Sure. So the column on the left-hand side looks like an exhaustive list of asset classes either currently in the portfolio or proposed in the portfolio. This was our summary piece and so there's the asset allocation for Basic, the family of three (3) smaller buckets and then for pensions on the right-hand side.

And so you see the allocation of each row by row. Definitely some moving parts in the chart.

MS. KATHLEEN MCCANDLESS: So with respect to the proposed Basic allocation there, we see that there was a recommendation that Basic move from

70 percent fixed income to 100 percent fixed income, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And explain how that came about?

MR. DAVID MAKARCHUK: Sure. So if you recall from the nine (9) different steps for my -- my opening presentation, the end of October was -- October 30th was one (1) of the -- substantially the last educational presentation that we otherwise made talking about the different merits of the different asset classes, engaging MPI in terms of the investment return objectives, risk objectives and things like that.

The follow-on immediately after that meeting was to determine some straw-dog or straw-man portfolios that take the learnings from all of the different efficient frontier, qualitative assessments, return risk, cost and time consideration, what the efficient frontier has taught us as well and how we blend together those qualitative considerations with the quantitative considerations in terms of what might prob -- possible portfolios be.

And I think it was part of the GRA package, there was -- you know, the actual recommendation was not part of the October 30th analysis; that taught us which asset classes were beneficial which ones were not.

And then we went away and I think you'll see four (4) different asset classes -- or at recommenda -- or straw-dog's call it I think Basic point 1, Basic point 2, Basic point 3, Basic point 4 which were candidates for further testing, which we did a number of different iterations through the month of November and Basic 1 through Basic 4 was subsequently presented to the investment committee on November 28th, if I recall.

MS. KATHLEEN MCCANDLESS: Thank you. If we scroll to page 10 which is just the next page on here. So I understand that the tables here show the recommended asset allocation policies overall impact, yes?

MR. DAVID MAKARCHUK: I can't see the top of this one, but this looks like everything together, yep.

MS. KATHLEEN MCCANDLESS: And so the first table shows an impact on the right-hand side of an $11 million per annum reduction and expected return, yes?

MR. DAVID MAKARCHUK: This is totally

MPI, now I'm grounded. Thank you.

MS. KATHLEEN MCCANDLESS: And then a $6 million per annum increase in non-MUSH yield, yes?

MR. DAVID MAKARCHUK: The -- yes, correct. Of the fixed income that they otherwise would have, the non-MUSH yield would go up to 3.02.

MS. KATHLEEN MCCANDLESS: And then a liability decrease of $40 million for non-MUSH yields, yes?

MR. DAVID MAKARCHUK: That's what it says. That would've come from MPI. We don't calculate their liabilities so.

MS. KATHLEEN MCCANDLESS: Thank you. I understand that MPI had imposed a constraint in the determination of the Basic claims' liability portfolio to minimize substantially all nominal interest rate exposure -- interest rate risk exposure, yes?

MR. DAVID MAKARCHUK: Say that one (1) more time. I think the answer is yes.

MS. KATHLEEN MCCANDLESS: That MPI had imposed a constraint in the Basic claims' liability portfolio to minimize substantially all nominal interest rate risk exposure?

MR. DAVID MAKARCHUK: MPI chose to mitigate, if not eliminate, interest rate risk.

Perhaps that's a constraint. I think the answer is yes.

MS. KATHLEEN MCCANDLESS: Okay. And if not for this direction or constraint or however you might want to characterize it, would the Basic claims' portfolio have had a different asset mix?

MR. DAVID MAKARCHUK: Quite plausibly. They indicated that matching, as best they could, the nominal interest rate risk for the entire Basic portfolio and not having asset classes that couldn't help match the Basic portfolio were requirements for the asset mix going forward, which is why equity for examples was not in the final recommendation.

MS. KATHLEEN MCCANDLESS: But it might have been otherwise then?

MR. DAVID MAKARCHUK: Sure, if they told me that we were willing to accept a hedge ratio of, say, 80 percent or 50 percent, then yes, that would be quite plausible.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: Now, you mentioned the efficient frontier analysis, and perhaps you could just explain what the efficient frontier analysis means.

MR. DAVID MAKARCHUK: Sure. So the efficient frontier was a -- introduced to the world or the economic world by a gentleman by the name of Harry Markowitz in the mid-'50s. It seems like a fairly simple concept now, but like everything that was invented, it was rather novel at the time.

It essentially indicates that -- that if we assume a level of return and a level of risk for different asset classes -- and it could even be separate securities but that if we pooled together two (2) different securities or multiple securities or asset classes that are less than fully correlated then potentially we can in -- enhance the overall efficiency of a portfolio by finding asset classes that are less than perfectly correlated.

And so, in fairly simple terms, we can draw a scatterplot, a risk versus return and I'm sure you could find one in the many pages of -- of illustration, the goal ideally is to either choose a level of risk that an investor's comfortable with and find a portfolio that optimizes the return or, conversely, find a level of return that investor is looking to find and find the portfolio that is the lowest level of risk.

If your asset assumptions are all perfect and you trust them completely, then perhaps you choose to go with an asset allocation that is exactly on the efficient frontier. If you appreciate, which we do, that our assumptions are sometimes imperfect, or that investors have some practical limitations, for example, in this case the MUSH yield -- or the MUSH bonds where perhaps not on the efficient frontier but we're kind of stuck with them for a little while. Sometimes that means, well, you just can't get to the efficient frontier.

Is that long enough? I'd really rather not go longer.

MS. KATHLEEN MCCANDLESS: Yes, that's fine. Thank you. And so just following on that, so Mercer modelled multiple combinations of asset classes utilizing different efficient frontier -- frontier concepts, as well as stochastic projections of both assets and MPI's obligations, yes?

MR. DAVID MAKARCHUK: Right. Our starting point was efficient frontier concepts. We shared qualitative perspective as well. Once we got to the straw-dog or straw-man portfolios, then we introduced some stochastic projections as well, which are stronger than efficient frontier's.

Efficient frontier is helpful in terms of an educational point and some learnings, but they don't live in a dollar world, they live in a academic percentage world and for me, especially for my strategic clients, they mostly make their decisions in a dollar context as opposed to a basis point context and so part of the illustrations, for example, we're still on this page, understanding that it's a $11 million number. For some stakeholders is a lot more tangible than telling them that's a 40 basis point change. Different investors have different references.

MS. KATHLEEN MCCANDLESS: Thank you. And so MPI Appendix 16 from the investment section is MPI's ALM implementation plan. It does contain a graphic depicking efficient frontiers. I'm not sure if you're able to speak to this, Mr. Makarchuk. If you're familiar with it, or if the questions are better directed to members of the MPI panel?

MR. DAVID MAKARCHUK: It's one (1) of ours so I should be able to --

MS. KATHLEEN MCCANDLESS: That's what I figured so.

MR. DAVID MAKARCHUK: I should be able to carry the conversation at least a little ways.

MS. KATHLEEN MCCANDLESS: Okay, thank you. So what I understand from looking at Appendix F, so the -- the graphic there in front of you, that the efficient frontier is based on the nominal liability benchmark for the Basic claims' liability?

MR. DAVID MAKARCHUK: Correct. This is work we would've done back in the fall, correct. Yep.

MS. KATHLEEN MCCANDLESS: And the frontiers shown are constrained to allow only the fixed income asset classes shown in the table in order to achieve MPI's objective of minimizing interest rate risk; is that right?

MR. DAVID MAKARCHUK: That looks correct, yes.

MS. KATHLEEN MCCANDLESS: And then the current mix as denoted by the orange dot at the top of the chart, that applies to -- currently applies to all business lines, the RSR and the pension fund and includes equities and alternatives; is that right?

MR. DAVID MAKARCHUK: Yes. It's somewhat unfortunate that there's three (3) orange dots on this page, but it's the orange one way off in the top right --

MS. KATHLEEN MCCANDLESS: Which states

current --

MR. DAVID MAKARCHUK: -- that you're referring to. Yes.

MS. KATHLEEN MCCANDLESS: Okay. And then the line representing the blue efficient frontier includes fixed income asset classes in current?

MR. DAVID MAKARCHUK: Yes. Not being able to read what we wrote in the green line, no -- I'm not sure what that said, but the blue line does appear to be the asset classes nominal with constraints maybe. Yeah, that's probably what that says there, right.

And so if you don't mind just rolling up so I can see what's in Basic 4 please. Stop a tiny bit -- or, sorry, I guess it's down. This way.

All right, there's some private debt in there. So, there was an additional constraint eventually that private debt would not be part of Basic which is why Basic d -- Basic 4 was higher than the other three (3).

MS. KATHLEEN MCCANDLESS: Okay.

MR. DAVID MAKARCHUK: So essentially the green line has private debt in it. The blue line does not have private debt, but it's otherwise the fixed income asset classes with which MPI currently invests.

MS. KATHLEEN MCCANDLESS: And the green light has private debt and mortgages?

MR. DAVID MAKARCHUK: Perhaps. I'd have to subject to check on that one, so. Mortgages generally didn't model very well. So if mortgages were included, it probably wouldn't move the line, from memory.

MS. KATHLEEN MCCANDLESS: Thank you. Now, I understand that after analyzing the stochastic projections and the summary results that it was Basic .3 that was recommended? And you can see it's referred to at the bottom of the page there.

MR. DAVID MAKARCHUK: Right, it's probably a culmination of a few different things, right. This is an efficient frontier projection. Subsequently there's charts that included stochastic projections as well. I think they all happened together. There was probably some discussion with MPI where we said, okay, well, here's the dollar implications, here's the percent implications.

But you're right, Basic 3 is the one that was ultimately agreed on as to what would be recommended to the investment committee to go forward.

MS. KATHLEEN MCCANDLESS: Right. And

just for the reference of the Board, Basic 3 is depicted at the bottom of the page, at least as far as a reference. So if we scroll, we see the current portfolio Basic 1, Basic 2, Basic 3 and Basic 4 as you mentioned.

MR. DAVID MAKARCHUK: Yep. Basic 3C in the chart.

MS. KATHLEEN MCCANDLESS: Now I understand that private debt was not included in the Basic claims' portfolio in order to limit risk within the portfolio.

MR. DAVID MAKARCHUK: Yes. It potentially is lower -- you'll see it's to the left here. It's actually lower risk so I'm not sure that -- say the question again because that may not have been a "yes" answer.

MS. KATHLEEN MCCANDLESS: Okay. So in order to limit risk to the Basic claims' portfolio private debt was not included, or is --

MR. DAVID MAKARCHUK: That's probably not the right reason. If you notice from the efficient frontier piece anyway and perhaps stochastic showed me something different, but Basic 4 which includes private debt is actually to the left of Basic 3, which means it had less volatility compared to liabilities then Basic 3. It was -- and I might need to look to MPI here for some help for my memory, perhaps, either for liquidity or for cost reasons.

Also the challenge on private debt is you don't know exactly what duration you're going to get until well into the implementation stage. And so I think that the way that MPI will ultimately deal with this on implementation is once they figure out what their private debt solution is, and it's going to take them a year or two (2) to really understand what duration they're getting out of the private debt piece, then they can use the provincials that they otherwise have to lengthened up or lengthened down to get to the duration objectives that are there.

So that's a long answer to no rather than yes.

MS. KATHLEEN MCCANDLESS: Thank you.

MR. GLENN BUNSTON: Maybe I could clarify that we are not planning to invest in private debt within the Basic claims' portfolio, and that was a risk appetite decision made by our investment committee.

MS. KATHLEEN MCCANDLESS: And if we go to the next page of this document, which is Appendix -- it's still Appendix X, but it's with respect to the rate stabilization reserves.

So this represents the efficient frontier for the RSR, yes?

MR. MARK GIESBRECHT: Yes, this is RSR.

MS. KATHLEEN MCCANDLESS: And the efficient frontier is based on an asset only approach?

MR. DAVID MAKARCHUK: Poss -- yes, because there's no -- there's no liability here.

MS. KATHLEEN MCCANDLESS: Right. And I understand that the line representing the blue efficient frontier includes all asset classes in current and current is in the table below.

MR. DAVID MAKARCHUK: Yes, this looks like probably something developed for the exact same time. There's a line with private debt and a line without private debt.

MS. KATHLEEN MCCANDLESS: And then the line representing the purple efficient frontier would include the classes shown in the table?

MR. DAVID MAKARCHUK: Probably, yes, with private debt probably being the only substantive addition. Oh, no, this is RSR. My apologies.

So -- okay, let me -- let me get back into my RSR space. Both lines include equities, the purple one also includes private debt.

MS. KATHLEEN MCCANDLESS: Thank you. And I understand that after analyzing the projections and summary results, that portfolio RSE-1 was selected.

MR. DAVID MAKARCHUK: From memory, as I scan down it, that looks like the one, correct.

MS. KATHLEEN MCCANDLESS: And I understand that's in part because of the high sharp ratio?

MR. DAVID MAKARCHUK: I think that would be one of the considerate factors. I think we talked about the conservative, the balance, the growth orientations that were otherwise here. I think there was some qualitative trade-offs as MPI looked -- this is probably one of the stochastic projections were probably more helpful as well, in terms of the dollar implications. Because again, we know they have a duration target here.

The Sharpe ratio being the ratio of the return relative to risk, if that's on the next page, we might see that it was the highest. Is that on the next page, perhaps? No, it's not.

It's quite plausible that one had the highest Sharpe ratio, but I don't have that in front of me at the moment.

MS. KATHLEEN MCCANDLESS: And so just to clarify for the record, the Sharpe ratio, because I did ask you about it, so the Sharpe ratio is the average return earned in excess of the risk-free rate per unit of volatility or total risk?

MR. DAVID MAKARCHUK: Right, it's the -- it's the ratio of return to risk. That technical definition is often times the one that's used. Occasionally it will just be the total return minus the total risk.

When we're doing things in an asset only space, we don't always subtract the risk-free return.

MS. KATHLEEN MCCANDLESS: Thank you. Now, with respect to the recommended portfolio for Basic, Mercer when it recommended the portfolio it was based on a -- based on a nominal interest rate, it found that the Basic 4 portfolio was preferred over Basic 3 from Mercer's perspective, yes?

MR. DAVID MAKARCHUK: Quantitatively Basic 4 was preferred over Basic 3, for sure.

MS. KATHLEEN MCCANDLESS: And that was because it provided similar levels of return to 3, but provided lower downside risk, is that right?

MR. DAVID MAKARCHUK: If you go up to the chart, just a little bit more, yes, similar level of return, a lower level of volatility.

MS. KATHLEEN MCCANDLESS: Thank you. So with respect to the stochastic modelling results, if we could go to Appendix 17 from the investment section, attachment B, which is Mercer's ALM phase II summary discussion. And page 19, which I believe is slide 18.

We heard from you this morning about a snapshot of MPI's basic liabilities, yes?

MR. DAVID MAKARCHUK: Correct, yes, we saw the slide.

MS. KATHLEEN MCCANDLESS: And so the approach followed by Mercer was to design a port -- a portfolio to meet liabilities with the characteristics that we see on the left-hand side of the page, yes?

MR. DAVID MAKARCHUK: Right, this is the nominal liability benchmark and so this was amongst the asset classes that were reasonable for the study.

We felt that a portfolio of 28 percent short provincial bonds, 18 percent midterm provincial bonds and 54 percent long-term provincial bonds would have a duration profile that was very similar to MPI's

Basic liabilities, assuming that they grow at 2 percent per annum, because of inflation.

MS. KATHLEEN MCCANDLESS: And at the bottom of the page at the right-hand side we see risk tolerance for Basic is very low if the RSR grows and future risk tolerance could increase.

Is that right?

MR. DAVID MAKARCHUK: Right, so that was a qualitative observation that MPI shared with us, was that given the overall capitalization of the Company at this point in time, the risk tolerance was very low.

If perhaps the Company had more capital to back, then perhaps there would be more risk tolerance going forward. But that was not reflected -- possible improvements in the RSR were not reflected in the asset recommendation from Basic, so far as I'm aware.

MS. KATHLEEN MCCANDLESS: Then if we turn to slide 19, which is page 20. These are the asset class objectives for Basic, and we heard a bit about this this morning as well. Yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And so I believe it's been well-established that the portfolio is designed to meet a very low-risk tolerance threshold, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And there are blanks for the return targets for one (1) year -- and for the one (1) year investment loss, yes?

MR. DAVID MAKARCHUK: Correct, yes.

MS. KATHLEEN MCCANDLESS: And were those parameters discussed with MPI at all in designing the portfolio?

MR. DAVID MAKARCHUK: They were in and so this is a slide out of, I believe, our November 28th investment committee meeting. This was part of the facilitation that happened as well. And this was part of -- and I think I presented these slides personally, but in front of the strategic committee from my perspective -- and this is hard for all strategic inv -- institutional investors, but to say, if we can articulate as investors what an unacceptable one (1) year loss is, then we can retrofit that to a good asset allocation.

Or if we can say, all right, we need 2 1/2 percent per annum or we need 3 percent per annum or we need 4, or we need 50 million on 1.79 billion, then we can retrofit to what we actually need in terms of a portfolio.

I think from memory we never actually filled those -- those blocks in. I have had this approach with many clients over the years. It's very rare that we can actually come up with a number here, but the point is to help make sure our strategic investors understand philosophically what we should be working toward, but these are really hard questions to answer sometimes, so. So no, they were never filled in, but you shouldn't feel bad about that, or you shouldn't -- everyone shouldn't feel bad about that.

MS. KATHLEEN MCCANDLESS: Thank you. Kristen, if we can go to slide 20, which is page 21 of the PDF on the same document.

So these are the asset mix options based on the stochastic modelling for the Basic portfolio, is that right?

MR. DAVID MAKARCHUK: Right, so these would have come out of the efficient frontier analysis. We talked about this a few minutes ago, these were the straw-dog portfolios that we did further analysis after the qualitative and quantitative learnings, and we did stochastic as well as efficient frontier analysis on these four (4) finalists, so to speak.

MS. KATHLEEN MCCANDLESS: And so the four (4) finalists are compared to the Basic portfolio which was currently held at the time?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And then Basic 1, Basic 2, Basic 3 and Basic 4?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: Basic 1, what does the minimum risk portfolio represent?

MR. DAVID MAKARCHUK: So this would be a portfolio and the reason it was chosen as a finalist where we said, all right, so if MPI wants to mitigate as much risk as possible, mitigate credit risk, mitigate liquidity risk, reasonably if you really want to mi -- mitigate liquidity risk you just go with federal bonds.

But if you want to have as little risk as possible, then that's why you might look at Basic .1. And then iteratively as we go across the page, we introduce additional levels of return enhancement and risk.

Do you want me to walk through the premise for each?

MS. KATHLEEN MCCANDLESS: That's fine, I'll have specific questions about some of these, thank you.

So the minimum risk portfolio at Basic 1, that's based on nominal interest rates, is that right?

MR. DAVID MAKARCHUK: Correct, all of the work for the November 28th committee was based on a nominal liability benchmark.

MS. KATHLEEN MCCANDLESS: And why does Basic 1 exclude MUSH bonds?

MR. DAVID MAKARCHUK: Because it was an illustration of how little risk one could have if we lived in what was somewhat of a hypothetical world, and in theory there is a market for every single security out there.

You may not like the price you get, but if -- I don't know enough about the MUSH bonds practically, but if MPI really wanted to sell the MUSH bonds, presumably someone out there would take them off their hands at some price. It was an illustration. It wasn't really practical.

MS. KATHLEEN MCCANDLESS: So how did Mercer determine the relative weightings of the fixed income components across the different portfolio options?

MR. DAVID MAKARCHUK: So this would've

been a meeting with MPI management/staff shortly after the October 28 efficient frontier where we would have had a back-and-forth.

It's quite plausible that we actually gave an empty spreadsheet to MPI and said, so guys, what do you want to do? What do you want to include here? And it would've been a collaborative discussion. Glenn might recall. I don't know whether Mercer went first or MPI went first, but we agreed on these four (4) finalists shortly after that meeting.

MS. KATHLEEN MCCANDLESS: Thank you. If we go to slide 22, which is page 23 of the PDF. So this is a chart depicting the expected surplus growth for Basic one-year projections.

I believe that's based on the stochastic modelling that was undertaken?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And could you just at a very high level explain what this table represents?

MR. DAVID MAKARCHUK: Sure. So now we are extending a lot of the concepts for efficient frontier -- excuse me -- to a dollar-oriented world where we take the opening assets, the opening liabilities, we project each of them based on the inherent assumptions for each asset class, as well as for each piece of the liability benchmark portfolio as well.

And so we have a distribution for the five (5) different options in terms of what we think the best estimate would be so the black square that you see on this page is the pictorial illustration of what we expect the one-year surplus growth to be. It is also highlighted in the purple box, or magenta box, near the bottom, in terms of the median or 50th percentile.

And so, across the different portfolios and I prefer the table, some people prefer the chart, but you see that the current surplus growth was expected at $27 million per annum. Basic 1 practically would be zero because the assets essentially are the liabilities. This is Basic 2, an increment of 2 million, 6.4 for Basic 3, 5.9 for Basic 4. So that one is actually a little bit lower. Once we got to the -- the stochastic projection.

We see in this chart also a dollar illustration of the downside, as well as the upside. And so you see in the current, while the current best estimate is higher, the downside is significantly lower.

And so different investors have different downsides they like to consider.  The highlighted box here is on the 2 1/2 percentile range, so a 5th percentile is generally a 1:20 result, and 2 1/2 was kind of a 1:40 result.

But you see that in -- in --  in that downside there the current portfolio potentially could lose $119 million, relative to liabilities based on the assumptions that are inherent in the model.

The recommended portfolio, which is Basic 3, the downside is still negative, but a lot less at $38 1/2 million.

On the upside it's somewhat symmetric. It could be as strong as $46 million.  But generally this puts into dollar context some of the considerations that -- and the learnings from the efficient frontier piece, so.

MS. KATHLEEN MCCANDLESS:   And so we see at the table at the bottom, if we compare the results for Basic 3 and Basic 4.

MR. DAVID MAKARCHUK:   Yep.

MS. KATHLEEN MCCANDLESS:   At the median or 50th percentile the return for Basic 3 is $6.4 million, yes?

MR. DAVID MAKARCHUK:   Expected growth

and surplus, correct.

MS. KATHLEEN MCCANDLESS: And for Basic 4 it's $5.9 million?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: So relatively close in expected growth?

MR. DAVID MAKARCHUK: Yes.

MS. KATHLEEN MCCANDLESS: And then for the 2.5 percentile at the bottom, so the downside risk, we see for Basic 3 it's a loss of 38.5 million?

MR. DAVID MAKARCHUK: M-hm.

MS. KATHLEEN MCCANDLESS: And compared to Basic 4, which is a loss of 23.9 million, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: Thank you.

MR. DAVID MAKARCHUK: So this puts into dollar context what we saw in that efficient frontier page a little bit earlier, that Basic 4 probably is less risky in the modelling perspective, but it is a slightly lower return, I think it was pretty close on the efficient frontier.

MS. KATHLEEN MCCANDLESS: Thank you.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: So, if we could go to slide 21, which is at page 22. I believe this is a table that is reflected in the graph that we just reviewed. Is that right?

MR. DAVID MAKARCHUK: Correct. There's some efficient frontier numbers in here and there's some stochastic numbers. Those kind of headline slide.

MS. KATHLEEN MCCANDLESS: Okay. Thank you. So, we can see at the top of the table for expected return, Basic 3 optimizes one-year return at 3.12 percent, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And so, when compared to the current mix, at the left-hand side of the table, it's lower. The current mix is 4.29 percent, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And the return is lower with respect to Basic 3 because they are no growth as -- assets in the proposed portfolio, as compared with what's in the current mix, yes?

MR. DAVID MAKARCHUK: That's the primary driver of the fixed income slightly different, as well.

MS. KATHLEEN MCCANDLESS: What is meant by one (1) year surplus volatilities, so the third line down in purple?

MR. DAVID MAKARCHUK: Sure. So, one (1) year surplus volatility is the -- when we considered the volatility of the assets in the Basic 1, 2, 3, or 4 portfolio, relative to the liabilities, the liability benchmark in this case, the nominal one in this case, it is the expected standard deviation of the surplus volatility one year out.

So, you'll see in Basic 1 that that number is zero, because it's the exact same asset portfolio as the liability benchmark. And you'll see that incrementally, there is slightly higher volatility. Those numbers probably should be the exact same as the efficient frontier chart that we saw maybe fifteen (15) minutes ago in the green and the blue bars there.

MS. KATHLEEN MCCANDLESS: And so with respect to Basic 3, the value is significantly lower than the current mix; 1.32 percent for Basic 3 versus 4.06 percent for the current mix, yeah?

MR. DAVID MAKARCHUK: Absolutely, yes.

MS. KATHLEEN MCCANDLESS: But it is the highest among the four (4) portfolio options reviewed, yes?

MR. DAVID MAKARCHUK: Correct, like the expected return.

MS. KATHLEEN MCCANDLESS: Yes.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: Kristen, could you please pull up PUB MPI 1-85, page 2?

So, in this IR, MPI was asked for a narrative description of the results of the asset mix analysis that was presented in the slides that we just reviewed, and the answer at page 2 under heading page 3 -- 23, is that MPI has indicated that Basic 3 portfolios, so the 1:40 downside -- year downside risks so the 2.5th percentile is tolerable.

From your perspective, Mr. Makarchuk, can you comment on what would be meant by tolerable when you consider the difference in risk with the Basic .4 portfolio?

MR. DAVID MAKARCHUK: I would suggest that it's for MPI, not for Mercer to opine on.

MS. KATHLEEN MCCANDLESS: Thank you. Mr. Bunston, can you provide any comment on that?

(BRIEF PAUSE)

MR. GLENN BUNSTON: Are you referring to the 97.5 percent VaR number?

MS. KATHLEEN MCCANDLESS: Pardon me, slide 22, so page 23 of the PDF. So, the 2.5th percentile.

MR. GLENN BUNSTON: That's probably technically the delta. If you go back up one slide, at 22. It's probably the -- I think specifically, it's the 45 million that you were referring to in the question, right? The difference between the median and the downside.

I only defer to MPI here because it's not for me to judge what's tolerable; I think it's for them.

MS. KATHLEEN MCCANDLESS: And that was why I asked the question as to whether you -- Mercer was able to comment. Thank you.

(BRIEF PAUSE)

MR. GLENN BUNSTON: So, to answer your question, the -- the Basic 4 portfolio includes an allocation of private debt, and our investment committee decided they were uncomfortable with making allocations to private debt.

So, notwithstanding the -- the VaR numbers shown here being higher for the Basic 3 portfolio, they were just not comfortable with private debt as an asset class and making allocations to private debt. And so, the Basic 3 portfolio has the highest expected return here. It does have higher surplus volatility, and the VaR ratios are somewhat higher for the Basic 3 portfolio.

If we look over a longer term at the bottom of the page, we have five (5) year projections there. And so, it shows the probability of -- of a positive real return over five (5) years being slightly higher for the Basic 3 portfolio. And the probability of surplus in five (5) years being slightly lower for the Basic 3 portfolio.

So, it was a -- really a risk decision based on the -- the committee's appetite in terms of asset classes they were comfortable investing in.

MS. KATHLEEN MCCANDLESS: If we could please go to slide 23 from Appendix 17.

So, this is the expected surplus growth for Basic on a five (5) year projection. And so, just following on my question, Mr. -- or your answer, Mr.

Bunston, the table at the bottom I believe represents the downside risk on a five (5) year basis and we can compare Basic 3 and Basic 4. At the median we see the growth at 32.3 million for Basic 3 and 29.6 million for Basic 4, yes?

MR. GLENN BUNSTON: Yes, that's correct.

MS. KATHLEEN MCCANDLESS: And then the downside risk at the very bottom of the table, we have a loss of $78.3 million for Basic 3 as compared to $43.1 million loss or Basic 4, yes?

MR. GLENN BUNSTON: That's correct.

MS. KATHLEEN MCCANDLESS: And so, again, the downside risk with respect to Basic 3 from the Corporation's perspective is tolerable?

MR. GLENN BUNSTON: I think it is. Bec -- the downside there is a -- is a 9 -- at a 97.5 percent confidence interval, so this would be a -- an extreme event and a -- a very -- a rare event. So, I think it's something that they we're comfortable with.

MS. KATHLEEN MCCANDLESS: So, if we go back to the IR response that we were just reviewing.

So, the response here rege -- relates, pardon me, to the projected surplus in one (1) year, yes?

MR. GLENN BUNSTON: You're referring to the last line in the...

MS. KATHLEEN MCCANDLESS: Yes.

MR. GLENN BUNSTON: ...last paragraph?

MS. KATHLEEN MCCANDLESS: Yes.

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And so, the Corporation repeat the same comment with respect to the five (5) year projection then?

MR. GLENN BUNSTON: Yes.

MS. KATHLEEN MCCANDLESS: Thank you.

(BRIEF PAUSE)

MS. KATHLEEN MCCANDLESS: Kristen, could you please pull up PUB MPI-1-34?

And at this IR, at the question, the Corporation was asked to provide any support for the Board's discussion, analysis conclusion, et cetera that resulted in private debt, leverage bond funds, and diversified growth funds being excluded from consideration of all portfolios, yes?

MR. GLENN BUNSTON: Yes, that's right.

MS. KATHLEEN MCCANDLESS: And then if we go to the response at the very end, last paragraph, it states that:

> "The Board of Directors' risk tolerances is shaped by the regulatory environment, the purpose of each of the funds and the requirement to avoid negatively affecting the province's consolidated financial statements."

Yes?

MR. GLENN BUNSTON: Correct.

MS. KATHLEEN MCCANDLESS: And so, can you outline, bearing this in mind, MPI's risk tolerance and how it was determined?

(BRIEF PAUSE)

MR. GLENN BUNSTON: So, our investment committee and Board of Directors, their priority in terms of the Basic claims' portfolio was to -- to ensure that we had the capital available to pay claims as they come due, and earning a return was secondary to -- to that goal.

And so, they -- they wanted to try to manage -- to minimize the nominal interest rate risk, which is why the portfolio's a hundred percent invested in fixed income.

And, they just -- they weren't interested in investing in private debt. There was a perception that private debt pro -- provided -- was a risky asset class, and so despite the fact that the this analysis shows that possibly for correlation reasons that adding private debt may have been beneficial, the investment committee members were not comfortable with private debt as an asset class and so it was excluded.

MS. KATHLEEN MCCANDLESS: Thank you. My last few questions are for Mr. Makarchuk.

MPI's claims liabilities are indexed, so, there is some exposure to inflation there, yes?

MR. DAVID MAKARCHUK: Correct.

MS. KATHLEEN MCCANDLESS: And based on your knowledge of the -- MPI's current proposed claims liability portfolio, what is the level of protection from inflation that's afforded?

MR. DAVID MAKARCHUK: From memory, it's -- I'll need MPI to clarify. I believe that it's either tied to Manitoba CPI, sometimes average industrial wage. I believe it's -- where it's provided, it's pretty much full, CPI. Although I'd appreciate a refresher from MPI for the record.

MR. LUKE JOHNSTON: Yeah, a significant portion would be tied to Manitoba's CPI, but there's other benefits that are tied to industrial average wage, but I would say the -- the vast majority would be Manitoba's -- like, so, income replacement benefits indexation.

MS. KATHLEEN MCCANDLESS: Thank you. Mr. Makarchuk, then, bearing that in mind, to have some protection, would Mercer recommend some exposure to real estate or inf -- infrastructure?

MR. DAVID MAKARCHUK: If an investor indicated to me that protecting themselves to inflation risk was a priority, my first recommendation would be real return bonds as a starting point.

Real estate and infrastructure have some inflation-linked capacity, but not near as much as real return bonds do. They should provide it with some return enhancement as well, but especially for infrastructure, you're not going to find any infrastructure project that pays Manitoba CPI and tough to find anything with Canadian CPI. So, they're other global, and while there might be good inflation-linked global infrastructure projects out there, very few of them, practically probably none of them, are Canadian CPI linked.

So, the starting point would be real return bonds. If they were a growth-motivated investor, then I would tilt -- recommend tilting their growth portfolio towards real estate infrastructure, and things like that, but MPI and Basic, in particular, didn't fit a profile of an investor that was growth-oriented. So, we didn't really go very far with the real estate or infrastructure conversations.

MS. KATHLEEN MCCANDLESS: Thank you. Those are my questions for you, Mr. Makarchuk. Thank you very much.

It is now just about 4 past 5:00 and, I'll be moving into capital maintenance provision, RSR, and DCAT tomorrow so.

THE CHAIRPERSON: Thank you. We will adjourn right down 'til nine o'clock tomorrow morning. Thank you.

--- Upon adjourning at 4:03 p.m.

Certified correct,

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Cheryl Lavigne