MANITOBA PUBLIC UTILITIES BOARD

Re: PUBLIC HEARING

RE: MANITOBA PUBLIC INSURANCE

GENERAL RATE APPLICATION

FOR THE 2013/14 INSURANCE YEAR

Before Board Panel:

Regis Gosselin - Board Chairman

Karen Botting - Board Member

Anita Neville - Board Member

HELD AT:

Public Utilities Board

400, 330 Portage Avenue

Winnipeg, Manitoba

October 18, 2012

Pages 1353 to 1541

APPEARANCES

| | |
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--- Upon commencing at 9:55 a.m.

THE CHAIRPERSON: I believe that everybody's in position. I have an inkling of what a groom at the alter must feel like. So without further adieu, we'll proceed with today's deliberations. I believe we have some documents to table?

MPI PANEL RESUMED:

MARILYNN MCLAREN, Resumed

HEATHER REICHERT, Resumed

LUKE JOHNSTON, Resumed

MS. KATHY KALINOWSKY: Sure, I can speak to that. We have a peer review that was filed electronically yesterday. And I circulated it in advance on Tuesday to board counsel and also to CAC's counsel right away, as soon as it was signed. And would like to have that marked as exhibit 31 for MPI.

--- EXHIBIT NO. MPI-31: Peer Review

MS. KATHY KALINOWSKY: And Mr. Johnston will be speaking to that, but prior to speaking to that, Mr. Johnston did want to respond to a question that you asked Mr. Chair. And it's in respect of ORVs. And it wasn't an undertaking, but he said he would look into it. So if that's acceptable to everybody -- and I see some nods here -- he can speak to that first, and then he will talk about the peer review.

MR. LUKE JOHNSTON: Thank you. So on page 883 of the October 1st transcripts, we were asked, basically, for information on collisions involving ORVs operated by minors. And so, two (2) -- two (2) items here.

I can confirm that we do know the age of the driver in the majority of these claims, about 89 percent of them.

And anticipating a possible next question, for Basic ORV claims in the past five (5) years, there were six (6) claims for drivers under age fourteen (14), compared to a total of two hundred and thirty-six (236) claims with age data, just to give you an idea of the proportion.

MS. KATHY KALINOWSKY: Thank you. And unless there's any questions on that, Mr. Johnston would like to address the issue of the peer review that was just filed and marked as Exhibit number 31.

MR. LUKE JOHNSTON: Okay. In regards to the -- the peer review done by Joe Cheng, I'll start by saying that I thought, first of all, that the -- Joe Cheng & Partners did a very excellent job on the peer review. They asked me a lot of questions, which is a lot of work, but I thought they did a very thorough review of our report.

Turning to page 3, you'll see that the -- the purpose of the engagement is to conduct an external actuary -- actuarial review of the DCAT report prepared by -- by myself in accordance with standards published by the Actuarial Standards Board in Canada.

And on the bottom of page 3, Mr. Cheng's contact information is there for your information. On page 4, the scope is outlined, and I'll read those in briefly. The:

"1. To ascertain that the work of the chief actuary was in -- within the range of accepted actuarial practice in Canada.

"2. To review the appropriate -- appropriateness of the assumptions and the methods employed.

"3. Determine whether the DCAT report accurately describes the assumptions and methodology employed by the chief actuary."

And:

"4. To review the adequacy of procedures, systems, and the work of others relied on by the chief actuary. This includes checks on data integrity and checks on procedures and methodologies used to validate the calculations and results."

The -- the key section in the report is obviously the findings and recommendations, and I'll -- I'll just go through those at a high level. And I'll start with that.

The -- number 1 states that the dec -- decline in equity market scenario that the -- that the selection I made in the report was based on four (4) year data using the TSX from 1919 to present. Mr. Cheng notes that we should also review the financial condition annually.

And I can say that we do look at that. But as we discussed in the hearings, the four (4) year was selected, as it was believed to be both plausible and the most adverse. So in light of this recommendation, we will seek to pro -- provide mul -- multiple year impacts -- one (1) year, two (2) year, three (3) year -- in future reports for the Board's information. Number 2, it says:

"The decline in equity market scenario, the 40 percent decline, is based on the approximate 95th percentile of cumulative four (4) year returns on the TSX."

As we've discussed. Mr. Cheng notes that normally actuaries would select the 95th to 99th percentile range and that I did not. We have discussed in -- in these hearings why I did not select either the 5th -- the 95th or -- or higher percentile. I -- I also provided a -- Professor Simpson's evidence in regards to equities to Mr. Cheng so he -- he could have that perspective as well.

In addition to that, we discussed briefly the increased volatility of the current stock market. It was also a concern to Mr. Cheng. And it is my understanding that Mr. Cheng would normally use a decline in equity scenario of at least this magnitude, in combination with other asset impacts.

Number 3, following that same topic, Mr. Cheng notes that investment risk comes, obviously, from a variety of sources, not just equities. He would like to see a combined scenario that includes all asset types in the DCAT. The -- the main reason that we did not do that in the MPI DCAT is, first of all, we have an asset liability management strategy that we believe is very reliable.

We believe that the -- the com -- by combining real estate with our equity portfolio that we don't assu -- recognizing the correlations between the two (2) asset categories, that we don't have a significant increase in risk relative to what the equity scenario presents. And it's also a -- a combined asset model is very difficult to -- to model, as well. But, a -- a good recommendation and we'll look at that for next year's report.

Number 4, suggests that -- I'll read it in:

> "Most scenarios with major changes in expected claims should include a review of deferred policy acquisition expenses. Such a review often results in a write-down of deferred policy acquisition expenses, or even a premium deficiency."

Mr. Cheng is definitely correct in this regard. We did -- if our unearned premiums are not enough to cover our losses and expenses in a particular scenario, we -- we could have a premium deficiency. So that would height -- that would increase the impact of a -- the loss ratio scenario, but not to a -- a sig -- like, a very significant extent. I would estimate the -- the impacts would be less than $10 million. But definitely a valid consideration, which we'll include in future reports.

Number 5, many items on the statement of operations that affect the net income are calculated using -- using figures found in the statement of financial position. Mr. Cheng notes that he requested various figures from us to -- to understand our forecast and in terms of his review. But he would like to see proj -- forecasts of our financial position, projected balance sheets, et cetera. And I can tell you we are definitely working on that functionality, hopefully, for next year's DCAT.

Number 6, it states:

"As Basic auto has long-term liabilities, it is always prudent to stress-test a scenario in which its claims revision is understated."

So in the -- in the DCAT, I -- I have a fairly -- fairly lengthy section explaining why it was my opinion that the claim liabilities were not a top three (3) risk. And a few of the reasons are the relative stability of our reserving patterns, our asset liability management strategy, and the expectation that any changes will be gradually recognized.

That said, Mr. Cheng believes that this risk, even if it seems fairly arbitrary in terms of 10 percent, 20 percent, he believes it's important to at least include a -- a minimum, a 10 percent potential deviation in the DCAT report. That would not be the top scenario in the DCAT as the DCAT is currently prepared. It would be about 140 million, but we'll note that point for next year's review.

Finally, the -- the issue of AOCI. Mr. Cheng states the definition of a satisfactory future financial condition used in my report. He states that:

> "I believe the threshold for failing this test should include monies available under accumulated other comprehensive income section of total equity, not just the RSR."

So we talked a little bit yesterday about AOCI. Clearly, in -- in my report, my focus has been on the rate stabilization reserve. Mr. Chair spoke of AOCI being "soft" in some cases. We -- definitely when we're looking at surcharge or rebate decisions I -- I think you definitely want to look at the AOCI.

However, I think in terms of the RSR, what we do in the DCAT with the actual recognition of losses, and which allows for some recovery from a stock market crash for example, in my opinion that's the most appropriate way to -- to quantify the -- the RSR requirements.

If we had a very significant single year impact, we would have substantial unrealized losses in a given year. I wouldn't -- it's my opinion that I wouldn't expect the -- the Board to immediately issue a surcharge without seeing the recovery or realization of losses.

The -- at the bottom of the page, Mr. -- Mr. Cheng notes that -- that:

> "MPI and the regulators should consider AOCI when determining satisfactory financial condition, and when dec -- when deciding whether to issue rebates and/or surcharges, and MPI should includes these forecasts in their DCAT."

So that's basically what -- what we've discussed. Just above that, Mr. Cheng notes -- states:

"Based on my modelling that the -- the total equity remains greater than zero in all adverse scenarios tested."

And as we've previously discussed, as -- as of year end we were holding two hundred (200) -- well, $210 million in Basic retained earnings which, of course, is higher than the -- the DCAT recommendations. So that -- that is definitely true, assuming no rebate.

Turning to page 7, the signed opinion from Joe Cheng is included on this page and the opinion states that the -- 1:

"The -- the work of the chief actuary is within the range of accepted actuary practice in Canada."

2. He believes that:

"The assumptions and methods employed are appropriate."

3. Mr. Cheng's opinion is that:

"The -- the DCAT accurately describes the assumptions and methodology employed by the chief actuary."

And finally that:

"The procedure and systems relied on by the chief actuary are adequate and

sufficient to ensure an appropriate
level of data integrity, and the
accuracy of calculations and
results."

That is the most important sections of the report, in my opinion. The -- the remaining pages are there for your information and questions.

THE CHAIRPERSON: I have a few questions. In relation to the -- item number 6 on page 6. It talks about scenarios which involve an understatement of claims provisions by a reasonably high percent.

Now am I wrong to assume here that the kind of thing we're talking about would be, for example, a change in PIPP coverage instituted by legislature that suddenly dramatically increases your liability exposure? Is that the kind of thing that...?

MR. LUKE JOHNSTON: I -- I do have -- in the DCAT there's a separate risk section that describes government and political action. And my opinion in the report was that the -- our expectation is that the government wouldn't impose such a change on us that would put us into, you know, a negative or a very difficult RSR position.

THE CHAIRPERSON: Would that encompass

as well a court decision that has repercussions on other claims? In other words a court decision that says, You're ex -- you're liable for this particular exposure, and has the implication that other claimants would be able to seek redress from MPIC under the same precedent?

(BRIEF PAUSE)

MR. LUKE JOHNSTON: In -- in my opinion again there's nothing of that nature that I would expect to apply -- be applicable to the Basic program or produce such a significant impact to -- to make this a -- like a top three (3) or four (4) risk factor.

MS. KATHY KALINOWSKY: If I could just add to that, perhaps for your clarification, you asked if there would be any court decision. Under, I think it's Section 72 of the MPIC Act says that there's tort action to be pursued in any court.

So that's a complete no-fault system now for bodily injury. So if there are any appeals with respect to decisions on benefits that MPI makes, those go externally to the tribunal, which is the Automobile Injury Compensation Appeals Commission. So it's just a slight clarification there.

(BRIEF PAUSE)

THE CHAIRPERSON: That's it for questions from the panel. So I guess we turn it back to you, Ms. Grammond.

RE-CROSS-EXAMINATION BY MS. CANDACE GRAMMOND:

MS. CANDACE GRAMMOND: Thank you, Mr. Chairman. I do have a few questions for Mr. Johnston with respect to the peer review. So firstly, if we look at page...

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Does that sound better? Okay. I feel like I sound really loud, but I'll just keep going. So, Mr. Johnston, page 4 of the report, this is the section entitled, "Scope," "Scope of the Report." And I appreciate that you read in what appears there in your earlier evidence.

Would you agree that the description seen here of the scope of review is described accurately?

MR. LUKE JOHNSTON: Yes, I would.

MS. CANDACE GRAMMOND: And can you tell

us whether there were any instructions or limitations communicated to Mr. Cheng, which might have constrained the intensity of his review in any way?

MR. LUKE JOHNSTON: Not at all, just that the -- the peer review would be done as per actuarial standards of practice.

MS. CANDACE GRAMMOND: So is it your understanding then that actuarial standards of practice would have determined the intensity of the review that Mr. Cheng would have deemed appropriate?

MR. LUKE JOHNSTON: Yes. The signed opinion would have followed the standards around reviewing other actuaries work.

MS. CANDACE GRAMMOND: And can you tell us who made the decision to engage Mr. Cheng to undertake a review of the DCAT?

(BRIEF PAUSE)

MR. LUKE JOHNSTON: The -- a peer review was also done of the DCAT, when Ernst & Young was our appointed actuary. When we brought the DCAT in-house, we made the decision that a peer review was a good idea given that this would be the first in-house DCAT we've ever done. So that external act --

actuarial opinion was important, both for this process and for my education.

MS. CANDACE GRAMMOND: So should the Board expect to see this type of external review done for future DCATs as well?

MR. LUKE JOHNSTON: Yes.

MS. CANDACE GRAMMOND: Okay. I'll ask you then to turn over the page to page 5 of the report where we have the findings and recommendation section. My first question relates to the preamble under that heading where there's reference to correspondence to you, Mr. Johnston, dated October 11th, 2012.

Can you tell us whether there were any matters raised in that correspondence that are not fully discussed in this report?

MR. LUKE JOHNSTON: The -- the -- really, the only discussion that we had -- clearly we had many discussions while the review was being done. We had some discussions around AOCI and his understanding of -- from his perspective why that was so important in terms of the RSR target.

And I just basically explained my view as to why I don't believe that that should be used in just establishing our RSR target. But again, he believes that that's an appropriate consideration and wanted to leave that recommendation in the report.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: So would it be fair to say with respect to that piece that you and Mr. Cheng agreed to disagree?

MR. LUKE JOHNSTON: Yeah, I -- I think it's fair to say that we didn't fully align on several of these recommendations. As I went through this, you could see that I didn't necessarily do exactly what he would have done. But in explaining my methodology, he does believe it's within accepted actuarial practice, but he -- he has some recommendations to how to possibly improve that.

MS. CANDACE GRAMMOND: Okay, looking then to recommendation number 1 on page 5. This is where Mr. Cheng has recommended consideration of one (1) year returns in the equity decline adverse scenario.

Can you tell us about your understanding for his rationale with respect to that recommendation?

MR. LUKE JOHNSTON: I don't want to speak completely for Mr. Cheng, but my understanding of our discussions is that he would like to see the -- the full range of outcomes under one (1) to four (4) year type of scenarios. Again, I explained to him why I selected the four (4) year.

But his point, and again recognizing his belief of inclusion -- including AOCI, one (1) year scenarios have been more extreme than the four (4) year type of scenario that I've -- I've used. And, again, that four (4) year scenario was intended to, again, allow the recognition of losses and -- and recovery of the stock market. If -- if I used single-year events, I'd definitely get bigger impacts, but we'd probably be arguing here that those impacts are not as relevant if we immediately recover from them.

(BRIEF PAUSE)

THE CHAIRPERSON: Can I ask a question, a follow-up question? I guess I -- I think I understand the -- the arguments here from both sides.

In the scenario where you're con -- you're -- you're entrusting the management of a stock portfolio to outside contractors through the department, are they able to say, We're going to close out the position, without consulting you?

MS. MARILYN MCLAREN: Yes, the

investment managers make independent decisions in their best judgment about the portfolio that -- that they are managing. They do not consult with the Department of Finance or MPI on any individual trading decisions at all.

MS. CANDACE GRAMMOND: Mr. Johnston, just with respect to this issue that we've been discussing in Mr. Cheng's report, can you confirm that -- your understanding that it's his view that the assumed 40 percent decline in equities is reasonable and that he would combine a decline of at least 40 percent with declines in other assets as well?

MR. LUKE JOHNSTON: Yes, that's my understanding, that he would typically look at a -- a large equity decline similar to the 40 percent, but also include declines in real estate and changes to interest rates.

MS. CANDACE GRAMMOND: I just want to clarify, Mr. Johnston, in -- in the answer that you just gave, you used the word "similar". Previously, I think you said the phrase "at least".

Can you just clarify for us those two (2) different words?

MR. LUKE JOHNSTON: Yeah, I -- I just want to be careful not to speak too much for Mr. Cheng.

I'm -- I'm discussing conversations we had, in terms of his review of this scenario. So, again, my understanding of the scenario that he would typically run includes equity decline; a real estate decline, not necessarily of the same magnitude, but also significant; and changes in interest rates.

MS. CANDACE GRAMMOND: Thank you. Now, Mr. Johnston, with respect to recommendation 3 that we see on page 5, Mr. Cheng has recommended the testing of an integrated adverse scenario modelling with declines in all major asset categories, including consideration of correlations.

Given your familiarity with the Corporation's investment portfolio and risk profile, how would you expect the significance of this recommended adverse scenario to compare to the equity decline scenario that we have in the DCAT before us?

MR. LUKE JOHNSTON: So, first off, we have discussed this particular type of model in -- in great detail internally, and it does present many difficulties especially when you're talking about correlations between different asset categories, some of which don't necessarily have a great -- a great deal of data.

We're also having this debate at the

hearings right now in terms of, you know, what period is appropriate to use. And these are all -- all things that we'd have to go back and really digest and understand.

As I've stated al -- already, my rationale for leaving out interest rates was that I expect those -- any interest rate type impacts to be largely offset. And also our review of real estate data of -- that I had didn't indicate a very strong positive correlation with equities. But I do agree that there could be some correlation and -- and possibly more -- a stronger correlation in terms of extreme volatility, for example.

So we'll -- we'll look at this in more detail. Also in light of all the discussions we've had here about equities.

MS. CANDACE GRAMMOND: So is it fair to say then, Mr. Johnston, that pending that review, we don't really know what the -- what a comparison would be, in terms -- terms of the current DCAT?

(BRIEF PAUSE)

MR. LUKE JOHNSTON: If -- if I added a real estate impact decline to the existing scenario, it would clearly make the -- make it increase. If I also included a interest rate impact that was largely offset but net unfavourable to the Corporation, that would also increase the impact.

Again -- but again, just to be fair, I -- I haven't reviewed that in detail. My expectation would be larger but -- but I'll leave it at that.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Now, Mr. Johnston, if -- if the additional asset categories are being added into the mix would there not be a corresponding offset with respect to the equity category, given that the likelihood of both events happening at the same time would be less?

(BRIEF PAUSE)

MR. LUKE JOHNSTON: Yeah. It -- it's hard for me to say again without looking at -- at all the data. I'd have to look at some of these extreme scenarios and perhaps in -- in significant declines there's also been examples where real estate also declined but I -- I'm not prepared to -- to say for sure what would happen there.

In -- when -- when we presented the combined scenario, for example, with hail and claims and equities the -- assuming independence the -- clearly sometimes a bad equity year is going to be combined with a good claims year, and -- and the equity decline wasn't as big in that -- in that scenario.

So that -- that would make sense.

How these particular items behave together -- I know hail claims and equity loses are independent; I don't have to review that. This requires extensive review, especially when your looking at extreme events.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Would you agree though, Mr. Johnston, that in principle, the plausibility level for this scenario would stay the same? You're just making some adjustments within.

MR. LUKE JOHNSTON: Yeah, like if we called it, say, the asset deterioration scenario, the desired probability for DCAT again would be within that 95th to 99th percentile.

And if we created such a model based on

discussions we've had at this hearing, it would be my expectation that I'd show the full range of outcomes in that tail so everybody understands what kind of range we're looking at.

MS. CANDACE GRAMMOND: Thank you. Mr. Johnston, moving then to recommendation number 4, which is at the bottom of page 5, we see Mr. Cheng recommending the modelling of the ripple affect of changes in expected claims on deferred policy acquisition expenses and the possible requirement for a premium deficiency reverse. You indicated early, I believe, that your estimated impact with respect to this recommendation would be less than 10 million.

Is that fair to say, in terms of the expected significance of this suggestion?

MR. LUKE JOHNSTON: This -- this one is a little bit difficult to quantify, because we don't have this built into our financial modelling. But we do have a consistent method for calculating potential premium deficiency in the actuarial review. And that method uses three (3) years of data, takes averages.

And -- so the -- looking at those calculations, even if we had, say, a 10 to 15 percent increase in the loss ratio, that would be averaged over several years. And just ball-parking it, I wouldn't expect a -- a very significant impact; relevant but not -- I wouldn't expect it to be more than 10 million.

MS. CANDACE GRAMMOND: Thank you. With respect to recommendation number 6, which we find on page 6, we see Mr. Cheng recommending stress-testing of an adverse scenario involving unfavourable runoff of the claims provision.

Can you tell us how that recommendation compares to the testing done in the current DCAT with respect to underestimation of policy liability risk?

MR. LUKE JOHNSTON: This -- this one is difficult for the reasons which we've spoke of here. Long-term PIPP liabilities, we don't know with any certainty how they're going to turn out forty (40) years down the road.

We are confident in our reserving practices and how -- how they've been performing. The -- that said, Mr. Cheng here is -- Mr. Cheng is stating here that just because you can't necessarily quantify a risk doesn't -- doesn't mean it's not a risk still. So he is suggestion stress-testing. And it would be difficult for me to prove to this Board that 10 percent is the one (1) and forty (40) year event.

But in Mr. Cheng's view, it's my understanding that looking at the nature of the liabilities and the -- and in our in case, very long term, he would expect that at minimum he would stress-test 10 percent. And apparently he often goes higher, but that depends on the companies, which of course I'm -- I'm not aware of.

MS. CANDACE GRAMMOND: Now, has the Corporation investigated the use of reserve variability modelling tools as a means of selecting assumptions for an adverse scenario testing policy liabilities risk?

MR. LUKE JOHNSTON: We've -- we've done res - - res -- or, attempted to do reserve modelling. Our long-term liabilities rely almost completely on our life expectancy, our mor -- mortality assumptions. And it's very difficult to know if your model -- how to -- how to simulate that model with such a different, nonhomogeneous group of claimants, anything from chronic pain to quadriplegic claimants.

What we do know, and I've -- I mentioned this in the DCAT, is that our claims appear to be closing slightly faster than our mortality table. So we're -- and we've -- we've talked about this in the liability reviews. We're getting slightly favourable development. So that tells me that I can be comfortable with the -- with the results. And what we're doing in this -- this unknown tail period is gradually recognizing that -- that experience.

So we've tried, but getting something meaningful from that, I haven't been able to come up with anything yet that I -- I think would be suitable to present to the Board to really give them a lot of confidence that this is like a one (1) in forty (40) year event.

MS. CANDACE GRAMMOND: Thank you. Moving then to recommendation number 7, which we've talked about a little bit. This is where we see Mr. Cheng recommending the inclusion of AOCI with the Basic RSR when assessing satisfactory financial condition and when deciding on the need for rebates or surcharges.

What is your understanding of Mr. Cheng's rationale for this recommendation?

MR. LUKE JOHNSTON: I -- I think it's -- it's reasonable for Mr. Cheng to say, for example, say the -- the Corporation has 50 million and the RSR is already in a difficult position, but we have -- also have a large amount of unrealized losses in AOCI. Clearly, we're not in a very good financial position.

On -- on the other spectrum, which we've talked about as well, we also have positive AOCI at times. So maybe we're a little bit below the RSR target, but we have substantial positive AOCI. So my understanding is that while he understands that I am doing this DCAT in rel -- in relation to the rules in this province, our RSR target, all of that, he just wants to be clear that there is this other AOCI item that's very important and should be considered when you're assessing the overall finical condition of MPI.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Mr. Johnston, did you discuss with Mr. Cheng that the Corporation had positive AOCI of about 58 million as of year-end 2012?

MR. LUKE JOHNSTON: Yes. Mr. Cheng is awa -- is aware of that and he discussed that when -- when he -- he has his own internal model that he runs all of our numbers through as well. And he did mention that we had a positive AOCI and -- projected under the base scenario, would have positive AOCI, and why we wouldn't consider that in the -- in satisfactory financial condition.

And again, he's noted that there -- and the -- of course the flip side is the -- the negative position and whether either should generate rebates or surcharges in light of this province's RSR target and the reason for having it.

MS. CANDACE GRAMMOND: Okay. Now in recommendation 7 in the first paragraph, last sentence -- and you referred to this earlier, Mr. Johnston -- Mr. Cheng states that, based on his modelling:

"The total equity remains greater than zero in all adverse scenarios tested."

Can you tell us, what are the implications of this recommendation for the conclusions in the current DCAT, all other things being equal?

MR. LUKE JOHNSTON: If -- if the Corporation was able -- or -- or if the -- if there's no rebate ordered, the Corporation would not expect its RSR to fall below zero in any of the adverse scenarios tested. And, again, that's because we're starting at a retained earnings level greater than what we're saying is required by the DCAT.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Okay. Mr. Johnston, I'm going to leave, then, Mr. Cheng's recommendation and -- recommendations, and I just have a couple of questions about page 12 of the report. This is one of the attachments that you -- you had spoken about a little bit that are here for information.

So page 12, we see two (2) headings. I'm talking about the second section called "Adverse Scenarios." During the course of Mr. Cheng's external review of the DCAT investigation and report starting in September of 2012, was he made aware of the issues raised through the IR process with respect to the GRA, and including Professor Simpson's evidence with respect to the basis of modelling the equity decline scenario?

MR. LUKE JOHNSTON: Yes, ab -- absolutely, he was. And I clearly explained Professor Simpson's opinion in terms of the post-1956 data.

MS. CANDACE GRAMMOND: And did Mr. Cheng make any comments with respect to this external review regarding possible alternate approaches to the basis of modelling in the equity decline scenario?

MR. LUKE JOHNSTON: Not really. I tried to really stress to Mr. Cheng that the -- the evidence required at -- at the hearings is -- is great, and that, of course, I -- I would be expected to prove the plausibility of -- of the scenarios to the Board. I presented Simpson's evidence and other relevant evidence to him.

In this particular case, basically, he -

- he chose to stick with the -- the massive deterioration type scenario that -- that he considers appropriate. In terms of all his thinking behind that and what -- what his opinion was on Professor Simpson's evidence, that I -- I can't -- I can't say.

MS. CANDACE GRAMMOND: One (1) more question on that; and if you can't answer this, tell me. Mr. Cheng concludes in -- in the peer review that the equity decline scenario in the DCAT was reasonable. Do you know if he would also consider it reasonable to base that scenario on the -- only the modern market history, like from 1956 and forward, as some have said should be done?

MR. LUKE JOHNSTON: I don't know that. My expectation would be that he wouldn't, but I can't speak for Mr. Cheng.

MS. CANDACE GRAMMOND: And you didn't specifically discuss that question with him?

MR. LUKE JOHNSTON: No, I did not ask him if -- if, for example, if I put in Professor Simpson's assumptions if that would be acceptable to him. But we did talk about, as I mentioned here, some of the recent stock market volatility over shorter periods and -- and longer periods, like -- like I've used.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Thank you, Mr. Chairman. Those are my questions for Mr. Johnston with respect to the peer review.

THE CHAIRPERSON: Thank you very much, Mr. Johnston. I believe that we're now ready to -- to turn the mic over to Mr. Williams.

MR. BYRON WILLIAMS: Yeah, Mr. Chairman, I do have perhaps three (3) or four (4) questions for Mr. Johnston in terms of the -- his oral evidence this morning.

RE-CROSS-EXAMINATION BY MR. BYRON WILLIAMS:

MR. BYRON WILLIAMS: Mr. Johnston, do you recall using words in terms of describing Mr. Cheng in -- in terms of what he "normally does" or "typically does"?

Do you recall using words to that effect?

MR. LUKE JOHNSTON: Yes, I do.

MR. BYRON WILLIAMS: And would it be -- and you also described a model Mr. Cheng uses in his normal or typical practice -- or -- or mentioned it.

"Described" is inaccurate, but you mentioned the model he normally uses?

MR. LUKE JOHNSTON: You're correct. I -- I can only mention what -- the discussions we had. Any detail about his model, I -- I don't have.

MR. BYRON WILLIAMS: And that's fair enough. Mr. Johnston, would it be your understanding that in -- in Mr. Cheng's normal and typical practice that a great deal of it involves private insurers in a competitive market where the DI -- DCAT is primarily used as a solvency examination?

MR. LUKE JOHNSTON: I would agree that -- or at least my expectation would be that most of Mr. Cheng's clients would be private companies. However, the plausibility of a -- a given scenario is not dependent on whether the company is public or private.

(BRIEF PAUSE)

MR. BYRON WILLIAMS: The consequences may differ materially?

MR. LUKE JOHNSTON: For sure. The -- each company has a particular regulatory environment, but if the actuary is modelling a scenario and it -- with equity returns, for example, the expectation is that -- that scenario will be in that 95th -- or one (1) in twenty (20) to one (1) in one hundred (100) year range. And how that impacts that particular company relative to their regulatory requirements is what's relevant in that -- in the DCAT report.

MR. BYRON WILLIAMS: And we wouldn't disagree without -- without being critical of the DCAT that it -- the -- the roots of it really relate to this examination of private sector companies in a competitive marketplace?

MR. LUKE JOHNSTON: Maybe just for clarification, are you asking if the DCAT is -- the purpose of the DCAT is to measure the -- like the solvency considerations in private companies?

MR. BYRON WILLIAMS: No, sir, my -- my question is more subtle than that. It's not what the purpose is, but when we look at the roots of the DCAT and as they inform the insight of Mr. Cheng or other actuaries, it's -- the roots of it come from that ex -- exploration of the -- and the utilization of that tool primarily from private sector companies in a competitive marketplace?

MR. LUKE JOHNSTON: Well, that's the -- definitely the majority of his clients. The...

(BRIEF PAUSE)

MR. LUKE JOHNSTON: The -- yeah, I -- I think where you're going is -- I'm just tying in the DCAT to solvency-based measure. We're not in any way suggesting that this DCAT is a solvency-based test.

Like all the other methods we -- we talk about here, take the risk analysis method, for example, we're looking to capture adverse events that board -- largely in Board-endorsed one (1) in forty (40) year level.

The DCAT is doing that. The DCAT isn't pretending that we're going to go insolvent. It's just doing a better job than the other methods.

MR. BYRON WILLIAMS: Okay. We'll leave that, Mr. Chairman. I don't know if any other Intervenors have questions of Mr. Johnston in term of Mr. Cheng, but at the appropriate moment, certainly we're ready to proceed with our direct evidence.

THE CHAIRPERSON: I would like to ask a few more questions, Mr. Johnston, with your forbearance. Say the -- this panel agrees to -- to jump over the -- the divide and accept the DCAT mechanism as the -- as the mechanism for establishing the adequate level of reserves.

You know, the Kop -- Judge Kopstein's method has been in place for practically twenty (20) years now, so we may be stuck with DCAT for quite a while if we go this way. "Stuck" is probably not the right word but we -- we will -- we will probably be married to the new -- the new methodology for some time.

And I'm -- what worries me is how that formula or that mechanism will behave going forward. In other words, what can we expect that reserve level to be under a moder -- moderately risky set of scenarios? In other words, we go forward as we have been. Relative stability in your liability claims as -- as going forward just because you're getting better at it.

But we -- say for example we increase the -- the stock portfolio to reflect the high returns and so on, what can we expect with respect to the behaviour of the DCAT formula going forward in that kind of a scenario?

MR. LUKE JOHNSTON: Well, what -- what we can always expect out of the DCAT is that we are going to be measuring the Corporation's key risks in the greatest detail that we can. Some of the other methods they spoke of don't do that. So it -- it doesn't provide the Board with the information to know what are the key risks of MPI, and what the potential impacts of -- of those risks are.

The DCAT is not going to stay at the same level if the Corporation's risk level changes drastically. If we, say, maintain our same asset allocations and continue to have the type of consistency in claims that we've -- we've always had I wouldn't expect the DCAT to change very much.

If -- if there is change in MPI practices, like, say, we decided to have less or more equities for example, then the DCAT should change the target. If it doesn't, it's not -- it's not an adequate -- adequate measure of -- of the risk of MPI. And I think that's what the Board really needs -- that's the information the Board needs to have.

The DCAT has been very stable since it came in-house. I believe the minimum was about 180 million and the maximum was 210 million. The -- it's not clear to me if this will move slower or -- or faster than premium growth. Basically with the percentage of premium method you're locked into premium growth as the RSR methodology.

When this plan stabilizes there might be no reason for that target to grow. If liabilities are staying the same, and assets are roughly the same, we might be sitting at a fairly stable level even though premiums are --are increasing, for example.

But again I -- I wouldn't -- as long as the Corporation's risk level stays relatively consistent you shouldn't see big changes in the DCAT number.

MS. KATHY KALINOWSKY: Sorry -- sorry, if we could I would like to consult with the witness, and just see about the possibility of a redirect question. Just one (1) moment please. I do have that right under the normal outline of procedures.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Mr. Chairman, just while MPI's consulting, I can't see the clock and I'm not wearing a watch but I -- I'm thinking it might be time for the mid-morning break.

THE CHAIRPERSON: Let's do that. Let's take fifteen (15) minutes. So back in this room at say ten (10) after 11:00. Thank you.

--- Upon recessing at 10:51 a.m.

--- Upon resuming at 11:07 a.m.

THE CHAIRPERSON: I believe we're ready to proceed. Back to you --

MS. KATHY KALINOWSKY: Sorry --

THE CHAIRPERSON: -- sorry, go ahead.

RE-DIRECT EXAMINATION BY MS. KATHY KALINOWSKY:

MS. KATHY KALINOWSKY: Sorry, if I could actually -- when we stopped the proceedings, I asked if I could consult about doing a quick re-direct just to clarify something. And we didn't know Mr. Johnston can at times be rather soft spoken, so we didn't know whether he answered "did" or "did not" to a particular question.

So I just want to follow up on that question, but I think it was the penultimate question that the Board counsel asked. And it was something to the effect -- and unfortunately, I can't get a quick readout from the court reporter, but it was whether Mr -- whether Mr. Johnston, you asked Mr. Cheng if it was appropriate to use only post-1956 data.

What did you respond to that question?

MR. LUKE JOHNSTON: Yes, I provided that data and asked Mr. Cheng about that.

MS. KATHY KALINOWSKY: And you mentioned previously on in the hearing that the standard of materiality in the DCAT is $10 million dollars. Is that correct?

MR. LUKE JOHNSTON: Correct.

MS. KATHY KALINOWSKY: So given the standards of actuarial practice and the peer review and the information that was provided to Mr. Cheng, including Professor Simpson's evidence, which advocates for only post-1956 TSX data, could Mr. Cheng have issued his same opinion if he believed only post-1956 TSX data was a reasonable assumption to use?

MR. LUKE JOHNSTON: No, I don't see how Mr. Cheng could have arrived at that conclusion. Using only 19 -- post-1956 data would have produced a very significant difference in the DCAT output, which would clearly be much larger than my standard materiality.

If he had determined that this was the -- in fact the reasonable assumption, I would have expected him to clearly state in here that the equity decline scenario was unreasonable.

MS. KATHY KALINOWSKY: Thank you, I have no further questions.

(PANEL STANDS DOWN)

THE CHAIRPERSON: Mr. Williams...?

MR. BYRON WILLIAMS: Yes, good morning Mr. Chairman and members of the panel. Before we start with Professor Simpson -- and we'll have him sworn in, in just one (1) second. Just -- we had a bit of a late start this -- this morning due to some discussions between counsel. And for the panel's information -- and I'll ask my colleagues, My Learned Friends, if they disagree, to make sure that I've accurately characterized this.

Prof -- Professor Simpson will be doing a PowerPoint presentation this morning. And the -- most of the PowerPoint is recapitual -- a re -- wrong word -- a restatement of his written evidence. There is one (1) new calculation that appears. It's -- I'll flag it for the panel, but it's -- it's on the ninth page of his Power -- PowerPoint slide.

And my understanding is that Manitoba Public Insurance, quite appropriately, would be seeking the opportunity to present rebuttal evidence on -- on that -- that one (1) particular item. And we've agreed between counsel, subject to the instructions of the Board, that that rebuttal evidence would be on Tuesday morning, prior to the commencement of closing argument. My understanding is, and certainly our undertaking is, that CAC (MANITOBA) would be prepared to give their closing argument that same day.

So that's essentially my understanding of the arrangement that we've made between counsel, subject to the Board's approval.

THE CHAIRPERSON: Yes, it is. The Board has considered that, and we agree with that plan.

MR. BYRON WILLIAMS: For the -- for the panel -- and certainly I would ask that Professor Simpson be sworn, and -- and then we'll have a few documents that we'll -- we'll want the panel, if they -- if they choose, to have near at hand as we go through the material.

CAC (MANITOBA) PANEL:

WAYNE SIMPSON, Sworn

MR. BYRON WILLIAMS: And, I would ask the panel to be -- have before it CAC (Manitoba) Exhibit 3, which is the September 14th evidence of Professor Simpson.

CAC Exhibit 7, which is the addendum to the evidence of Professor Simpson. It's CAC Exhibit 7, and it's marked "Addendum" at the top. And there are also two (2) other documents. One (1) is the long form of the curriculum vitae of Professor Simpson, which --

which we sent out by email. The shorter version was sent previously, but we would suggest that that be marked as CAC Exhibit 10.

--- EXHIBIT NO. CAC (MANITOBA)-10:
Long-form curriculum vitae of Professor Simpson

MR. BYRON WILLIAMS: And -- and finally, the PowerPoint, or the slides from the PowerPoint presentation of Professor Simpson, which we would suggest be marked as CAC Exhibit number 11.

--- EXHIBIT NO. CAC (MANITOBA)-11:
Slides from PowerPoint presentation of Professor Simpson

THE CHAIRPERSON: Just hold on for a second and I'll just check.

MR. BYRON WILLIAMS: Yes, and I neglected to note that our -- the Executive Director of CAC (Manitoba), Ms. Desorcy, is here in the -- the back row, back from her adventures in Niverville over -- from last night.

And just for the -- the panel's

information,, we will certainly get to Professor Simpson's PowerPoint right away. By virtue of our rules, especially Rule 17.1 and 17.5 of the Rules of Procedure, there's a few questions I need to ask in advance. So we'll -- we'll get to the fun stuff in a few moments, but there is some lawyerly stuff that I -- I have to do in advance.

And if the panel -- in terms of just the first few questions that I do pose to Professor Simpson, if they wanted to look at his evidence of September 14th, 2012, at page 3, that's CAC-3. That would just help them as they -- as they follow it along.

THE CHAIRPERSON: I'm sorry, which page?

MR. BYRON WILLIAMS: Page -- page 3. That's the -- really, that starts with, "Terms of Retainer," on the first page.

EXAMINATION-IN-CHIEF BY MR. BYRON WILLIAMS (QUAL):

MR. BYRON WILLIAMS: Professor Simpson, good morning.

DR. WAYNE SIMPSON: Good morning.

MR. BYRON WILLIAMS: Before turning to your credentials, I wonder if you could set out your understanding of your retainer?

DR. WAYNE SIMPSON: I was retained by CAC (MANITOBA) through the Public Interest Law Centre, to provide expert advice on economic matters, in particular matters related to risk analysis and its application to the rate stabilization reserve.

MR. BYRON WILLIAMS: Thank you, Professor Simpson. In terms of your qualifications to address those issues, I wonder if you could briefly outline the elements of your education, academic expertise and publishing, as they may generally relate to your analysis.

DR. WAYNE SIMPSON: I have a PhD from the London School of Economics in 1977. My undergraduate work was at Saskatchewan. I have taught at the University of Manitoba since 1979. I'm a full professor in the Department of Economics. I have -- my areas of expertise I would describe as applied microeconomics and applied econometrics, with particular -- some particular specialties in labour economics, and economic and social policy.

I have a number of publications, three (3) -- three (3) books authored or co-authored, plus I'd estimate about fifty (50) peer-reviewed journal articles. I've done, in particular, some research on the impact of risk on the behaviour of the firm. And I'm currently on the editorial board of the Canadian Public Policy.

MR. BYRON WILLIAMS: Professor Simpson, thank you for that. Staying with your qualifications for a moment -- and I don't want to get yet to evidence you've offered in the past before the Public Utilities Board, but I wonder if I could ask you to outline, apart from your academic experience, other aspects of your work or consulting experience that may relate to your opinion.

DR. WAYNE SIMPSON: I have some early experience, while I was completing my PhD, working in the federal government with the Department of Labour and the Economic Council of Canada.

Subsequent to taking up my appointment at the University of Manitoba, I was a -- I've been a consultant to a variety of agencies. Most recently, I've done some work with Prairie Research Associates and with human resources in Skill Development Canada. And I've also done some work for the Public Interest Law Centre. Some of it related to the PUB hearings.

MR. BYRON WILLIAMS: What a clever segue, Professor Seg -- Simpson. I wonder if you can outline any appearances you've had before the Public

Utilities Board in which you have been qualified as an expert witness.

DR. WAYNE SIMPSON: I've appeared before the Board on two (2) occasions regarding risk analysis as it applies to the Rate Stabilization Reserve in 2007 and 2010, with my former colleague, Professor Derek Hum, who is now retired and living in Vancouver.

I've also appeared with him at a -- on the -- before the Public Utilities Board on the MPI rate applications regarding the investment mix in 2008. And I've apple -- appeared before the Board on the matter of payday lending, I guess, rates and regulations in 2007.

I think that's it, in terms of appearances before the -- the Board itself.

MR. BYRON WILLIAMS: Thank you. And -- and leaving aside MPI and -- have you served as an expert analyst on any other proceedings before the Public Utilities Board relating to risk as it may affect the Crown corporations?

DR. WAYNE SIMPSON: Last year I appeared -- I -- I provided evidence -- or, I provided advice, I guess I should say, to the Public Interest Law Centre regarding the risk analysis issues associated with the Manitoba Hydro general rate application.

There were a number of outstanding issues that they explored through some expert evidence as provided by Professors Kabursi and Magee. And I was particularly asked to comment on their evidence and on the ways they were going about analysing the risk of Manitoba Hydro and how Manitoba Hydro might be responding to that risk.

MR. BYRON WILLIAMS: And just to be clear, Professor Simpson, the advice in that particular proceeding was not via expert evidence to the Board; it was -- it was to the Public Interest Law Centre?

DR. WAYNE SIMPSON: No, I provided advice and -- and, I think, a memo to the Public Interest Law Centre, but I did not appear before the Board.

MR. BYRON WILLIAMS: Now, you used some fancy words, Professor Simpson, a while ago in -- in discussing your expertise. What I've got written down is, "Expertise in applied econometrics."

And I wonder if you could tell me what you mean by "applied econometrics"?

DR. WAYNE SIMPSON: Econometrics applies particular aspects of statistics to the understanding of -- of the economy and the behaviour of individuals and firms in an economy and -- and governments.

And the applied econometrics notion is that you're doing more than simply working through the theorems; you're actually using the evidence to -- to inform people about how the economy behaves.

MR. BYRON WILLIAMS: And that's the word I struggle with most, but the other word that you used was "applied microeconomics."

And I wonder if you can elaborate on what you mean by that, sir?

DR. WAYNE SIMPSON: The study of firms and individuals in an economy and, in particular, one of the aspects of that that's relevant here is the study of the behaviour of individuals and firms under risk or uncertainty, where we try to characterize that risk and see how in fact it affects the way in which firms or individuals respond to particular situations.

And in terms of "applied", it would be the actual use of data or other information to -- to understand real-world outcomes.

MR. BYRON WILLIAMS: Mr. Chairman, and members of the panel, we could certainly go through a lengthy qualification of Professor Simpson. But at this point in time, subject to the comments of my colleagues, I'm asking that Professor Simpson be qualified as an expert witness before this panel in applied microeconomics and applied econometrics.

RULING (QUAL):

THE CHAIRPERSON: I have to tell a story at this point. I -- I know -- I have had extensive dealings with graduates from the London School of Economics, one of which is the Premier and another one who end up in jail. So I don't think -- I consider Dr. Simpson to be on the better end of that scale, and I think you're eminently qualified to be a witness in my opinion and the opinion of the other members of this Board.

So welcome, Dr. Simpson. I'm looking forward to this. One of the advantages of being members of this Board, you get to hear eminent speakers discussing topics of interest to us. So -- so welcome. I'm -- I'm doubly pleased that you're going to give us a presentation.

DR. WAYNE SIMPSON: Thank you for having me.

MS. CANDACE GRAMMOND: Mr. Chairman, I'm just going to interject for a moment. I just wonder if Ms. Kalinowsky has any comment?

MS. KATHY KALINOWSKY: Sure. Usually the other parties are given a opportunity to address whether they had any concerns with respect to the request that Professor Simpson be entered in as an expert. But I do have to say that I'll be interested to hear where I fall on that spectrum, because I too am a graduate of the London School of Economics.

Having said that though, I will be handing over the microphone to my colleague, Mr. Triggs, and he might have some comments with respect to Professor Simpson. And Mr. Triggs will also be doing the cross-examination of Professor Simpson.

THE CHAIRPERSON: I'm sorry, I was showing my -- my newness as a Chair, and I didn't give you the opportunity to comment before we made a decision. I apologize.

MR. MICHAEL TRIGGS: Thank you, Chair -- Mr. Chair. MPI has no objections to Mr. Simpson's qualification as an expert in microeconomics and economic -- having fun saying that word -- and econometrics economics. He's an expert; I'm not. Thank you.

THE CHAIRPERSON: Dr. Simpson and Mr. Williams...?

EXAMINATION-IN-CHIEF BY MR. BYRON WILLIAMS:

MR. BYRON WILLIAMS: And just a few more questions, and then we'll get to the star of the show. Professor Simpson, I'm directing your attention to your September 14th evidence, which is marked as Exhibit 3.

Can you indicate whether this report was prepared under your direction and control, sir?

DR. WAYNE SIMPSON: Yes.

MR. BYRON WILLIAMS: And is it accurate, to the best of your knowledge and belief?

DR. WAYNE SIMPSON: Yes.

MR. BYRON WILLIAMS: And directing your attention to the addendum, CAC -- marked as CAC Exhibit 7, can you indicate whether that document, the addendum, was prepared under your direction and control?

DR. WAYNE SIMPSON: Yes, right down to the data entry.

MR. BYRON WILLIAMS: And is it accurate, to the best of your knowledge and belief, sir?

DR. WAYNE SIMPSON: Yes.

MR. BYRON WILLIAMS: Just a few more

questions before we get to your PowerPoint presentation, Professor Simpson.

Now, while the report, both the main report and the addendum, were prepared under your direction and control, can you indicate what, if any, input you sought from others in preparing your report?

DR. WAYNE SIMPSON: I had support from Andrea Sherry, who is an actuary, and Peter Dyck, who is the, I guess, former controller with MPI.

MR. BYRON WILLIAMS: And what, if any, skill sets or -- were you looking for from Ms. Sherry and -- and Mr. Dyck, in -- in terms of offering input into your review of risk-management issues?

DR. WAYNE SIMPSON: Well, Ms. Sherry was very valuable because she is a DCAT practitioner and therefore somewhat of an expert in a way that I am not. I -- I have never done a DCAT analysis, and my analis -- my analysis in my report does not suggest that I am.

And Peter Dyck also provided perspective as someone who, in fact, was in the room during the deliberations leading to the Kopstein recommendation. And so he was very valuable just on general issues around the question of risk analysis from an MPI perspective.

(BRIEF PAUSE)

MR. BYRON WILLIAMS: It appears that MPI has generously bought pizza for all of us. Prof -- Professor Simpson, would you like a slice?

DR. WAYNE SIMPSON: And a glass of red wine, please.

MR. BYRON WILLIAMS: Professor Simpson, in terms of profess -- excuse me, Ms. Sherry or Mr. Dyck, from your perspective what, if anything, was the value of seeking in -- input from this interdisciplinary team?

DR. WAYNE SIMPSON: Well, as I'm going to suggest in my PowerPoint presentation, I think there's -- there's value from looking at the questions arising from the risk analysis of MPI and the rate stabilization reserve from a number of perspectives.

And Ms. Sherry, of course, is the expert -- our expert on the DCAT and its -- its use, the way the modelling is done, the kinds of assumptions that are made and so on. And they are useful checks, both of them, on the kinds of ideas that I was putting forward about the scenarios and what would be plausible and what wouldn't in terms, in particular, of the decline in equity scenario, which I -- I think they --

in which I think they agree with me.

MR. BYRON WILLIAMS: Now, Professor Simpson, just in terms of the -- at a high level, I wonder if you could briefly -- provide a brief overview of the materials that you reviewed in preparing your report?

DR. WAYNE SIMPSON: Yes, I reviewed -- well, in -- in my report are the prior reports from -- with -- I -- that I did with Dr. Hum, and were provided for the -- in 2006 and 2009. I also reviewed the original and amended DCAT reports, the Information Requests, as best I could. They were coming at us pretty thick and fast and I have a -- have a day job as -- as I keep reminding myself.

And the expert excerpts from the record, provided by counsel. I had to rely to some extent on their judgments about what was useful for the risk analysis portion that I was concerned with. MPI Exhibits 13 and 14, and Undertakings 16 and 17. And then, just yesterday, looking at the external actuary report from Mr. Cheng.

MR. BYRON WILLIAMS: Thank you, Professor Simpson, and I am going to turn it over to you. In terms of your PowerPoint, asking you to do a brief overview of your opinion as presented in your written evidence and as it may have evolved during the case.

And I would just certainly invite the panel, if you're like learned counsel for the CAC (MANITOBA), when you see a probability distribution your eyes may roll to the back of your head. So certainly if there are questions that the panel, of clarification, would like to ask during the course of Professor Simpson's presentation, he likes to have interaction with whoever he's presenting to. So please feel welcome.

And, Professor Simpson, just a warning. I may go off script from time to time and -- or not, but ask you a couple of questions and stop you as well. But please proceed to present your PowerPoint.

DR. WAYNE SIMPSON: Okay. Thank you. I -- I'm trying to manipulate so that I can both see the screen and point to it and talk into this mic. We had tried to set up a mobile mic, but that technology didn't work. So we'll try it this way. If -- if this isn't working, please let me know.

So thank you again for having me talk to you. I'd like to start off by applauding what I observed to be the progress in developing what I would characterize as a modern approach to risk analysis in the establishment of the rate stabilization reserve. I think there's a lot of good things in what MPI has done since, for example, Dr. Hum and I first made a presentation before this Board in 2006.

And that said, I'm going to talk a little bit about the things that are good about what MPI has done; the things that are lacking, in my view, and still need to be done; and, in particular, emphasize the need for a process that everyone can buy into, if you will, that is a consensual process that will leave everyone comfortable that they have been heard and that the kinds of considerations they want to bring to bear are -- have been heard and -- and are considered in -- in reaching this decision; and, in particular, illustrate that by looking at the decline in equities scenario, which I think is the best example right now of where there may be some disagreements that the MPI and the Board and the Intervenors may want to look in -- discuss.

So, first of all, just the general idea of -- of a modern risk analysis founded in the notion of a probability distribution. And I've put up here a very simple, normally distributed probability distribution which could, for example -- although it will not exactly when applied to actual data, but could, for example, characterize, say, the claims outcomes of MPI or, on the investments side, the equity returns from MPI.

The important point here is that while we don't know what particular outcome will come in a specific year, we do know that there is a range of outcomes and that that range of outcomes has a probabilities attached. And we can conceive of this in terms of the risk analysis, for example, in terms of upside and downside risk, which I'll get to in a moment.

So we have probability up here. We have the actual outcomes in this general normalized distribution. They're -- they're normalized essentially to minus three (3) to plus three (3). And we'll see more -- I'll present actual data later.

But essentially what we have is a -- is a distribution that has a mean point, which is taken to be zero here, and a distribution of values around that mean. And we usually think of risk in terms of the -- the events that are extremely good or extremely bad, which I would characterize as the upside risk and the downside right.

Although other measures are possible, we could simply characterize it in terms of the spread or the variance, or the standard deviation of outcomes around the -- around the mean, which is a common statistical way of characterizing what -- what we talk about as risk.

For example, an investor who was thinking about a risky investment would probably look at the standard deviation of returns and compare that to the mean return. And what they would expect, if they enter into more risk -- that is to say, there is a higher variability of returns -- is they'd expect a higher mean return in compensation.

And so from that perspective, we can -- we can then start thinking about some of the questions associated with -- with risk. And in particular, the focus, of course, in terms of the Rate Stabilization Reserve, is on this question of the downside risk. There are offsetting risks over here, but the downside risk is the one that is -- is of most -- most concern.

And within that, if we look, for example, roughly here, the area under this curve from here to the end would be about the 5 percent, the 95th percentile. The 99th percentile would be roughly here. That is to say, there would be 1 percent of the values to the left of that.

And there would -- in a normal

distribution, one can perceive or imagine almost any risk at all, because of course there is no limit. This goes to minus infinity and plus infinity.

What makes those terms less interesting is that the probability of an outcome at way down here, or way up here, is very, very small. So we talk about -- and I was pleased to hear some of the comments this morning about quantifying risk as being an important criterion. We quantify these kinds of risks -- if we can't quantify these kinds of risk because they've never occurred, we can imagine them happening. We can think about stress-tests. But they're not very useful because we don't think that they're very probable.

MR. BYRON WILLIAMS: Professor Simpson, could I stop you and ask you to go back to that slide for a second? And just for the benefit of the court reporter, you talked about the -- the 95th percentile in terms of a negative event and you said around here. And if I was visually looking at the statistical risk analysis concepts table, you started where the -- on the X-axis, it's marked as minus two (2)?

Is that right?

DR. WAYNE SIMPSON: No, the -- the 5th percentile would actually be minus one point six-four-five (1.645).

MR. BYRON WILLIAMS: Got you --

DR. WAYNE SIMPSON: To three (3) decimal places -

MR. BYRON WILLIAMS: Okay. And when you talked of the minus -- or, the 99th percentile Professor Simpson, can you just describe where appears on the X-axis?

DR. WAYNE SIMPSON: That I'm not as familiar with, but it's approximately minus three (3). And -- and that -- this is -- indicates 98 percent, because it includes 1 percent to left of minus three (3) and 1 percent to the right of plus three (3). And so if you're looking at the 1st percentile in the way we've talked about it, then it would be the area to the left of minus three (3), which is indicated by this range.

MR. BYRON WILLIAMS: Okay, thank you for that. Please proceed.

DR. WAYNE SIMPSON: Okay. So from that, we look at the question of the Rate Stabilization Reserve and the question of -- of how we might deal with downside risk in the event of unexpected nonrecurring events leading essentially to the question of a rate shock.

I'm not sure, in the modern inflationary context, what we've agreed on what a rate shock would be. But we -- we want to have some sort of -- we're talking about some sort of reserve that would stabilize rates, going forward.

And I think here -- I think an important point is to balance the questions of the costs and benefits of establishing the Rate Stabilization Reserve, in terms of thinking about what kind of a risk tolerance we would want, because of course we can think about risk tolerances that are extremely high, like one (1) in seven hundred (700), which has been used for the floodway. Or we can think of other risk tolerances that are much lower, the 95 to 99 percent range that have been discussed in the -- in the DCAT report.

And I think there we have to balance, on the one hand, the benefits of the Rate Stabilization Reserve, which are that ratepayers will not get surprises, or not as many surprises, in -- in establishing rates when un -- un --- adverse events occur.

On the other hand -- and that's -- to me, that's not a huge catastrophe of any sort, of the sort, for example, that you'd get if you talked about the floodway. If you get the catastrophe of the floodway you get flooded basements, destroyed homes, and a city in paralysis. I think that's far different from what we've characterized as a rate shock.

On the other side there's opportunity costs to having the Rate Stabilization Reserve. And those -- those opportunity costs are the money that is in the Rate Stabilization Reserve that is not paid back to ratepayers or is never paid in the first place; is money that would be disposable income to them, which can be spent on things that they value and/or saved to pay down debt and so on and things that they value.

And I think the general economic presumption is that people do a pretty good job in satisfying their own pre -- wants and preferences. And so I think that's an important consideration, that there are opportunity costs to Manitobans of excess premiums.

And that's why I tend to think we don't need to go too far down the line in insuring against very unlikely calamities that might occur to MPI. And I think the 95th percentile, to me, is a reasonable benchmark. And that, in fact, has been used in the DCAT analysis for the decline in equity scenario, which is the one (1) that I will talk about.

The methodologies, briefly, which we're all familiar with, I think, the percentage of premium

Kopstein approach is a very simple approach that is related to risk only in the sense that risk and RSR are indexed, if you will, to use the economic term, I guess, to premiums. That is to say, as premiums go up, the -- the pre -- the percentage of premiums, RSR target range, will go up.

There's also the risk analysis VaR approach, which has been used in the past. And I think it is fair to say is still a useful tool to look at, but probably doesn't as directly address the risks that MPI faces. Although, as I pointed out in my report, it does pick up some -- certainly, some of the new investment risks and -- if you look at it at the target range. It's based on pretty limited annual data. The statistics handle that. There's no thirty (30) rule of thumb. The statistics handle that, but it does create, I think, some -- some volatility that probably is un -- unhelpful.

The DCAT is the least transparent and replicable of the -- of the approaches, but on the other hand, it does specifically address the risks faced by the Corporation and, I think, is probably, in -- under certain circumstances at least, which should be -- receive serious consideration as the main indicator for setting a target RSR.

So in terms of comparing our earlier reports with Professor Hum -- and I -- I don't know if he would agree with my views, but I think we've come some way towards accepting that this is a useful approach in thinking about the risks of the Corporation.

So given that, what are the good and bad things that -- that have happened? Well, the improvements to date are, first of all, that the DCAT has been brought in-house. And this allows them to tailor it to the particular circumstance of the Corporation, to discuss it within the Corporation, and indeed to improve it and to make it clearer to the Intervenors and the PUB just what they are doing over time.

Also an improvement is the focus now on evidence-based justification for the adverse scenarios, versus some sort of notion of imagined risks that have to be stress-tested, which I don't think is a very productive way to proceed.

Then, secondly, what are the needed improvements? Where -- where -- what needs to be done still? And I think this revolves around this question of what I characterize as process, that there needs to be more transparency in the modelling and the assumptions. Now that the -- the DCAT is in-house, I think it is important that -- that there be a comfortability factor between the -- the Board and the Intervenors and MPI that would arise from explaining how the model works and, indeed, how improvements are made over time.

Secondly, scrutiny -- more scrutiny of the evidence-based scenarios. An example I'll give is the decline in equities scenario. And I think this is the kind of conversation that's useful in thinking about what an appropriate Rate Stabilization Reserve should be.

And then I think there should be more stability RSR targets, which will probably come from an understanding of -- of risk tolerance and what is the basis for the evidence-based scenarios going forward. If there are dramatic changes in the risks faced by the Corporation, of course, that -- that will change the -- the situation.

So what I did with the decline in equities scenario was initially look at some data on my own in my own report. But subsequently became aware of PUB-1-60, which provides me with the four (4) year equity terms from the TSX that were use by MPI in justifying its minus 40 percent decline in equities scenario.

And when I looked at this, and perhaps it's something economists do, but I -- I sniffed the wind, if you will. And I said, I don't think that minus 40 percent over four (4) years is the kind of return that I would expect in the modern era from a -- from a modern stock market.

And so what I somewhat arbitrarily did, was I said, Well, let's look at this before and after 1956. '56 is not entirely arbitrary, because it takes away the period of the Roaring '20s, the stock market crash of '29, the Depression of the 1930s, and the second World War.

And it clears us enough of that period that we -- we can have some understanding of what happened in that period and how it affected the economy. And, I would argue, that economists have helped in -- in -- policy makers in understanding how to deal with the kinds of situations that led to the -- to the Great Depression of the 1930s.

So what I've done, then, is divided it into two (2) groups. And here, I've just provided a simple picture of what the probability distributions looked like with actual data. Now, this is smooth. But, essentially, the idea is to construct a histogram for the data.

First of all, the solid line is the data up to 1956. And then the dashed red line is the data from '56 to 2012. So those are roughly what the histograms would look like, characterized in the distributions of the four (4) year returns for those two (2) episodes of the data. And, of course, the MPI analysis looks at both of those episodes combined.

And what you can see from this, in fact, is that -- and I'll talk a little bit about the mean return. But the mean returns look similar to the two (2) episodes, before and after '56, the four (4) year returns to the TSX. But the spread of the data is much greater prior to 1956.

And, in fact, there's a lot of very big adverse events, if you will, negative four (4) year returns that occur over here. And my first reaction when I saw their decline in equities scenario is, I'd like to see some dates on that. And when we see dates on that, what we find is those large adverse returns are, of course, characterized by the 1930s. So this is the -- largely, the 1930s. This is largely the Roaring '20s.

We get some similar returns in the modern era, but we don't get anything like those kinds of losses. And the spread in the returns is much smaller today, since '56, than it was pre-'56. Now this is very good news for investors. If they get a comparable return, they're taking less risk.

And this is just the statistics on that, so looking at the --

MR. BYRON WILLIAMS: Professor --

DR. WAYNE SIMPSON: Sorry, yes?

MR. BYRON WILLIAMS: Sorry to interrupt. Could you go back to that slide just for one second, please?

DR. WAYNE SIMPSON: Okay.

MR. BYRON WILLIAMS: You used the word -- words something to the effect of "mean return."

DR. WAYNE SIMPSON: M-hm.

MR. BYRON WILLIAMS: Just for -- for the benefit of -- for at least this lawyer, could you just remind us what -- when you use that word, what you mean by it?

DR. WAYNE SIMPSON: It is the average return or, in this case, it is the probability weighted re -- returns averaged out. And so it will be somewhere in here, probably for both distributions. And I'm going to present the actual data on that in a -- in a minute. So it's the average.

MR. BYRON WILLIAMS: And with reference to the minus 40 percent decline in cumulative returns over a four (4) year period, in terms of the -- the modern era, could you show us where if at all that would appear on that histogram?

DR. WAYNE SIMPSON: The minus 40 percent return would be a return of about minus point four (.4). I'm just estimating. This is minus point five (.5), minus point four (.4), and if you look up none of those returns would occur under the dashed line which is the modern era since '56. All of that would occur in the -- in the solid line which is the 1923 to '55 data. Or -- yeah, that's good. That's all I wanted to say.

MR. BYRON WILLIAMS: Thank you, Professor Simpson.

DR. WAYNE SIMPSON: Okay. So the actual numbers, you can see that in fact -- and this worked out extremely nicely. I didn't really anticipate this when I just chose '56 as the date, but in fact the mean return from '23 to '55 is 25 percent over four (4) years. The mean return from '56 to 2012 is 25 percent. So they actually have the same mean outcome almost exactly.

The test of means is -- is trivial

because they're so close, you know that it's going to accept the hypothesis that the -- or, cannot reject the hypothesis that the means are the same. And in fact it doesn't.

But there's much greater variability in the older data. You can see that from the -- the probability distributions. Here's the numbers. The standard deviation from '23 to '55 is about point five-six (.56). The standard deviation '56 to 2012 is almost half that at point three-one (.31).

And when you test for those two (2) standard deviations you cannot reject the hypothesis at any reasonable level, this is under 1 percent, that the standard deviation prior to '56 is greater than the standard deviation since '56. So what you see in the data is simply supported by the -- the statical analysis.

And therefore that is implications for the adverse scenarios. So what we have here is the -- first of all the entire time period from '23 to 2012 used by MPI, a thousand sixty-four (1,064) observations, the fifty-third would be approximately the 5th percentile. In other words, there would be 5 percent of the observations with returns below that number.

And this is the min -- I get minus 43.9 percent. I think there's -- some differences may relate to interpolation. I don't know. I -- I really haven't compared figures, but I think everyone agrees it's roughly minus 43 percent.

If you break that up in the way -- way I've done to '23 to '55, pre '56, and '56 on, and the observa -- still a considerable number of observations in each group to -- so we get the nineteenth observation as marking the 5th percentile for the pre '56 era, and that's a whopping minus 64 percent adverse scenario.

If you look at the data since '56, the thirty-fourth observation -- lowest observation gives you the 5th percentile, and that's minus 16.4 percent. So my view is that this is a much more useful number because it reflects the modern era.

And I don't throw that out simply to say without any other thinking that the modern era must be better because it's more recent data. I think it is fair to say that policy makers and economists have learned a great deal about what went wrong prior to '56, in particular in the stock market crash of '29, government response to it, and the -- and what subsequently happened in the 1930s.

You don't allow the monetary system to collapse. You make sure interest rates stay low, and you use "quantitative easing," is the new term, to make sure that money is readily available to stimulate the economy on the money side. And thanks to Professor Keynes we also think that fiscal policy is important. And we've seen in fact substantial stimulus packages coming out of all countries to respond to the recession of the -- of the -- of 2008/'09.

So I think that's a good example of how governments have responded in the modern era. We didn't get anything like the adverse effects of the stock market crash of '29, and the Great Depression.

(BRIEF PAUSE)

DR. WAYNE SIMPSON: There we go. I pointed it the wrong way. So what I've done since that raises the question of, Well how much difference does it make when you look only at the post-'56 data, in terms of the DCAT scenario. I don't -- I can't run the DCAT. I don't have the model, and it would take me a long time to get up to speed anyway.

But what I do have is I have the amended DCAT report, the base scenario, and the minus 40 percent scenario. And I have from PUB-2-32 -- I have the base scenario adjusted, which I used to adjust the base scenario for the amended report in exactly the same fashion to get these numbers here.

MR. BYRON WILLIAMS: Pro -- Professor Simpson, can I -- I stop you --

DR. WAYNE SIMPSON: Yes.

MR. BYRON WILLIAMS: -- just here for a second? Let's back up for -- to PUB-2-32.

DR. WAYNE SIMPSON: Yes.

MR. BYRON WILLIAMS: What -- what was that Information Request, to -- to your understanding, attempting to do?

DR. WAYNE SIMPSON: It was attempting to provide a -- an estimate of the RSR under a revised scenario, where the decline in equity is minus 35 percent instead of minus 40 percent.

MR. BYRON WILLIAMS: And apart from the adverse scenario estimate, what, if any, other changes might appear between PUB-2-32 and the original DCAT amended report, sir?

DR. WAYNE SIMPSON: Right. Thank you for prompting me. That -- what happened here, the difference in the two (2) bases, as I understand it, was that the investment allocation was updated to

February 29th, 2012, here, whereas here it had been the investment allocation at an earlier date. And that leads to fairly small changes. You can see that the -- the minus 40 percent scenario and -- and the adjusted scenario are similar, but results in small differences.

MR. BYRON WILLIAMS: And, Professor Simpson, not that it's a critical point, but just to make that point clear, in the DCAT amended report we -- versus PUB-2-32, do we -- where do we see these minor adjustments appearing? Is it in the '13/'14 year?

DR. WAYNE SIMPSON: No, the adjustments -- well, there's no adjustment in the first year. But in the sec -- sorry, this and this. In the second year, the base is revised downward by 2 million.

And the effect of that is to adj -- adjust this figure from seventy-six (76) to seventy-four (74). Similarly, this is -- this is down by six (6). Adjust this from eight (8) to two (2) and so on. So we take column 2 and we add the difference between columns 4 and 1 to that. Is that okay?

And so then we have the minus 35 percent scenario. And I'm just trying to get these on a comparable basis, so that I can compare the minus 35 percent scenario with the new base, based on the new investment allocation, to the amended DCAT report in a

-- in a rough way.

And this gives us the new baseline and the new outcome from the DCAT for minus 35 percent. So that's a 5 percent adjustment, or increase if you will, in the decline in equities scenario. And what I'm going to do is project that to minus 20 percent.

MR. BYRON WILLIAMS: Before you go there, sir, in terms of the consequence of PUB-2-32, in terms of a -- a minus 40 percent scenario versus a minus 35 percent scenario.

What, if anything, was the mathematical consequence in terms of retained earnings or for the RSR?

DR. WAYNE SIMPSON: Well, that involves a comparison which I've done in column 6, which is the difference between the 35 percent scenario and the adjusted 40 percent scenario. And that gives me, in the first year, nothing. In the second year a reduction or an improvement, if you will, in retained earnings of fourteen (14), twenty-five (25), thirty (30) and thirty-two (32). And that's from a 5 percent adjustment in the difference in equities scenario. So then what -- yes.

MR. BYRON WILLIAMS: And just sorry, I see at the bottom RSR 200, RSR 175. Maybe if you can just explain that --

DR. WAYNE SIMPSON: Yeah, okay. I'm going to -- I was going to come back to that, but this is a good point for the punch line, if you will. The RSR comes from looking at the '14/'15 data. This is the amended DCAT report methodology, and calculating the -- the difference between the base and the minus 40 percent scenario. That's the -- that's the two hundred (200) here.

If we do that for the '13/'14 year for the base of one ninety-eight (198) -- I'm sorry, '14/'15 year. I'm lost myself. This -- this is our difference two hundred (200). If you look at the '14/'15 year, we have a base of two-hundred and two (202), and in the minus 35 percent scenario, a resulting retained earnings of twenty-seven (27). And the difference is one-seventy five (175).

So this is the RSR target recalculated for the thirty-five (35) -- minus 35 percent scenario on the same basis as the amended DCAT report.

MR. BYRON WILLIAMS: Thank you, and I apologise for interrupting.

DR. WAYNE SIMPSON: So what I've done then, is I've taken the difference between the minus 35 percent scenario and the minus 40 per -- percent scenario adjusted for the change in the investment allocation in the way I've described, and I get this difference.

I multiple that times four (4), because I don't want to go to minus 35 percent; I want to go to minus 20 percent. And I've chosen that as a convenient number. And at minus 20 percent then, I add this -- these differences then to -- to my minus 35 percent...

I'm confusing myself, where am I here? I'm sorry, I've lost myself, because I keep turning back and forth, and my neck is getting very sore.

I'm looking at no change in -- in two thou -- '12/'13, so I get a figure of two thousand and five (2,005) as -- as I have over here. When I look at the adjusted base to get eighty-eight (88) from seventy-four (74), the difference is fourteen (14). But now the difference is fifty-six (56), so the retained earnings figure is now one-thirty (130). Similarly, it was twenty-five (25) from two (2) to get twenty-seven (27); now it's a hundred (100) to get a hundred and two (102), and so on down the line.

So I get -- I essentially take column 7, and I add it to column 3 to get my minus 20 percent differences, because this is the -- this is the adjusted 40 percent scenario. And I want to work down to a 20 percent scenario by adjusting it by this much instead of this much.

Okay and then just to finish from the previous question you asked: How do I then get the estimated RSR? Well, I look again at the '14/'15 category. I got two hundred (200) here, I got one-seventy-five (175) here. And here, I'm going to get two-zero-two (202) minus one-zero-two (102), which is one hundred (100).

Okay. So I'm going to look at -- at the -- at the base, and I'm going to subtract where I'm at now at a hundred and two (102), and I'm going to get a hundred as my RSR using the amended DCAT methodology.

So essentially I've moved from minus 40 percent with RSR of two hundred (200) to minus 20 percent with an RSR of a hundred. This ratio, half to half, is -- is strictly coincidental. I want to emphasis that what I've really done is I've compared the 40 percent to the 35 percent scenario. I've looked at this 5 percent difference, which is twenty-five (25), and I've extrapolated that to twenty (20), which is a hundred. Okay?

So you can see from these three (3) numbers exactly where that extrapolation goes. If you want to go lower, the rough conversion figure is about five (5) per -- per 1 percent.

MR. BYRON WILLIAMS:   Professor --

DR. WAYNE SIMPSON:   In the absence of a -- of a actual DCAT run, this is -- this is my best guess as to where this would -- the RSR would end up under a minus 20 percent decline in equity scenario.

MR. BYRON WILLIAMS:   Professor Simpson, thank you for that.  And just so I understand, you use the word estimate...

(BRIEF PAUSE)

MR. BYRON WILLIAMS:   Yes, thank you. My apologies to the court report.  Professor Simpson, in terms of this figure, you're not saying with moral certitude that this would be the outcome of the DCAT.

How would you characterize this?

DR. WAYNE SIMPSON:   This is my -- what I would characterize as rougher, back of envelope calculation, based on the information I have from the amended DCAT report and from PUB-2-32.  A proper DCAT run of minus 20 percent would of course give us a different number and quite possibly a better number, recognizing the deficiencies in the DCAT as it stands.

MR. BYRON WILLIAMS:   And just if I can

make sure for -- for the benefit of the -- the record that I understand that the calculations in column 8, If I could get you to point for the '13/'14 year at the figure in column 8 of the 130 million?

DR. WAYNE SIMPSON: M-hm, yeah.

MR. BYRON WILLIAMS: Am I correct in suggesting to you that the -- the calculation of that would be taking the 74 million from column 3 and the 56 million from column 7. Is that how that calculation is done, sir?

DR. WAYNE SIMPSON: That's right, yeah. And that's actually what I have up here, is my --

MR. BYRON WILLIAMS: Okay.

DR. WAYNE SIMPSON: -- indicator of -- of how I went about it, yes.

MR. BYRON WILLIAMS: Okay. Thank you.

DR. WAYNE SIMPSON: So I -- I get to recommendations, and I have two (2) sets of recommendations. One (1) set regarding the DCAT which, as I said, there's some good things here, in terms of the improved DCAT. The fact that it's been brought in-house. And there's a focus now, an - an evidence-based justification of the scenarios.

And I think it's fair to say that as this progresses, it -- it could move -- become a very useful tool to assess risk in the RSR. The analysis needs to be more transparent, in terms of the model and its assumptions, and also in terms of the types of scenario considered.

It -- and I think there's a need for a more consensual basis for -- in terms of -- of what the model does, and in particular in terms of the scenario choice. And -- and when I say, "a consensual basis," I think it's something that has to involve the participation of the PUB and the Intervenors, and a process has to be developed that would -- would facilitate that.

And I used the current decline in equity scenario in a sense as the -- as the example that I give, because I think there are serious questions about the appropriateness of looking at -- at very old data to formulate the notion of what an adverse stock market event might be today.

Then I have a second set of recommendations. The first one on the DCAT, which I say is not ready for prime time, in the sense of being the sole determinant or even the major determinate of the RSR target. I think it's still a useful analysis and check. And until the process is clarified, I think it -- it remains simply that.

I think the decline in equity scenario needs adjustment to reflect modern stock market outcomes. And I've explained, I think, why we think that we've learned something from -- about how to manage economies that limits the -- the negative impacts on stock markets.

The Kopstein approach remains the incumbent process, and I think the Chair of the Board referred to the fact that we've been with this for a long time. I think there is a power of incumbency that is that other methods have to be developed and really proven before they supplant it. And I don't see that as happening so far with the DCAT.

And I still see the RA/VaR as a useful third indicator that helps to understand the risks facing the Corporation as another provisional check. And I've used the word, "provisional," both with the RA/VaR and the -- the Kopstein method, if the DCAT is developed in a fashion that would -- would satisfy all concerned.

MR. BYRON WILLIAMS: Thank you, Professor Simpson. Just before making the witness available to cross-examination, I have just a few follow-up questions for him.

Professor Simpson, quite some time ago

you used the word "modern risk analysis". And I wonder if I could ask you to elaborate a little bit on -- on what you mean by "modern risk analysis".

DR. WAYNE SIMPSON: I think modern -- modern risk analysis was founded in the statistical notion of the probability distribution and in the methods with which we try to estimate what that distribution looks like.

Here, we've looked really at this question of what we mean by an "adverse event". In other cases we look at other eth -- methods of risk analysis, such as Monte Carlo methods, bootstrapping methods, and so on, which also require us essentially either to make heroic assumptions about the distribution or gather data that allows us to actually say something that's founded in fact.

MR. BYRON WILLIAMS: And you've talked a fair bit about -- in terms of the DCAT issues about transparency. And -- and I wonder if you -- I could ask you just to articulate a bit more why you consider those matters so important, in terms of your evidence?

DR. WAYNE SIMPSON: This has to be a pro -- to me, this has to be a process that's driven by a core set of principles. And I think that core set of principles involves some judgment, but it also involves some foundation in modern risk analysis.

And I think those principles have to involve questions like what we mean by a level of risk tolerance and -- and I've argued for nin -- the 5th percentile as a reasonable number given the -- the size of the benefits and the opportunity cost to Manitobans.

I think it also involves some understanding of the -- of the nature of the risks that MPI faces and focussing on the evidence that we have and using that evidence in the best way that we can in the context of what I would characterize as modern risk analysis.

So I think that transparency requires discussion. And the example I've given is the decline in equity scenario where, for example, to me it is not at all clear that we should be relying, it looks like, in the very long term, because those numbers aren't going to change on -- on a set of evidence that exclusively, I think, comes out of the 1930s.

MR. BYRON WILLIAMS: Just now you used the word "core set of principles" --

DR. WAYNE SIMPSON: Right.

MR. BYRON WILLIAMS: -- and -- and made reference to risk tolerance and evidence based. When we're looking at the core -- the Simpson core set of principles or the modern risk analysis core set of principles, what -- what's the list?

DR. WAYNE SIMPSON: Focus on -- on probability distributions that we can learn something about through data, use -- decide on a -- a level of risk tolerance, gather appropriate data and assess and discuss it, and produce a -- a set of adverse scenarios that reflect what we can know of the risks that MPI faces given the information that we have and the way in which we organize it using probability distributions and risk analysis.

MR. BYRON WILLIAMS: In terms of risk tolerance, I think your prior evidence didn't seem to suggest you were leaning toward one (1) in seven hundred (700) risk tolerance, suggesting you were leaning towards one (1) in twenty (20).

Do you care to comment on other percentiles that are out there, such as the 97.5, the one (1) in forty (40) event, or the -- the 99th percentile, the one (1) in one hundred (100)?

DR. WAYNE SIMPSON: A lot of conventional statistics uses the 5 percent level of significance. I don't know that it has a great deal to do with this question of risk tolerance in the RSR, but

I -- I think it is a useful number.

Now, if you look at the -- the 5 percent question from both sides you get 2 1/2 percent on the downside risk and 2 1/2 percent on the upside risk. And that kind of leads you to the 97.5 percent confidence level, if you will, in the -- the 2.5 percent percentile.

More stringent standards are typically not applied in the statistical literature, but, you know, there's no limit to how far down you can go. I think it's really just a balance of the -- the benefits and the costs of doing that. And I -- I -- as I said before, I think the benefits are there, but not substantial and not catastrophic. And the costs are the loss of retained ear -- of the earnings of -- of Manitobans.

MR. BYRON WILLIAMS: Just to finish up with a few questions about the decline in equity scenario, what is your view on -- on whether one should place significant reliance on data prior to the end of the second World War?

DR. WAYNE SIMPSON: I'm sorry, could you repeat that?

MR. BYRON WILLIAMS: I'll try. I might frame it better, Professor Simpson. In terms of data, focussing on the decline in equity scenario, what is your view of the reliability of employing data prior to the end of the second World War, in terms of performing the decline in equities analysis?

DR. WAYNE SIMPSON: Well, as I've said, I -- I think that macroeconomics stabilization policy has improved substantially, both monetary policy and physical policy, and we've seen very good evidence of that in the response to the great recession that struck the world in 2008/2009.

It was a severe financial crash, arguably as severe as the stock market crash of '29, maybe even more severe, because there were some things that happened that were -- that would not have happened in '29 for largely technological reasons.

But having said that, I think the response, which is, I've said, was to not let the money supply collapse; not let the banking system collapse; keep interest rates low; put money into the economy essentially by buying bonds, which is quantitative easing; and to introduce a stimulative fiscal policy to put money in -- in people's hands to essentially replace the loss of private demand with public demand are all things that we've learned from that episode and make that episode less -- far, far less, and in fact, I would -- I would give it virtually no -- I would give it no weight at all.

MR. BYRON WILLIAMS: Professor Simpson, is there any magic in using 1956 as the -- the starting date for the modern era, or do you have any commentary on -- on what's an appropriate starting date for the modern era?

DR. WAYNE SIMPSON: This may age me a bit, but we always thought of the modern era as being after the second World War. As the second World War recedes that may be less and less appropriate.

And there arguably are all sorts of things that go on in the stock market. I do not believe that they will materially affect the results that I've presented whether you choose, say '56 or '66. In fact, the adverse events that are captured in that 5th percentile for the post-'56 data are data from the '70s and the '90s. And so how far back you go, whether you -- you say 1956, 1960, 1965, and even 1970 isn't going to matter very much.

I think the key factor is that you avoid the stock market crash of the '20s, the Great Depression of the '30s, and the second World War of the '40s.

MR. BYRON WILLIAMS: Professor Simpson,

I thank you for your -- your time. Unless you have anything you want to add we would conclo -- conclude our direct-examination and make Professor Simpson available for cross-examination.

THE CHAIRPERSON: Thank you, Mr. Williams, and I -- given that it's approximately 12:15, I would suggest that we break for an hour and resume the proceedings at a quarter after 1:00 if that's enough time for the parties to -- to respond. So resume at 1:15. Thank you very much.

--- Upon recessing at 12:15 p.m.

--- Upon resuming at 1:16 p.m.

THE CHAIRPERSON: I believe we're ready to resume proceedings. And now I'd like to turn it over to -- the microphone over to another eminent alumni of the London School of Economics.

MS. KATHY KALINOWSKY: And actually I'll be turning it over to my colleague on the right, Mr. Michael Triggs. And he'll be conducting the cross-examination of Professor Simpson. I didn't want to get into this rivalry between the schools here, so.

CROSS-EXAMINATION BY MR. MICHAEL TRIGGS:

MR. MICHAEL TRIGGS: And I never attended London School of Economics, and as we know this morning, I had problems saying econometrics, so. Dr. Simpson, my role today will be to seek clarification and a better understanding of your testimony, both what you've written and what you spoke today.

As I said, my background is -- is not natural science or economics. So at times my questions may seem a little simplistic, so please have a bit of patience with me, as I'm kind of new to this area.

But as someone who's new to actuarial science and economics it appears to me that your report makes a number of very favourable comments about MPI's made-in-Manitoba DCAT.

Is that a fair assessment?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Okay. Would you agree with me that the DCAT is an analysis of data and statistics?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Okay. And as -- I understand what you're saying about the DCAT -- this is my understanding of what you're saying about the DCAT, that it's beneficial for -- to trim the size of the RSR because it involves a consideration and analysis of statistics and information. It's more advanced than simply plugging numbers into a formula.

And is that one of the qualities that you like about the DCAT?

DR. WAYNE SIMPSON: I think it is. There are limitations to that process, in terms of -- of understanding what is actually happening. And that's a distinct difference between, say, that and the Kopstein approach and what I referred to as transparency.

MR. MICHAEL TRIGGS: Now, go to -- this is Exhibit 3, CAC Exhibit 3. It's your report, the report you prepared on September 14th. If you go to page 14 of that report, just at the very top of the page there, the first paragraph, it says -- oh, sorry. Okay.

Are you there, Dr. Simpson?

(BRIEF PAUSE)

DR. WAYNE SIMPSON: Yes, I am.

MR. BYRON WILLIAMS: And, Mr. Triggs, keep -- carry on. I just want to -- if you'll just make sure that the pagination is consistent. That's my

-- my only worry. So carry on. You're doing -- doing lovely. Just...

MR. MICHAEL TRIGGS: Thank you, Mr. Williams.

CONTINUED BY MR. MICHAEL TRIGGS:

MR. MICHAEL TRIGGS: I'll read the page numbers that's on the bottom of my document, so hopefully it's the same. Page 14. At the top of the page, the first paragraph it -- the first full sentence begins with, "We would note."

Do you see that?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Okay. And -- and you wrote this, and you state:

"We would note, however, that the DCAT analysis now uses MPI's internal financial model and generates a base scenario from the combined efforts of seven (7) departments and committees."

Is that a good factor?

DR. WAYNE SIMPSON: That's what I wrote, yes.

MR. MICHAEL TRIGGS: And is that a good

factor?

DR. WAYNE SIMPSON: I think the fact that it -- yes, in the sense that it captures probably the -- a range of financial considerations that wouldn't be possible if it were out-house.

MR. MICHAEL TRIGGS: Thank you. Then you go on to say:

"This in-house feature of the current DCAT analysis should ensure that the unique organizational structure of MPI is properly captured and should enhance the credibility of the results obtained."

Is that your view?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: So I take it what you're stating is that by MPI weighing the evidence and analyzing its unique situation, MPI is enhancing the credibility of its results.

Is that correct?

DR. WAYNE SIMPSON: In the context of a DCAT, yes.

MR. MICHAEL TRIGGS: At page 16 of the -- the reports, the second full paragraph begins, "The DCAT analysis." It says:

"The DCAT analysis from MPI has
clearly evolved in a number of
positive ways."

MR. MICHAEL TRIGGS: Do you still agree with that statement?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS:

"The scenarios are chosen more
carefully and justified by appeal to
extort patterns of adverse events
that conform to standard notions of
risk tolerance."

You obviously still agree with that?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS:

"The analysis is based on MPI's
internal financial model that
reflects the combined efforts of many
departments and committee at MPI.
This approach allows for more careful
assessment of the results of the DCAT
analysis and the implications for the
target RSR as a rate setting."

Is that correct?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Would -- would you agree with me that DCAT assists management and the PUB in the identification, measurement, and mitigation of key risks faced by the Corporation?

DR. WAYNE SIMPSON: Properly used, yes.

MR. MICHAEL TRIGGS: Would you agree with me that the DCAT is looking -- is looking forward to consider risks in the future, to measure those risks that might be on the horizon?

DR. WAYNE SIMPSON: Well, I've had a de -- debate about the semantics of "forward looking", in the sense that it looks forward on the basis of the information which it has, which is inherently backward looking or historical.

MR. MICHAEL TRIGGS: Yes, but it is trying to predict those events that are going to happen in the future?

DR. WAYNE SIMPSON: Based on past evidence.

MR. MICHAEL TRIGGS: Would you agree with me that as a -- as a made-in-Manitoba DCAT -- would you agree with me, that a made-in-Mani -- the made-in-Manitoba DCAT uses MPI specific assumptions for adverse scenarios, ripple effects, and management action as opposed to prescribed rules that are the same for every company?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Would you agree with me that it produces a opinion as based upon the RSR targets set by the PUB?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Would you agree with me that the DCAT creates a clear linkage between the required RSR and the amount of risk faced by the Corporation?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Would you agree with me that the DCAT is a recognized method of the Canadian Institute of Actuaries and the Office of the Superintendent of Financial Institutions?

DR. WAYNE SIMPSON: I understand that to be the case, yes.

MR. MICHAEL TRIGGS: Would you agree with me that the DCAT is a living model, where adverse scenarios and associated assumptions can be discussed and debated at the general rate hearings and that, if warranted, modified for the next DCAT report?

DR. WAYNE SIMPSON: Yes, and I've adven -- emphasized that that is what I would hope to see.

MR. MICHAEL TRIGGS: Would you agree

with me that since the Manitoba -- this made-in-Manitoba DCAT is done in-house, the Corporation can provide the impacts of alternative adverse scenarios at the request of the PUB?

DR. WAYNE SIMPSON: Yes, it can, and it can also communicate those more effectively than if it were an external DCAT.

MR. MICHAEL TRIGGS: Thank you. Can you please go to page 17 of your report? And the third paragraph down there, begins with, "Another aspect."

Just for the record, can you read that -- in to the -- for the panel?

DR. WAYNE SIMPSON: The entire paragraph?

Mr. MICHAEL TRIGGS: Yes, please.

DR. WAYNE SIMPSON: What did I write? Let's see:

> "Another important aspect of the DCAT analysis will be the choice of adverse scenarios that are evidence based. MPI has improved its approach and responded to earlier criticism by using evidence from the TSX to justify the decline in equities and combined scenarios. Evidence on

claims experience to justify the combined and high-loss scenarios and evidence on hail storm claims to justify its large hail storm scenario.

"Using the evidence for collision and hail storm claims, statistical models were developed to an -- assess the distribution of outcomes using standard simulation techniques that would appear to conform to modern statistical risk assessment practice.

"The use of evidence-based justification for scenarios has two (2) important advantages. The statistical justifation -- justification can be assessed by the Board and its Intervenors, and clearly defined risk tolerance levels can be applied."

MR. MICHAEL TRIGGS: I take it that is your evidence?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Now, you said in your report that the 2012 DCAT is sen -- substantially improved from previous versions.

This must give you confidence that MPI listens to suggestions for improvements and is willing to adopt change?

DR. WAYNE SIMPSON: I'm not sure I would use the word "confidence". In what sense do you think it gives me confidence? It gives me information to ponder. I wouldn't say confidence.

MR. MICHAEL TRIGGS: Well, does it make you believe that MPI will listen to evidence, consider it, and adapt its -- its programs, its changes -- make changes?

DR. WAYNE SIMPSON: I'm not sure what evidence I have that -- of that.

MR. MICHAEL TRIGGS: Well, you've -- you've seen that we've -- you've suggested and you stated that MPI has made changes from past positions.

Do you feel it's likely that we'd be willing to do that in the future?

DR. WAYNE SIMPSON: There's been considerable progress. And if that continued, I would -- I would agree with your comment, yes.

MR. MICHAEL TRIGGS: And you've seen the progress made to be a significant and a positive step?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Now, you have cited in your report and also in the slide presentation there the need for greater transparency in the information going into the analysis.

Is that correct?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: You've also cited the need for greater collaboration between MPI, the Board, Intervenors, to develop a consensual process for the assessment of the DCAT analysis and the scenarios chosen.

Is that correct?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: If those two (2) issues were properly addressed, would this be an important improvement in the current DCAT analysis and further enhance its credibility?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: If you go to page 18 of your report, the -- the first paragraph. Are you there? The last couple of sentences there, you state:

"The data used in the details of the analysis are not presented. As this report -- as this report indicates above, these results may depend heavily on older evidence, less relevance in modern ec -- economy, since the TXS data from 1956 finds no period with similar adverse outcomes."

Is that correct?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Now, I'm going to be summarizing very generally Mr. Johnston's testimony. And I'd ask you just to accept that my summary is correct. But Mr. Johnston has said that he's not giving much weight to the pre-1956 data, but it's just something he can't simply ignore.

Now, what I want to know and make clear is, what is your position about the weight on the pre-1956 data? Is it to be completely ignored because it's irrelevant? Or should it at least be looked at, analyzed to see if there's anything that can be learned from it, and then make an assessment of how much weight should be given to it?

What is your position on that?

DR. WAYNE SIMPSON: The -- the methodology -- I mean, the notion of a weight, in a sense, is pretty arbitrary in this context, because what you do is you take data and you put it into an order and you pick off the -- the 5th percentile.

If you then start adjusting the data, you know, it's pretty arbitrary how much you would adjust to accommodate any particular thing. I think if I were given the choice, as essentially I've been given the choice, be -- or, of creating the choice, between giving it a hundred percent weight, which is because the -- all of the -- the adverse scenarios occur in the '30s, or giving it no weight, then I would clearly give it no weight.

MR. MICHAEL TRIGGS: Okay, but don't you think it would be reasonable to at least, you know, have some consideration to it? It's not a simple mathematical formula. As you said, there's very many factors that has happened since, you know, prior to World War II that are no longer -- may no longer be -- exist today. But isn't it reasonable to give some consideration and assign at least some weight?

You just can't dismiss it entirely because of it's -- because of a date.

DR. WAYNE SIMPSON: I'm not dismissing it because of a date. I'm -- I'm dismissing it because my understanding of the development of economics, and in particular, macroeconomics stabilization policy leads me to believe that we have learned a number of things about how to address financial and real economic shocks to economies and that we have considerable evidence since the post -- the sec -- the post-second-World War period -- in the post-second-World War period that -- that we can manage the economy much better - in other words, address those downturns much better than we could prior to the second World War.

So that is the -- the most significant factor to my mind. And that's really what drove me when I saw the data from 1919 to date, looking at the equity returns. The first reaction I had was, This is driven by the Great Depression, because the Great Depression has not been repeated and, in my opinion and in the opinion of a lot of economists, is not going to be repeated.

MR. MICHAEL TRIGGS: I guess the underlying assumption there is that the politicians who are in charge at the time when decisions have to be made are going to listen to that advice and -- and take that advice and not be precluded from taking advice because of very political views they may hold, such as Mitt -- Mitt Romney saying that he would not bail out the financial institutions or the auto industry.

DR. WAYNE SIMPSON: For people who had

real power, we have two (2) data points, if you will. We have George Bush, Junior, and we have Barack Obama, because the financial downturn began at the end of the Bush presidency and continued through the beginning of the Obama presidency.

And in fact, you see a great deal of continuity of policy between those two (2) Presidents who had diametrically different positions, at least their parties do. I suspect that, in my view, Romney's rhetoric is just that - rhetoric; that faced with the situation that Bush and Obama faced, he would do similar things, because he would get similar advice.

MR. MICHAEL TRIGGS: When I read your reports, what it tells me is that you're a person who likes to base decisions on evidence. You like to consider all your data. You'll sift through it. You analyze it to find an answer that's hidden in it.

Is that a fair assessment?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Now, is that why you made the statement:

"DCAT can be a useful tool for the ana -- for analy -- [excuse me] -- for the analysis of risk facing MPI's operation and investments and the responses needed."

It's a useful tool because DCAT requires an analysis of risk, an analysis of data, an analysis of assumptions.

Is that a fair assessment?

DR. WAYNE SIMPSON: Yes, it's a more thorough and -- and complex analysis of the information available.

MR. MICHAEL TRIGGS: Now, in your report you make a number of comments about other methodologies. Is that correct?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: I'd like you to turn to page 10 of your report, please.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: Okay. In the second paragraph, under the heading, "Pros and Cons According to MPI," you state:

"MPI correctly notes that while the percentage of premium Kopstein approach is easier to understand and calculate than the other approaches, it is not clearly linked to the risks

MPI faces."

Am I correct to say that this methodology -- that's the Kopstein methodology -- does not consider the risk that RSR is intended to protect against?

DR. WAYNE SIMPSON: Yes, except insofar as it does index the risks to the -- to claims, which is a useful index. I would, as a rough guide, suspect that the size, the absolute size of risks, would rise with the size of the operation, which would be reflected in the claims.

So there -- there is -- there is some indexing that is useful. So, you know, if they just had an absolute number and stuck to it since 1989, I suspect it would be less useful.

MR. MICHAEL TRIGGS: I guess the question is: Does risk rise with premium growth? And I think the next statement you say:

"Indeed, the main risks affect the assets and liabilities of the Corporation, not premiums, per se."

So is it fair to say that the risks facing MPI are to -- its assets will shrink and that its liabilities may grow? There's no really significant risk to premiums.

Is it fair to say that?

DR. WAYNE SIMPSON: I think I'd stand by the claim that it's useful to index -- it was useful, the Kopstein index, to -- his rule, to claims, because that roughly reflects the size, or the -- or, premiums, I'm sorry, because that roughly reflects the size of the operation, and it captures inflation and so on.

That's the only point I'm trying to make there. If you're trying to make -- well, I did make the point that it is not related, for example, to the risk that they would face on the investment side, which we've seen do - - have been changing dramatically.

MR. MICHAEL TRIGGS: Yes, and as -- as I said to you like, you know, MPI's risks are shrinking assets and increasing liabilities, the -- not the premiums.

Is that correct?

DR. WAYNE SIMPSON: Okay.

MR. MICHAEL TRIGGS: And you go on to state:

> "This limitation of Kopstein's approach is clear in the current uncertain stock market environment."

So the current uncertain stock market

environment can potentially result in significant losses to MPI's assets, but this risk is irrelevant to Kopstein's approach?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Now, you go on to say:

"Risk to the value of MPI's investment portfolio should be reflected in any risk assessment and mitigation strategy, and the RSR target needs to consider the risks associated with -- with, for example, a repeat of the sharp financial downturn of 2008 and '09."

So isn't it an essential component of risk management to identify the risks, assess the risk, develop mitigation strategies, which include setting aside appropriate reserve?

Is it fair to say that that is what DCAT is about, when it considers these factors, whereas a percentage of premiums does not?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Would you agree with me that the insurance industry in Canada is heavily regulated?

DR. WAYNE SIMPSON: If you want a non-expert's opinion, I would agree.

MR. MICHAEL TRIGGS: Would you also agree with me that one of the main reasons why it's heavily regulated is to protect the public?

DR. WAYNE SIMPSON: I would presume that's a major consideration.

MR. MICHAEL TRIGGS: Now, there are various legislation in Canada governing the insurance industry, such at the federal level, there's the Canadian and British Insurance Companies Act; and in Manitoba there's the Insurance Act. I think every province and territory has an Insurance Act.

They all speak to the requirement that insurance companies have, quote, "appointed actuaries." Now, I'm not aware of any, but maybe you are, of any requirements for there being an appointed economist?

DR. WAYNE SIMPSON: Is that a question?

MR. MICHAEL TRIGGS: Yes. Are you aware --

DR. WAYNE SIMPSON: Am I aware of any require --

MR. MICHAEL TRIGGS: Yes.

DR. WAYNE SIMPSON: I am not aware of any such requirements, no. But if there's a job available and they need someone, I'm -- I'd be interested in the job posting.

MR. MICHAEL TRIGGS: The -- the CAC (MANITOBA) has retained you to provide analysis of the issues associated with risk management and target the Corporation's Rate Stabilization Reserves.

Is that correct?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: And as you also said earlier you're aware that they've retained Andrea Sherry to be an independent actuary.

Is that correct?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: And I believe you said that Ms. Sherry is an expert at DCAT. Is that correct?

DR. WAYNE SIMPSON: She's a -- she's a practitioner. To me, she's an expert, yes.

MR. MICHAEL TRIGGS: And DCAT is used by her employee -- employer, Wawanesa Insurance? I said that wrong.

DR. WAYNE SIMPSON: Let's try econometrics.

MR. MICHAEL TRIGGS: I got that one right eventually.

DR. WAYNE SIMPSON: I understand that to be the case, yes.

MR. MICHAEL TRIGGS: And OSFI, the Office of the Superintendent of Financial Institutes, which regulates her employer, believes that DCAT is ready for prime time.

Is that correct?

DR. WAYNE SIMPSON: In the context of a private insurer, possibly. I -- I really don't know. I -- I assume yes.

MR. MICHAEL TRIGGS: And you probably don't know how long, but I'll ask anyways, how long OSFI has been using DCAT in the prime time?

DR. WAYNE SIMPSON: Is it multiple choice?

MR. MICHAEL TRIGGS: Yeah, "yes" or "no".

DR. WAYNE SIMPSON: I don't know.

MR. MICHAEL TRIGGS: Do you know if the CAC (MANITOBA) does an actuary review of this DCAT?

DR. WAYNE SIMPSON: If CAC (MANITOBA) has done an actuarial review of -- of which DCAT? Of --

MR. MICHAEL TRIGGS: The -- the MPI 2012 DCAT, the one that we're discussing.

DR. WAYNE SIMPSON: No, they haven't.

MR. MICHAEL TRIGGS: Now, you said that you and Ms. Sherry -- and the other gentleman's name escapes me, but he has worked at -- he has --

DR. WAYNE SIMPSON: Peter -- Peter Dyck.

MR. MICHAEL TRIGGS: Peter Dyck.

MR. BYRON WILLIAMS: Could I interrupt, Mr. Triggs? Just because I want to make sure that we understand your previous question, in terms of an actuarial -- actuarial review, just to make sure that the answer is fully candid.

There's two (2) ways one could presume you were asking that. If you -- I wasn't sure if you were asking have -- has it been run through a parallel DCAT model? Or has the actu -- has Ms. Sherry looked at it?

I wasn't sure what you were asking, and I just -- I just don't want to let the answer go on with -- without having a bit more clarification.

MR. MICHAEL TRIGGS: Certainly. I was asking whether or not Ms. Sherry -- if he was aware of whether CAC (MANITOBA) has had Ms. Sherry do a review of the DCAT.

DR. WAYNE SIMPSON: She -- she reviewed the documents available to her and, in that sense --

but she didn't -- I -- I was interpreting it in the fashion of: Did she run a parallel DCAT analysis? And the answer to that would be -- would be no. But she certainly reviewed the documents and provided me with useful information about a DCAT, how it should be done, and read the report that I -- I wrote and made comments on it, some of which I incorporated.

CONTINUED BY MR. MICHAEL TRIGGS:

MR. MICHAEL TRIGGS: Okay. Do you know whether or not Ms. Sherry, in her professional capacity, uses the pre-1956 data of the -- from equity markets to run her -- her models through her work?

DR. WAYNE SIMPSON: No.

MR. MICHAEL TRIGGS: No, you're not aware, or...?

DR. WAYNE SIMPSON: I'm not aware.

MR. MICHAEL TRIGGS: Are you aware of other actuaries, such as Mr. Pelly, who is here, whether he uses the pre-1956 data in his work on DCATS?

DR. WAYNE SIMPSON: No.

MR. MICHAEL TRIGGS: Did Ms. Pelly (sic) review your slide that was shown at the end, the -- the chart with the -- the $100 million? Did she review that slide?

DR. WAYNE SIMPSON: I'm sorry, Mr. --

MR. MICHAEL TRIGGS: Oh, it's --

DR. WAYNE SIMPSON: Ms. Sherry?

MR. MICHAEL TRIGGS: Ms. Sherry, I should say, yes. Sherry, yes.

DR. WAYNE SIMPSON: No. I don't think I circulated that to her, no. This was -- this was done fairly recently.

MR. MICHAEL TRIGGS: And I believe in your --

DR. WAYNE SIMPSON: Let me -- actually, I believe -- I believe I did copy her on that. I think -- I think she did see it, yes.

MR. BYRON WILLIAMS: Mr. Triggs, on that one we would undertak -- undertake to double-check whether or not she reviewed, because I'm not sure either of our memory is -- is...

DR. WAYNE SIMPSON: Yeah. I -- I could check my email records, but when -- when I sent it, I believe -- I believe I did copy her, actually.

CONTINUED BY MR. MICHAEL TRIGGS:

MR. MICHAEL TRIGGS: So you don't -- I guess, though, you don't recall whether she replied or responded to your analysis then though, did you?

DR. WAYNE SIMPSON:   She either responded favourably or not at all.  I could check that.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS:   Yes.

MR. BYRON WILLIAMS:   Yes, CAC (MANITOBA) undertakes to review a) whether Ms. Sherry reviewed Professor Simpson's slide show, and b) whether she commented upon it, in terms of the -- the estimate of the 100 million associated with the minus 20 percent decline in equities over a cumulative four (4) year period.

--- UNDERTAKING NO. 20:    CAC (MANITOBA) undertakes to review a) whether Ms. Sherry reviewed Professor Simpson's slide show, and b) whether she commented upon it, in terms of the estimate of the 100 million associated with the minus 20 percent decline in equities over a cumulative four (4) year period

CONTINUED BY MR. MICHAEL TRIGGS:

MR. MICHAEL TRIGGS: In your examination-in-chief you stated that, when you were referring to your team and the review of your work, that you said, "I think they agree with me."

That seems to leave a lot of uncertainty as to whether they actually do or do not.

DR. WAYNE SIMPSON: I have no evidence to suggest they don't agree with me.

MR. MICHAEL TRIGGS: Do you have evidence that suggests that they do agree with you?

DR. WAYNE SIMPSON: Yes. I have email correspondence and a meeting, actually, with Ms. Sherry to suggest that they were -- look quite favourably upon the work I did.

THE CHAIRPERSON: Do you mind if I interject a few questions here, just for my clarification? Could you explain Ms. Sherry, where -- what she does or what the relationship is between your work and her?

I'm -- it's not clear in my mind what -- what's -- what transpired there.

DR. WAYNE SIMPSON: She -- well, she is

a DCAT practitioner. I gather she works at Wawanesa. And she was retained by CAC (MANITOBA) and the Public Interest Law Centre to assist with the -- with the expert -- provide expert advice. She did not have any role in writing the report. I wrote the report. But they -- she was provided with the report and asked to comment on it, similarly the addendum.

And it strikes me that in most of the correspondence on these issues regarding the DCAT, I would have routinely copied her when I sent material to -- not always Peter Dyck, but usually Andrea Sherry, because after all, we're talking about a DCAT, and she does these things. And so I wanted to get things right, in terms of the -- in terms of what DCATs do, how they go about it, what kinds of assumptions they make, as much as possible. And so she was very useful in that -- in that process.

And I relied on her, for example, when she said that when you do a DCAT, the MCT is a natural byproduct. And I made the comment in the -- in the report that they are inextricably linked in that sense, that one comes out of the other. Now, the actual mechanics of that, she could explain for better than I can.

THE CHAIRPERSON: Now just again to

clarify, she commented on your report, or she commented -- she also read the DCAT that had been prepared by MPIC?

DR. WAYNE SIMPSON: She would have read the materials, including the amen -- the original and amended DCAT provided by the report, provided by MPI, yes.

THE CHAIRPERSON: Again, her commentary would have been to the effect that your -- your calculations were plausible in the context of the information she had before her?

DR. WAYNE SIMPSON: I would have to -- I -- I seem to recall sending my calculations to her, my rough calculations, as I put it. I don't -- I certainly didn't get any negative comment, whether I got any comment at all sort of in this last-minute phase was -- I am not sure. I couldn't say whether she said anything positive, but she didn't say anything negative.

MR. BYRON WILLIAMS: Mr. Chairman just for again -- for purposes of clarifications, if you would assist in -- when you were referring to calculations, were you referring to the estimate of the impact of the minus 20 percent? Or were you referring to the overall calculations of the report?

THE CHAIRPERSON: The minus 20 percent.

CONTINUED BY MR. MICHAEL TRIGGS:

MR. MICHAEL TRIGGS: Do you know why Ms -- Ms. Sherry is not here today?

DR. WAYNE SIMPSON: I'd assume she's working, but I don't know.

MR. MICHAEL TRIGGS: Do you know why she did not submit in writing any evidence for the panel to consider on this, on the DCAT?

DR. WAYNE SIMPSON: No.

MR. MICHAEL TRIGGS: Now if we can go to the -- the slide, and when I refer to "the slide", it's the slide with the -- it had the -- this morning it had the $100 million figure, the 20 percent decline.

(BRIEF PAUSE)

DR. WAYNE SIMPSON: You're talking about the rough calculations table ---

MR. MICHAEL TRIGGS: Yes, that's correct. So did you consider the budgeted equity investment income in your assessment?

DR. WAYNE SIMPSON: No

MR. MICHAEL TRIGGS: Do you think that

would be an important consideration?

DR. WAYNE SIMPSON: If you're -- I'm not sure what you're now asking me. I am taking the calculations from two (2) DCAT points provided by MPI, and I'm extrapolating. Beyond that, I am doing nothing more. So I -- I wouldn't engage in any further calculations beyond what is presented in the table.

MR. MICHAEL TRIGGS: Yes. So you're -- you didn't consider the fact that -- I've got to keep checking the microphone to see it's on.

You didn't consider the fact that MPI had previously budgeted income off of this return when a decline happens?

DR. WAYNE SIMPSON: Are you talking about the amount that's budgeted in the base scenario?

MR. MICHAEL TRIGGS: Yes.

DR. WAYNE SIMPSON: Well, when you're comparing your decline in equity scenario to the base scenario, implicitly you're always doing that.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: Okay. What if I told you MPI is budgeting to earn $108 million in equity investment income between 2013/'14 and 2016/'17?

These figures are in AI-9, pages 1 and 2, if you're interested.

So is this an important factor to consider in your analysis?

DR. WAYNE SIMPSON: It would certainly be an important factor to consider in a DCAT analysis, which I have not done.

MR. MICHAEL TRIGGS: Yeah, you -- you haven't done a DCAT analysis. And I think your testimony was that, earlier, you've never done a DCAT analysis.

Is that correct?

DR. WAYNE SIMPSON: That's what I said.

MR. MICHAEL TRIGGS: So if MPI's only loss is equity investment income over the next four (4) years, then it would lose $100 million relative to its budgets.

That's already bigger than the $100 million calculation, isn't it?

DR. WAYNE SIMPSON: There are other things going on that are not captured there besides the equity loss.

MR. MICHAEL TRIGGS: Such as?

DR. WAYNE SIMPSON: Well, you have other elements in the investment portfolio, right. And you have other aspects of the operations on the -- on the real side, if you will.

MR. MICHAEL TRIGGS: Yeah. So that -- that $108 million is only in the equity component. That's the -- the factor that's at risk.

DR. WAYNE SIMPSON: Yes, I understand that.

MR. MICHAEL TRIGGS: So those other elements aren't taken into consideration here. So you said other things are at -- at -- so what are they?

DR. WAYNE SIMPSON: Well, let me -- let me rephrase my answer then. You -- what you're trying to assume is that over a four (4) year period the -- the equity return is zero instead of 108 million? I'm just trying to clarify what the question is.

MR. MICHAEL TRIGGS: I guess the point is that even before a decline in equity market happens, MPI is assuming -- has budgeted to make money off of the -- of this. So it's not making the money, it didn't make that money, and now it's losing money because of the decline.

DR. WAYNE SIMPSON: That is exactly the comparison between the base scenario and the adverse event scenario.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: So you have -- a 20 percent decline in your scenario results in a loss of $75 million to the Corporation's equity balance.

Is that correct, subject to check?

DR. WAYNE SIMPSON: If you're comparing '14/'15, which is the basis of the RSR calculation, then it goes from -- it -- the -- the net gain from going from minus thirty-five (35) to minus twenty (20) is 75 million.

MR. MICHAEL TRIGGS: Let me --

DR. WAYNE SIMPSON: You would -- you would compare columns 5 and 8 for '14/'15.

MR. MICHAEL TRIGGS: Okay. Now you get a little bit confusing here. So the Basic equity balance -- the DCAT shows that the Basic equity balance as of the beginning of 2013/'14 is three hundred and twenty (320) -- $372.7 million.

Subject to check, is 20 percent of this number equal to $75 million?

DR. WAYNE SIMPSON: Three-hundred and seven (307) million?

MR. MICHAEL TRIGGS: Three seventy-two (372) million.

DR. WAYNE SIMPSON: Three seventy-two (372). Oh, that's pretty close.

MR. MICHAEL TRIGGS: So a 20 percent decline -- so a 20 percent decline, your scenario results in a loss of 75 million to the Corporation's equity balance.

Is that correct?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: So...

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: Okay. So it looks like in your scenario results in a $75 million loss in equity balances, plus another $108 million in loss equity investments over four (4) years. That totals $183 million relative to budget.

Is that equal to the 100 -- $100 million?

DR. WAYNE SIMPSON: Well, you're going off the board here. The -- the DCAT process asks for an evidence-based justification of a particular scenario, which is not an imagined scenario, not a stress test, but is based upon, as we have it here, a four (4) year return to the TSX.

What we've done is we've taken evidence that we can gather on four (4) year returns to the TSX -- or, you've taken evidence. And what we've seen from the post-'56 period is that an adverse scenario at the 5th percentile is a decline of minus 16.4 percent over that period.

We haven't talked about, you know, decline and recovery. There's a little bit of an element there that probably should be captured. But, you know, there are all sorts of other imagined scenarios, the plausibility of which I do not know, because I haven't presented with any evidence based on an empirical probability distribution which would allow me to assess that evidence in the context of the risk tolerance levels that we've established.

MR. MICHAEL TRIGGS: The 20 percent decline, that was your scenario that you put forward and that you're submitting to the Board.

Is that correct?

DR. WAYNE SIMPSON: The minus 20 percent scenario is a slight -- slightly worse than the minus 16.4 percent that comes from the 5th percentile of the post-'56 returns, yes.

MR. MICHAEL TRIGGS: And that's the one (1) you put forward to the Board. And I seem to recall you said it was a -- a rough estimate, a written on the back of a napkin type of estimate.

Is that correct?

DR. WAYNE SIMPSON: Written on a spreadsheet.

MR. MICHAEL TRIGGS: This -- earlier this morning you said napkin, but same thing.

DR. WAYNE SIMPSON: Envelope. I actually said envelope, if we're being accurate.

MR. MICHAEL TRIGGS: Envelope. Okay, sorry. Okay. Now, the PUB -- the Board, they have the serious job of determining what a RSR level is, because of the impacts it'll have. And do you think it's appropriate for them to consider rough estimates, something that's not been run through a DCAT?

DR. WAYNE SIMPSON: I would prefer to see a minus 16.4 or a minus 20 percent decline in equity scenario run through the DCAT. I think that would improve the Board's understanding of -- of how much the consideration only of the post-'56 data matters. And I think it would also provide some evidence of a -- of progress towards a consensual process in which both the Intervenors, the Board, and MPI played a role.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: Now, you've made a statement about the operational risk metho -- methodology and it kind of confuses me. This is at page 19 of the -- your report, if you could go to there.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: It's in the second-last paragraph. Middle sentence says:

"One of the strengths of the RA/VaR,

risk methodology] approach is setting the RSR target range as being its stability since the projections change only gradually as new evidence of MPI's operations and investments is added."

Is that correct?

DR. WAYNE SIMPSON: That's what I wrote.

MR. MICHAEL TRIGGS: Yes. Now, I'll put it to you, and this is subject to check, but the operational risk methodology had, for the nin -- to the 2007 GRA, produced a range of 50 million to $80 million; that the 2010 GRA produced a range of 96 million to 241 million; that at the two hundred and twelve (212) (sic) GRA it produced a range of 144 million to 243 million; and at this GRA, it has produced a range of one ninety-three (193) to 291 million.

Do you consider that stable and gradual?

MR. BYRON WILLIAMS: Before the witness answers the question, Mr. Triggs, just can you provide the witness with confidence that all -- all of those assumptions were based on the same time horizons for the value at risk? And also the same equity load.

And, sir, if -- if -- that would be helpful. Because we -- the -- the history of this, obviously, has been we've used one (1) per -- one (1) year time horizons, two point five (2.5). So if you're going to be putting those to the witness, and -- and if you can provide assurance of that, the witness certainly is available to answer that question.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: Yeah, Mr.

Williams, I can advise that these are the outputs that came from the Board-approved methodology and that they are consistent.

MR. BYRON WILLIAMS: Then the witness can answer the question. And if MPI will just do CAC the favour of -- of checking back and making sure of that 2007 number, we'll do the same.

CAC (MANITOBA) will undertake -- certainly, the witness is available to answer the question. CAC (MANITOBA) will undertake to review the VaR outputs, the RA/VaR outputs, to -- to respond, in terms of whether they were consistent in the core estimates being 25 percent equity and also two point five (2.5) year horizon. If they are not consistent, CAC will advise the Board of that.

--- UNDERTAKING NO. 21: CAC (MANITOBA) to review the RA/VaR outputs to respond, in terms of whether they were consistent in the core estimates being 25 percent equity and also two point five (2.5) year horizon

DR. WAYNE SIMPSON:   My -- my turn?

CONTINUED BY MR. MICHAEL TRIGGS:

MR. MICHAEL TRIGGS:   Yes.

DR. WAYNE SIMPSON:   Well, I think the operative words here are "has been" its stability.  And I think the reference there I'm making is to my -- my report with Dr. Hum, the previous reports from 2006 and 2009, where the RA/VaR approach, we thought, had provided both a -- a fairly transparent and replible -- replicable approach to -- to this problem.

In recent years, it has not been as stable, which I think is the point you're making.  And I interpret that as picking up some of the volatility associated with the investment portfolio.  And that's all a good thing.

But I think it's picking up, probably, in a -- in a very crude way, in precisely the kinds of -- expressing precisely the kinds of concerns that MPI has expressed with the methodology, which it -- it's had its day, and it probably doesn't do as good a job as other methods, such as the DCAT.  So I -- I would agree with that.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: In your report that you've submitted, the September 14th report, you stated that the RSR could be as low as $81 million. Is that correct?

DR. WAYNE SIMPSON: Do you have a page on this?

MR. MICHAEL TRIGGS: I believe it's in the recommendations, and it's page 20.

DR. WAYNE SIMPSON: Page 20? Oh, I see. I -- I'm simply listing the Kopstein percentage of premium numbers that come out of the amended DCAT report.

MR. MICHAEL TRIGGS: Yeah, and I think before that you say there is no reason to alter the RSR target range generated by this method?

DR. WAYNE SIMPSON: That's what I say.

MR. MICHAEL TRIGGS: So you are then recommending to the Board that they keep that -- that range?

DR. WAYNE SIMPSON: The rough calculations that I made -- that I presented today suggest to me that if you were setting an RSR target on the DCAT procedures based on the post-'56 data, you would probably set an RSR target at the low end of the

Kopstein range because, you know, seventy-seven (77) to 81 million is -- is closer to a hundred (100) than is 150 million. So I might suggest a little lower target now than I would have at that point.

MR. MICHAEL TRIGGS: Okay. Do you recall testifying before the PUB in October 2008, on the day that the stock market -- the TSX crashed eleven hundred (1,100) points?

DR. WAYNE SIMPSON: You're testing my memory. Is the answer yes?

MR. MICHAEL TRIGGS: Yes. You don't recall that day?

DR. WAYNE SIMPSON: I probably recalled it better when I looked at my investment and pension statements later. But at the time, no, it doesn't particularly stick in my mind. Stock markets go up and down.

MR. MICHAEL TRIGGS: Yeah. You don't recall Professor Hum wanted to be excused from his testimony because it was such a unprecedented event?

DR. WAYNE SIMPSON: I can imagine Dr. Hum reacting in that fashion.

MR. MICHAEL TRIGGS: Did -- did you predict the crash or warn of its potential? Any warn -- any way warn of it?

DR. WAYNE SIMPSON:   Anyone who had the confidence in the -- that that crash was going to occur, not just predicted but put their money behind it, is lying on an island somewhere in the South Pacific and not testifying before the PUB.

MR. MICHAEL TRIGGS:   I'll take that as a no.

DR. WAYNE SIMPSON:   No.

MR. MICHAEL TRIGGS:   Just out of curiosity, did you check the equities market today?

DR. WAYNE SIMPSON:   No, it was up yesterday.

MR. MICHAEL TRIGGS:   So subject to check, I'm advising you that for the fiscal year that ended February 2009, MPI had budgeted $104 million in income from its equity investments.  Because of the stock market crash that we just spoke of, MPI...

(BRIEF PAUSE)

MR. MICHAEL TRIGGS:   Okay.  Sorry.  Our total invest -- let me correct that.  Our -- MPI budgeted total investment income was $104 million, not just the equities.  Because of the stock market crash that we just spoke of, the investment totalled $4 million. That's a real number. It's a loss of -- a real loss of a $100 million, and it was suffered just three and a half (3 1/2) years ago.

If the RSR was set at only $81 million as you recommended as reasonable, you say in the lower end, MPI would have had then to seek an additional $19 million from Manitobans at a time they -- they were going through the great recession.

In your professional opinion, is that a prudent way for MPI to manage its affairs?

DR. WAYNE SIMPSON: The -- the advice that I saw from investment -- the investment community when the stock market crash occurred, and in the aftermath when there was a great deal of uncertainty in the stock market, was to say to people, Don't bail, hold your stocks; they'll come back. And I'm assuming MPI took much the same advice with much the same result.

MR. MICHAEL TRIGGS: No, my -- my question was -- pointed out that MPI suffered $100 million loss from budget, and that's money that was planned to be spent that was needed for its programs. And this money had to come from somewhere. And if it was going to come -- if the RSR was at $81 million, that's $19 million more that has to come from ratepayers in the middle of the -- the great recession.

And the question was: In your professional opinion, is that a reasonable way for MPI to manage its affairs?

DR. WAYNE SIMPSON: Well, I stand by my previous answer, and I suspect if you look at the -- I think you took February to February figures, didn't you?

MR. MICHAEL TRIGGS: Yes.

DR. WAYNE SIMPSON: Yeah. They're -- that -- the fiscal year is April 1 to March 31, right?

MR. MICHAEL TRIGGS: No.

DR. WAYNE SIMPSON: Or is it February to February? So that's why you took the February figures. Okay. So you're not going to recover this all at once, which is why invest -- the investment community said, Hold the money and -- and you'll recover. So you have to find bridge financing for this.

One method, obviously, is to have some sort of rate surcharge. The rate surcharge -- and what was it, 18 million? I don't know what a rate surcharge would be on 18 million, but I -- I don't know that it would be rate shock. If you're taking the most drastic example out of the last recession, I think -- I think

I'm -- I'm not troubled by it.

MR. MICHAEL TRIGGS: Yeah, but you also have to rebuild your RSR as well.

DR. WAYNE SIMPSON: Over time, and it -- it rebuilt pretty fast once stocks recovered; at least my pension fund did.

MR. MICHAEL TRIGGS: At page 5 of your report, the second-last paragraph, you state:

> "The scientific approach to large, unforeseen, nonrecurring events ivol -- involves specification of a risk tolerance level corresponding to a confidence level for statistical analysis. A level commonly adopted is a ninety-seven point five (97.5) confidence level, which would correspond to an event having a 2.5 percent annual chance at occurring, or a one (1) in forty (40) year event."

Board Order 150/'07, which is copied on page 17 of your report, it states:

> "The RSR should be large enough to be able to withstand an unforeseen loss of a magnitude not anticipated to

occur once -- more than once in forty (40) years."

To your knowledge, is the one (1) in forty (40) year event something that can be modelled in the DCAT report?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Would it be reasonable to base the RSR target on a scientific approach and using Board-endorsed risk tolerance?

DR. WAYNE SIMPSON: I think if the Board believes that the 2 1/2 percentile is an appropriate balance of the benefits and costs, as I've discussed, instead of 5 percent, then I would say yes.

MR. MICHAEL TRIGGS: Am I correct in saying that the percentage of premium methodology is neither based on scientific approach or the Board's endorsed risk -- risk tolerance?

DR. WAYNE SIMPSON: I would agree.

MR. MICHAEL TRIGGS: Now, I'm going to take you to page 20 of your report, please. This is where you -- you make your recommendations. And you made the recommendations:

"There is no reason to alter the RSR target range generated by the percentage of premium method applied "to forecast net written premiums."

On page 20, the second bullet -- second-last bullet, you state:

"The percentage of premium is unrelated to risk."

Is that statement correct?

DR. WAYNE SIMPSON: That's what I wrote, yes.

MR. MICHAEL TRIGGS: Is it -- is it fair to say that the percentage of premium approach doesn't do the job of assessing risk?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Okay. At page 20, in the same sentence, you also state:

"The percentage of premium methodology has the advantage of being the incumbent method of calculating the target RSR."

Is that correct?

DR. WAYNE SIMPSON: That's my understanding.

MR. MICHAEL TRIGGS: Okay. Now, I can understand why tenured professors see value in maintaining the status quo of retaining incumbents, but why would anyone else see any value in retaining something that's not competent to do the job? Why?

DR. WAYNE SIMPSON: Well, I think there's a number of reasons. One (1) of which is not only academics, but the public in general resist change. Or at least when there is change, they want to have a good reason for the change. And I think, in this case, in communicating to the public, you would prefer to stick with an incumbent methodology until you had something that was clearly better, in the sense that you could explain it to the public to replace it.

MR. MICHAEL TRIGGS: Okay. You have, however, pointed out the DCAT addresses the risks faced by MPI. Is that correct?

DR. WAYNE SIMPSON: Properly constituted, yes.

MR. MICHAEL TRIGGS: You also state in this paragraph that:

> "DCAT is a useful tool for assessing the size of the RSR, particularly when important new risks emerge."

Is that correct?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: You note that there is still uncertainty in the equities market. Is that correct?

DR. WAYNE SIMPSON: There is always uncertainty in equities markets, and the recent uncertainty is higher than uncertainty during other periods, yes.

MR. MICHAEL TRIGGS: Is it fair to say ---

DR. WAYNE SIMPSON: With the exception of the 1930s ---

MR. MICHAEL TRIGGS: Is it fair to say that while that uncertainty continues to exist, MPI is facing real risk to its assets?

DR. WAYNE SIMPSON: You keep using the word "real risks". When I think of real risks, I'm thinking of situations where the Corporation would be forced to liquidate its holdings. We're not talking about that are we? What we're talking about is situations where, on paper -- that is, the book value -- the market value has gone down.

I'm not presuming that you're forced to liquidate your holdings. I'm assuming that you are finding other ways to manage your business than liquidating holdings just because the equities are declining.

MR. MICHAEL TRIGGS: Are you familiar with the IFRS accounting rules with regard to recognizing impaired losses? Impaired investments ---

DR. WAYNE SIMPSON: No, no.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: Have you done any analysis of the extent to which investment managers continue to trade during downturns?

DR. WAYNE SIMPSON: I've attended seminars on it. I don't study this area, no.

MR. MICHAEL TRIGGS: Isn't it true that this made-in-Manitoba DCAT is the best tool available for objectively and rationally assessing the quality -- assessing and quantifying the risks facing MPI?

DR. WAYNE SIMPSON: Not at this time.

MR. MICHAEL TRIGGS: What is the best?

DR. WAYNE SIMPSON: I don't think we yet have an answer to that until we, as I said before, have a full confidence in the DCAT in -- in the form of a consensual basis for the way in which it's operated, the way in which the scenarios are determined.

MR. MICHAEL TRIGGS: Okay. And as my earlier question, that you answered affirmative, was that assuming that those -- that was taken care of, that would be a huge improvement in the credibility of the process?

Is that correct?

DR. WAYNE SIMPSON: That's correct. Let me elaborate at this point. Here's my concern, in a very candid fashion. With the Kopstein approach, it's just rule of thumb. With the RA/VaR approach, you get actual forecasted. You can replicate those numbers; you get an answer. With the DCAT approach, I think the suspicion, until it is eliminated, is that you start out with a number you want to get for the RSR and then you find scenarios that justify that. And that is going to be a concern until that is put to bed. That's why I said, Not at this time.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: So is what you're suggesting is that the Corporation chose a number and then directed its internal actuary and its appointed actuary to ignore their professional obligations and come up with results to deal -- to produce that number?

DR. WAYNE SIMPSON: No.

MR. MICHAEL TRIGGS: Then what are you suggesting then? What's wrong with the DCAT?

DR. WAYNE SIMPSON: I suggested that

the -- the nature of the DCAT analysis, and in particular the choice of scenarios, is such that there are risk with very low probabilities that will generate extremely high RSRs. And until there is a consensus on how to resolve the suspicion that the scenario choice is driven by the size of the RSR that you want, that the DCAT remains problematic.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: All right. Well, we'll have to give some thoughts to your words of -- your choice of words are suspicious, but I'll move on.

And -- but I'd like to ask: Am I correct in saying that the percentage of premiums methodology is void of any consideration for potential instabilities in the equities market?

DR. WAYNE SIMPSON: Yes.

MR. MICHAEL TRIGGS: Do you acknowledge that the stated purpose of the RSR is to protect motorists from large premium increases that may otherwise be necessary as a result of unexpected events and losses arising from non-reoccurring events or factors?

DR. WAYNE SIMPSON: That -- those

certainly aren't my words, but I take that as the -- the purpose of the RSR, yes.

MR. MICHAEL TRIGGS: That's correct. If you can go to page 11, please, of your report.

(BRIEF PAUSE)

MR. MICHAEL TRIGGS: The third paragraph, near the end, you say -- you state:

> "Put simply and starkly, how much should the target RSR from a DCAT analysis be discounted to reflect the fact that all vehicle owners must be insured by MPI and MPI's solvency and general financial condition is directly -- [excuse me] -- is insured directly by the Province of Manitoba and indirectly by the same vehicle owners as taxpayers."

Is that correct?

DR. WAYNE SIMPSON: Yes, I think that's summarizing earlier positions that Professor Hum and I took in earlier reports too, yes.

MR. MICHAEL TRIGGS: Is it your position that the -- the Board should discount the --

the DCAT RSR level because if an unexpected event occurs and MPI is put in a position of dire financial straits, that this is not a problem, because the Government of Manitoba can take money out of schools and hospitals and meet MPI's shortfalls?

DR. WAYNE SIMPSON: I wouldn't put it that way, no.

MR. MICHAEL TRIGGS: I have no further questions for this witness.

(BRIEF PAUSE)

MR. BYRON WILLIAMS: Mr. Chairman, before moving to the next witness, might Mr. Williams be excused for a one (1) minute break?

THE CHAIRPERSON: In fact, I think we should take more than one (1) minute. We should take ten (10) minutes and return -- resume the proceedings at about twenty-five (25) to 3:00. Thank you.

--- Upon recessing at 2:23 p.m.

--- Upon resuming at 2:39 p.m.

THE CHAIRPERSON: I believe we're ready to resume the proceedings. I apologize for being late.

Ms. Grammond, please.

MS. CANDACE GRAMMOND:   Thank you, Mr. Chairman.

CROSS-EXAMINATION BY MS. CANDACE GRAMMOND:

MS. CANDACE GRAMMOND:   So, Professor Simpson, I have a few questions for you relative to your report and evidence that you've given to this point.  I'm going to start out by asking some questions about the minimum capital test.  There is reference to that in your report.  And we'll probably refer to it as "MCT" for the purposes of the record.

So you've said in your report -- and I'm looking at page 5 in the last paragraph that we see on page 5 -- that:

> "The MCT was designed to assess the capital required for a private company in a competitive industry to forestall insolvency.  It was therefore questionable whether the test was applicable to a public Crown corporation with a monopoly over Basic insurance.

You -- are you with me?

DR. WAYNE SIMPSON:   Yes.

MS. CANDACE GRAMMOND: And just before we get into that statement, it's my understanding that the MCT is the solvency ratio prescribed by the oppos -- Office of Superintendent of Financial Institutions of Canada, or OSFI?

DR. WAYNE SIMPSON: Yes.

MS. CANDACE GRAMMOND: Now, coming back to your statement that I read in a minute ago, is it the -- the MCT itself which is of questionable relevance to a public Crown corporation, or is it the threshold used to gauge the relative adequacy of a test ratio result?

DR. WAYNE SIMPSON: It's the latter.

MS. CANDACE GRAMMOND: Now, in your report -- and this is on page 10 -- you also state with respect to MCT -- if anyone's following, it's page 10, roughly in the middle of the page. You've made the statement that:

> "There does not appear to be any analytical method or direct evidence that would inform the PUB as to the appropriate MCT score or range of scores for a monopoly insurance provider."

And here's the question: If it came to

pass that a more rigorous DCAT approach was used to set the RSR target level to the satisfaction of the PUB, would MCT ratios calculated in that DCAT be expected to inform the PUB in that regard?

DR. WAYNE SIMPSON: I think that's an interesting use of the -- of the DCAT, to generate MCTs and -- and see what level they were at. Yes, I think that's -- that would be an interesting number to have. Yeah.

MS. CANDACE GRAMMOND: Thank you. You've also stated in -- in your report -- and this is on page 6, and I apologize for jumping. This is page 6 in the first paragraph. Mr. Pelly assures me there's a logic to the jumping. On page 6, the first paragraph, you've made the statement, or you -- you asked the question:

"Is an instrument designed to manage the risk of insolvency in competitive industries in the private sector, like the MCT and/or DCAT, appropriate for the design of an RSR target to protect consumers of a Crown corporation from the risk of excessive price increases?"

Given the recommendations in your

report, have you settled on an answer to that question with respect to the DCAT? And if so, what is it?

DR. WAYNE SIMPSON: Well, I think, first, this is a summary of positions taken in the 2006 report with Professor Hum. But I think at the time we had a lot of questions about the DCAT and MCT that -- some of which have been alleviated by the progress I've mentioned that MPI has taken. And, if you will, I -- I guess I've come around to the notion that the DCAT, properly constituted, can be a valuable tool. I wasn't sure at that time because the out-of-house report didn't have the kinds of features that would give us any confidence that we would even get this far.

MS. CANDACE GRAMMOND: Thank you. On page 11 of the report, you ask:

"How much should the target RSR from a DCAT analysis be discounted to reflect the fact that all vehicle owners must be insured by MPI, and MPI's solvency and general financial condition is insured directly by the Province of Manitoba and indirectly by the same vehicle owners as taxpayers?"

And I -- I appreciate you were asked

about this earlier, but can you tell us whether you have now settled on a complete or even partial answer to that question? And if so, what is it?

DR. WAYNE SIMPSON: I think the -- my answer to that really relates to the risk tolerance that I mentioned and the benefits and costs of that. And it's my sense that we should err on the side -- not err; we should choose a risk tolerance that deals, perhaps, with a 1:20 risk, but not a 1:700 risk precisely for the reasons that have been -- you set out here -- I've set out here, that you've repeated.

MS. CANDACE GRAMMOND: Thank you. And can -- can you tell us what you mean in the -- the excerpt that I referenced, about discounting a DCAT analysis? Maybe give us an example of what that might entail.

DR. WAYNE SIMPSON: Well, coming back to my -- my current point, it may be the case that a private insurer might want to look at adverse scenarios, say in the first percentile, or the -- the .1 percentile, precisely for reasons of -- of solvency. Whereas, I think for a monopoly public insurer, the five (5) -- fifth percentile is -- is more than adequate to insure against risks which have some reasonable chance of occurring.

MS. CANDACE GRAMMOND: Thank you. Now, Professor Simpson, we've talked a little bit about the interplay between the DCAT and the MCT, and you've said in your report that the two (2) are inextricably linked and can be considered as connected methodologies. Can you tell us, in your view, in what manner the MCT as applied by Manitoba Public Insurance is dependant on the DCAT, and then conversely, in what manner is the DCAT as applied by MPI dependant on the MCT?

DR. WAYNE SIMPSON: As I said, I am not an expert in the DCAT methodology, and in this sense I think this is an example of where in -- in passing my report to Andrea Sherry and listening to her comments about the MCT, I made the statement that the MCT is an inextricable by-product, if you will, of the DCAT analysis. And in so far as the MCT had once been used -- or proposed to be used for the RSR, I thought that the number would still be valuable and so I put that statement in. I don't claim to have expert opinion on that, but I guess Andrea Sherry would.

MS. CANDACE GRAMMOND: Now, Dr. Simpson, In your report you've also recommended that the DCAT and MCT analysis as the same evolve and improve should be an important but not a soul indicator of the target RSR. And that's found on page 20 of your report.

Can you tell us whether your recommendation there is based more so -- or based primarily on the inherent relative weakness of the DCAT-MCT approaches or the inherent relative strength of the risk analysis value-at-risk or gross premium approaches?

DR. WAYNE SIMPSON: The -- the DCAT -- in terms of methodology to get at the risks and to think about kinds -- what kinds of savings funds you'd need to deal with, with plausible risks strikes me as the best approach, in principle. Of course the devil is always in the details. And I inelegantly put it at the end of my -- my cross-examination from MPI, there -- the -- the -- there have to be some principles recognized that give everyone confidence in the process of generating a number from the DCAT that are not there with the other two (2) approaches. That's really what I was trying to say. And once you put in place a consensual approach that eliminates those -- those concerns then I think you have a tool that is extremely valuable for future RSR determination.

MS. CANDACE GRAMMOND: Okay. Thank you. I'm going to move then to pages 7 and 8 of your report, this is where we have a summary, in essence, of the 2009 report that yourself and Dr. Hum prepared. So we see on page 7 in the last paragraph, second sentence, you've stated in the context of comparing the DCAT and the risk analysis, that in the 2009 report it was argued that the objective and scope of the risk analysis more directly applies to the objectives of the RSR to ensure basic rate stability in the face of significant adverse non-recurring events.

Can you tell us, in 2009, in what respect was it or what respect were -- were it that the risk analysis applied more directly to the objects of the RSR?

DR. WAYNE SIMPSON: Well, I think there are two (2) parts to this. One (1) is that the DCAT is more -- is a broader instrument to look at the financial condition of the company but the other aspect of this was some -- I guess, fairly violent objection to the nature of the scenarios that had been produced for the DCAT analysis at that time, which was the external -- done externally. I think the Christie Report.

And we had some things to say about that, both in terms of the basis for the scenarios, and I think also, the -- the nature of the management response to the scenarios. I think there was a 3 percent inflation scenario that particularly drew Professor Hum's ire.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Now, Professor Simpson, do you hold the same view today that we've just been discussing that was referenced in the 2009 report, or is it your view that the improvements that we've seen to the DCAT have diminished your concerns?

DR. WAYNE SIMPSON: I think it's fair to say that the -- my opinion of the DCAT has risen. The -- the -- it -- I'm not completely sold on it, but I would open -- open the possibility that I -- I could be sold on it in the future and I suspect other people could be, as well. The other approaches are far more limiting, and in that respect they are useful indicators once a use -- a better DCAT approach is adopted.

MS. CANDACE GRAMMOND: Thank you. Now continuing in this section of your new report that talks about the 2009 report that you and Dr. Hum prepared, we see on page 8 in -- in the middle of the page you've made the statement that, and this is at the beginning of that middle paragraph:

"An optimal RSR -- [or sorry] An
optimal target RSR will balance the
need for premium stability from
unexpected events that have some
reasonable probability of occurrence
with the need to avoid excessive
reserves to protect against rare
events that have an extremely low
probability of occurrence."

In the context of MPI and the setting of the Basic RSR target, and giving due consideration to appropriate public policy matters, in your opinion at what probability level does the likelihood of an occurrence transition from reasonable to extremely low?

DR. WAYNE SIMPSON: I think in this context 1:20.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Now, still on page 8 of your report, and in the last paragraph the statement is made -- this is the second sentence of the last paragraph:

"There must be some reasonable
tolerance for risk associated with

any target RSR determination, and
that tolerance should recognize that
funds placed in an -- in an RSR could
be used productively elsewhere in the
Manitoba economy."

And you've commented on this a little bit today. Is this reasonable tolerance for risk related to or perhaps the same as the reasonable -- reasonable probability of occurrence that was referenced earlier on page 8?

DR. WAYNE SIMPSON: Yes, they're the same.

MS. CANDACE GRAMMOND: Okay. I'm going to move then, Dr. Simpson, to some questions about the -- the percentage of premium, or the Kopstein approach.

There's some discussion in your report on page 10, in the middle of the page, where you've indicated that you agree with MPI that the percentage of premium approach is not clearly linked to the risks MPI faces, and you've stated that the main risks eff -- effect the assets and liabilities of the Corporation. You conclude that other methodology should at least supplement, if not replace, the percentage of premium approach to setting the RSR target.

Is that a fair summary of your report,

or this excerpt of your report?

DR. WAYNE SIMPSON:   Yes.

MS. CANDACE GRAMMOND:   Now, subject to check, if you wish, would you agree that the written premiums within Basic have tended to grow over the years at a slower rate than the claims liabilities within Basic?

DR. WAYNE SIMPSON:   I'd accept that, yeah.

MS. CANDACE GRAMMOND:   So if the -- the level, or the right level for the Basic -- Basic RSR target at the time of the Kopstein report was between 10 and 20 percent of annual premium, then given the faster growth in liabilities than we -- we see in premium, and given that claims liabilities are part of the main risk to MPI, what does this imply about the adequacy of the 10 to 20 percent of premium range at this point in time?

DR. WAYNE SIMPSON:   Yes.  I was only really indicating that it was fortunate that the Kopstein approach was linked to something that grew as the company grew, but there probably are better things to index it to than premiums, such as claims liabilities.  But this also points out the importance of actually modelling some of these risk, because in fact this is one (1) of the adverse scenarios that comes out the DCAT report.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: Would it be your view that the faster growth in claims liabilities relative to premiums should be considered as compelling evidence that the Corporation's risks, or future risks, are growing, at least in absolute terms?

DR. WAYNE SIMPSON: Yeah, I think that's fair to say. Yeah, there -- there's a scale factor here that would have to be applied, especially when you're comparing, you know, over decades.

MS. CANDACE GRAMMOND: Okay. And still with respect to the Kopstein approach, on page 20 of your report -- and this is, again, roughly in the middle of the page -- you've stated that:

> "While the percentage of premium methodology is unrelated to risks faced by MPI, it has the advantage of being the incumbent method of calculation."

And I appreciate that Mr. Triggs asked you some questions about this. Can you tell us, in --

in general terms, it -- whether it's your view that incumbency is a relevant consideration in terms of setting the -- the target at this point?

DR. WAYNE SIMPSON: Well, the expression is the devil you know as opposed to the devil you don't. And -- and that is, you know, people are more comfortable with something that they know than something that can go very wrong. And, in that sense, I think until we get more confidence in such mechanisms as the DCAT, and I think there's been a great deal of progress in the last few years in doing that, that it's wise to stick with the -- the Kopstein method, which is the -- the tried and true method.

That said, you know, my own look at the -- at the -- the DCAT results, and using a minus 20 percent scenario, suggests that maybe the Kopstein RSR is a bit too generous.

MS. CANDACE GRAMMOND: Dr. Simpson, on cross with Mr. Triggs you talked about the public questioning change and, you know, having a -- a fairly easy explanation to provide to the public in terms of the calculation methodology. How do you weigh that -- that factor that is of -- of understandability by the public with the complexity of insurance accounting and rate-setting, which are also arguably very directly related to the interests of consumers?

DR. WAYNE SIMPSON: Well, I think it's -- you know, I -- I think -- I'm not sure what I think given the -- to that question. Maybe I'm just tired.

MS. CANDACE GRAMMOND: You can take a minute to think about it.

DR. WAYNE SIMPSON: Okay.

(BRIEF PAUSE)

DR. WAYNE SIMPSON: I guess my only response, really, would be that all -- all -- my understanding of these processes -- the Kopstein is very simple to understand, that's one (1) of its valuable features; the DCAT far more difficult -- is that the DCAT accomplishes a number of things that the Kopstein approach, or the RA/VaR cannot do. And that gives it a great deal of promise, but that promise has to be realized in something that is -- that is suitable to all parties.

MS. CANDACE GRAMMOND: Okay. Thank you, Professor Simpson. I'm going to move then into some questions with respect to investment risk. On page 12 of your report, in the last paragraph, and this is at the beginning of the last paragraph on page 12, you've stated:

"Consider the case of the increased volatility of investment returns arising from the recent financial downturn and recovery since this is certainly one (1) of the most significant changes in the risks faced by MPI."

In your opinion, what is the evidence that the Corporation's investment risk is increasing?

DR. WAYNE SIMPSON: Well, the -- the RA/VaR gives us some indication that -- of the direction it's going, and in that sense I -- as I noted in the report, it has some virtue as an indicator there. In terms of the DCAT, I guess you're adding data points to the modern period, and those data points say that you can get a severe financial and economic contraction, but they also tell us that it won't be as severe as -- as earlier ones like the 1930s.

MS. CANDACE GRAMMOND: So you would say then that your view with respect to increasing risk is related to the finical crisis of 2008 and '09?

DR. WAYNE SIMPSON: Not exclusively, because I think in fact the worst outcome over four (4) years was in the '70s. I mean, we've had some other bad periods in the modern era. And the '70s were another distinctive period out of which I think we learned a great deal about dealing with inflation. The whole idea of inflation targeting which has become ingrained in the Bank of Canada's reports on -- on what its doing and what its targets are, and so on, that you may be familiar with, all came out of that era.

So we constantly learn about the economy, and one (1) of the things we try to learn from that is how to moderate the -- the fluctuations in the economy, try to esteem -- achieve a steady rate of growth that is not excessive and doesn't generate the kinds of stagflation we had in the '70s, and at the same time can offset these -- these declines.

And so this just adds one (1) more piece to that puzzle. The difference between the '70s and the '90s, which are the two (2) principal episodes that I think would inform us on -- on stock market risk, was that the '90s one -- the -- the -- sorry, the '70s one and today, the one in 2008, the stock market of '07 -- '07/'08, was a -- was a sharper downturn financially, but less sharp economically than some of the earlier downturns.

So that's new grist for the mill. And -- and, you know, economists -- if you look at -- at, you know, some of the principal writing in economics recently there's been a renewed effort to link the financial sector to the -- to the macro-economy. And this is an effort to try to kind of understand what exactly went on in 2000 -- in 2007/2008 in a fashion that -- it was a little bit different from what had happened either in the '70s with stagflation, or the '30s with the great depression, or some of the intervening upturns and downturns in the economy.

I -- I don't know if that was assistive, or assisted anything -- maybe I was just blathering there.

THE CHAIRPERSON: It was interesting.

(BRIEF PAUSE)

CONTINUED BY MS. CANDACE GRAMMOND:

MS. CANDACE GRAMMOND: So, Professor Simpson, just continuing to talk about the financial events in the 2008 time frame, is it your view that -- that what occurred then actually changed the level of risk faced by MPI, or did the events just change the estimated measurement of that risk?

DR. WAYNE SIMPSON:: Well, I think those are -- two (2) are linked if you're trying to provide -- you know, you're trying to assess risk on the basis of the evidence you have, as opposed to what you might imagine could happen. And it's -- it's another set of data points that indicates the volatility of the -- of the stock market. It's not out of line -- I was trying to say that it's not out of line with some of the other experiences in the -- in the post '56 period. But it's another set of data points, and in that sense it undoubtedly added a bit to the volatility.

In other words, if you went from 1956 to -- and we could do this: Take the data from 1956 to 2006, say, there would be somewhat less volatility than there is taking it out to 2012, because you have this episode, this recent episode, which produced some additional volatility.

But not -- not different from other episodes, and indeed not as -- as big as some earlier episodes in the post-'56 period.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: So, Dr. Simpson, just so that -- that we're clear, is it your view that the financial events in the 2008 and 2009 time frame actually made a fundamental change to the risks inherent in investing in equities, or did it just make us more aware of what those risks are?

DR. WAYNE SIMPSON: It made us more aware of what those risks are. For example, if I could refer you to the addendum where I take the data and I sort it for the -- the old data, the data '90 to '55 and the data from '56 on. And that's where I -- I pointed out, you know, when you look at all the data considered by MPI in their adverse scenarios it's, you know, '30s, '30s, '30s, '30s, '30s.

But if you look at the '56-on data in the right-hand column, you can see that the adverse scenarios are -- are sprinkled out. The -- the worst is minus 31 percent in 1977. The next one is a 2004, actually. And then there's a '76/'77.

So the -- the very worst episodes don't appear until -- it's only the, one (1), two (2), three (3), four (4), five (5), six (6), seventh-worst episode is 2011.

Well, that's reflecting the data from 2007 to 2011, and that gives you a retur -- a negative 23.65 percent, right. So -- so that -- you know, just in sort of rating what has happened since '56, the -- the most recent episode is -- adds some adverse data points, but they're not, by any stretch, the most extreme.

And then -- even then when you look down this further, you don't find any of those other points until the 2000 -- until January 2011, right. So in -- mixed in with that you've got 1960, '78, '77, '76, '77, '78, a lot of '70s.

So that's why I made that comment about the stagflationary period, which again is now part of the -- our understanding about how to manage a modern economy. And there are some efforts now to understand exactly what happened in the most recent one just because of the -- of the financial nature of the -- of the disturbance.

But it's by no means one of the worst.

MS. CANDACE GRAMMOND: Now, Dr. Simpson, you've testified both on direct and in your cross-examination with Mr. Triggs about looking at the stock market data prior to 1955. And if -- if I heard your evidence correctly, on direct I think you said you wouldn't place any weight on the pre-1956 data. And then on cross you said if you had to choose between 100 percent weight and no weight, you would pick no weight.

Am I restating your evidence correctly?

DR. WAYNE SIMPSON: Yes. Yes.

MS. CANDACE GRAMMOND: Now, what -- what we are trying to understand is, is it your view that the pre-1956 data is of no relevance because those types of market swings are just not possible in today's environment?

DR. WAYNE SIMPSON: They're not plausible. Impossible is -- isn't -- isn't a statistical -- statistically, anything's possible, right; we're talking about plausibility.

And what I'm saying is that we have a great deal of evidence that -- including this most recent recession -- that the swings are not as wild as they used to be. And we also have -- at least economists have some understanding of why that -- why that's the case and what we've learned out of the Great Depression, stagflation period and so on.

MS. CANDACE GRAMMOND: But if those events are possible, albeit implausible, is it still your view that absolutely no weight should be attached to that data, or is there an argument to be made for some weight to be put on that data?

DR. WAYNE SIMPSON: If you take a risk tolerance of 5 percent, then essentially you're picking a point -- I get minus 16.43 percent -- where essentially no weight is attached to something very much -- any further down the adverse event scenario. For example, you don't effectively place any weight on the 1977 outcome of minus 31.65 percent. So it's a question of: Should those be in -- in this line of -- of a -- of equity returns?

And what I'm saying is no, both because of -- of what we now understand about modern economic management but also just in terms of the body of weight. Just look at that page, on the left-hand side of that page, of the sorted four (4) year TSX returns. What are the dates one them? 1933, 1933, 1930, all the way down the page. All 1930s.

So this drives the entire adverse plausibility -- adverse event scenario. And I can unequivocally say that's -- that's not very useful, in my view.

(BRIEF PAUSE)

MS. CANDACE GRAMMOND: I guess, Professor Simpson, not trying to be difficult, just trying to get our heads around your evidence. When you say that, that data is not very useful, okay, I understand why your saying that.

But isn't there a bit of a gap between

not very useful and completely tossed out of the analysis?

DR. WAYNE SIMPSON: The way the process works, you're trying to essentially devise -- as statics does, you're trying to devise a cutoff point. I mean -- static -- statisticians and econometricians do this all the time, in all sorts of testing methods, is they -- they live with conventional cutoff points.

And once you do that, you have to live with that outcome. But, I mean, just to restate what I said, if you look at the adverse events using all of the data, you will not find a single point in the 5th percentile and below, not a single point, that occurs after 1956. In fact, you won't find one that occurs after 1941.

And so, in that context, I would place no weight on this data, because, as it stands, it takes all the weight.

MS. CANDACE GRAMMOND: Professor Simpson, when you talk about the need to at some point pick a cutoff point -- those aren't your exact words but I think that's what you said -- does that -- would that lead you to agree with the idea that measuring risk is not an exact science?

In other words, there is an element of

judgement that can play a role?

DR. WAYNE SIMPSON: Yes.

MS. CANDACE GRAMMOND: Dr. Simpson, can you share your views on the relative merits of using an economic scenario generator fully calibrated to the Canadian economy as an alternative to the current DCAT's approach to selecting modelling assumptions for an equity decline adverse scenario?

DR. WAYNE SIMPSON: I take it that a -- this would be a broader instrument that would look at other outcomes in the economy. And certainly the TSX is not the only indicator of stock market gains and risks, so I take that point.

I think for the equity portion, this is a reasonable piece of data to use. If you start looking at other things, such as the links, say, between equity returns and other elements in the investment portfolio -- interest rates and so on, then I think you need a broader economic perspective. And I've heard some discussion that -- that's something that MPI is at least considering.

And then you would need a broader model that reflected the -- the a links in the financial sector of the economy, at a minimum.

MS. CANDACE GRAMMOND: Okay, thank you.

I just have a few more questions, Dr. Simpson, for you. On page 16 of your report -- and this is again roughly in the middle of the page, it's just under the heading, "Item 4: Issues to be Addressed for DCAT." So page 16, section 4. You've stated there in the first paragraph:

> "The DCAT can be a useful tool for the analysis of the risks facing MPI's operations and investments and the responses needed. In this section, we suggest that there are three (3) aspects of the DCAT analysis: transparency, evidence-based justification of adverse scenarios, and stability, that are needed if DCAT is to assist in the assessment of the adequacy of the RSR target from year to year."

My question is this: With respect to the need for transparency, in your opinion, what are the most significant deficiencies and the most prominent barriers in this regard in the current DCAT?

DR. WAYNE SIMPSON: Well, I -- I think there are still questions about exactly what the -- the DCAT -- the in-house DCAT model is doing and whether -- and whether that would always be the best way to go about modelling the -- the Corporation.

There is an external report, the Cheng report, that suggests that he has reviewed the model and found it adequate. I -- I don't know how much he's delved into the model. But I pointed out somewhere else in my report that you can often get useful information by taking a model and tweaking it and see how it -- it works. And these kinds of things are useful to say, Well, you know, what's critical to the model?

One way of finding out what's critical to the model is looking at different components of the model and saying, Well, if we change this assumption, this happens. So this is not a critical assumption. If we change this assumption, this happens. Well, that's a pretty significant result, so this is a critical part of the model.

And while I don't expect a DCAT report to do that, I think, in terms of transparency and trying to understand what the model does and what's important in the model, those kinds of exercises would be -- would be quite useful to everyone concerned.

MS. CANDACE GRAMMOND: Thank you. Now, with respect to the second piece, or the second aspect of the analysis that you commented on -- and that's the evidence-based justification for adverse scenarios -- can you comment on your view of what are the most significant deficiencies or prominent barriers in that regard?

DR. WAYNE SIMPSON: I think the process here would -- should involve an early distribution of the proposed DCAT report and the proposed RSR, which allows time for comment and consideration and a consideration of what alternative scenarios might be justified.

And my example, again, is the decline in equities scenario, where I would argue that the scenario relies far too heavily on results that are not pertinent to the modern economy. So I think there has to be a process by which these results are generated early, absorbed, considered, and recast, and alternatives proposed.

MS. CANDACE GRAMMOND: Thank you. With respect to the third aspect of the DCAT stability, can you comment on the most significant deficiencies and barriers in the current DCAT, in your opinion?

DR. WAYNE SIMPSON: Well, it perhaps was an unfair comparison, but I was -- I was struck by the -- the number that came out of the externally generated -- the Christie report. And as I said, my colleague, Derek, in particular, took umbrage at this -- at the proposed scenarios.

My assessment of the current process is that if we get the transparency and the evidence-based justification of adverse scenarios right, we'll get a -- a degree of stability unless we have very strong evidence that something is dramatically changing, with regard to some asp -- some crucial aspect of MPI's operations.

And that -- that could be increased volatility in the stock market. That could be increased volatility, in terms of claims losses. It could be a variety of -- probably there aren't too many other possibilities; climate change has been talked about, in terms of hail storms.

These -- there could be new evidence that would change our view of those things, but I think if -- if we establish standards and stick to them, you probably will get a considerable degree of stability out of the first two (2).

MS. CANDACE GRAMMOND: Thank you. Now, Dr. Simpson, in your report on page 20 -- and you don't -- you can go there is you wish, you don't necessarily need to -- you recommend that a consensual process be adopted for the assessment of the DCAT analysis and the scenario was chosen.

Can you tell us what you would envision in therms of that consensual process including whether you're thinking of something that would take place within the GRA process, or outside of the GRA process?

DR. WAYNE SIMPSON: In terms -- well, I'll -- I'll take it in two (2) steps. One (1) is in terms of the model. I'm not sure that the -- the hearing process allows people to absorb a seminar, if you will, on how the model works and what its crucial assumptions are. So that might be done outside the GRA process.

On the other hand, I think in a -- a part of the GRA process would have to be that once the model generates a report, that that report be examined and revised as appropriate in terms of the scenarios that are used, and chosen, and so on. And -- and for that probably the hearing process is adequate for the -- understanding the model, I think that almost has to take place between -- between hearings, but that's -- you know, I'm not -- I'm not an expert in the GRA process.

MS. CANDACE GRAMMOND: One (1) last question, Dr. Simpson. Can you comment on what might be an appropriate approach to set an RSR target range as opposed to an RSR target point from the DCAT resulting from a consensual process?

DR. WAYNE SIMPSON: There -- there are actually a number of ways you could go about this, and -- and the -- one (1) of the rea -- I thought at first I would say something about this in my report and I decided not to because I thought it -- it clouded the issues a little bit, just because -- you could go about this in a variety of ways.

You could, for example, bound the ninety (90) -- the 5th percentile. You could say, Let's do ninety-two and a half (92 1/2), ninety-seven and a half (97 1/2). That's one (1) way of doing it. So that's the -- the 2 1/2 percentile and the 7 1/2 percentile, and you'd get a ran -- a target.

A more sophisticated way would be to take the -- the in -- to take the probability distributions that we're generating that -- the claims loss, the hail storm, the decline in equity scenarios, and to combine them in a fashion that's been combined in the combined scenario, I would argue with only TSX data since '56, and then to generate, in a -- in a Monte Carlo fashion, to generate a set of outcomes and to -- from that generate a range for the RSR. That would be another way to kind of go about it.

But, you know, there's -- there's probably a variety of ways to do it that would make -- that would make statistical sense. I don't have any recommendation on any specific way at this point.

MS. CANDACE GRAMMOND: Mr. Chairman, those are my questions for Professor Simpson.

THE CHAIRPERSON: Professor Simpson, I -- I know that it's late in the day and you're probably tired but I have some questions. I -- I have to ask follow-up questions in regards to your encapsulation of the issues you have with DCAT, and namely your sense that -- that the -- the problem with the DCAT is ultimately you can game (phonetic) the outcome under the current state of affairs, if you were to adopt DCAT. In other words, if you have a target level you want to reach, you set the scenario so you reach that target level.

And then -- so am I interpreting your comments wrong?

DR. WAYNE SIMPSON: Yeah. I mean, that's an observation I make, but if you go back to my first slide where I talked about the probability distribution, I had a normal distribution up there, and you look at the risks, you can get worse and worse and worse adverse scenarios with smaller and smaller probabilities. And that gets us into the area of imagined risk, stress tests, what my colleague Derek Hum used to call "Black Swans", that are imaginable but for which either we've had no experience with, or based on any sort of empirical analysis would have a very, very, very small probability of occurring.

Should we be protecting against that given the opportunity costs? If there were no cost, sure, but there is a cost. There's always a cost to an action in -- in economic terms. And the cost here is that you were tying up ratepayer's funds to insure against risks that are very, very, very unlikely to occur.

So I think in that context you have to -- you have to reach some sort of a -- a threshold, and I've suggested the 5 percent threshold. But the link between the -- any RSR level you could -- not any one you could imagine, there's probably some limits -- but a very high RSR level and a -- and a presumed risk with a very low probability of occurrence is -- is there, if you don't have to provide evidence that that risk is in fact plausible.

THE CHAIRPERSON: But in this case the -- there was evidence provided on most of those scenarios, and while one may argue about the data-set with respect to the stock -- stock portfolio performance, it nonetheless is -- is a fixed number and it's hard to game that. I mean, I -- unless we get some -- we get some really out -- outlandish results in the stock market, the data-set will probably be with us for a long time.

In other words, we won't get much of a change from forty-three point nine (43.9) -- minus forty-three point nine (43.9) in the foreseeable future. In other words, you can't game that number.

And I'm looking, for example, at the hail. I -- I don't know that you can game -- you can -- I guess what I'm getting at is in -- in what way do you -- do you see that a outcome can be gamed if you accept the DCAT as it's now offered for us for decision?

DR. WAYNE SIMPSON: Well, the minus forty-three point nine (43.9), if you look at the post-'56 data, is so unlikely as on all definitions of plausibility that we've entertained to be implausible. If you look at it in terms of the data since 1919, you would say, Well, it is plausible. What I've argued is that, and I -- I think I'm speaking for a large proportion of the economic community, if no one else, that they would not expect this kind of event to occur given what we understand about the way in which a modern economy responds to the kinds of things that happened in the 1930s. And we have lots of evidence for that, because when we look at the results since then we don't -- we don't see those kinds of things.

And it is true that if you -- if you go with the 1919 on data, you're stuck with the minus forty-three point nine (43.9) or a close variant of it forever. Well, not forever. Forever as far as far as we're concerned, that's for sure. Because all those numbers come from the '30s and they're not going to be offset by anything that's going to happen in the next few years.

It is also true that if you say just go from '56 you're going to be stuck with the numbers that are generated out of the -- out of the '70s, but I think you've got a truer picture of what actually is going on today.

And my main point there in saying that was really that -- it was really about the -- the notion that keeps coming up about stress testing and imagined scenarios. And I was pleased to see Mr. Johnston saying, Well, I need some evidence to kind of support these kinds of things, because that would be exactly my response.

So it -- it -- gaming in that -- in that sense. There's a -- there's a 1:1 link between the -- the imagined scenario and whatever number R -- would -- would be appropriate for an RSR, regardless of what retained earnings actually are.

I just wanted to make that point, because that does not exist with the Kopstein approach, it does not exist with the RA/VaR approach, as -- as inadequate as they are in other ways. And that's precisely why I -- I focussed on the question of -- of a process that was consensual, that would build confidence in the -- in the model and the scenarios that are -- that are considered.

THE CHAIRPERSON: I guess a follow-up question -- I think part of your recommendations suggest to me that you're recommending we stay with the Kopstein approach for the time being, tweak -- tweak the DCAT some more, and then when the confidence level is at a sufficient level then we -- we would adopt DCAT and -- and so on.

I guess the question is: Couldn't you adopt the DCAT immediately and -- and do the tweaking later on?

DR. WAYNE SIMPSON: I don't feel confident enough in -- in the model, that is to say, in

-- in the understanding of what the model does to -- to pass judgment on that. On the basis of my experience with the decline in equities scenario, I have some concerns about a process that would admit the possibil -- the -- the kind of decline in equities scenario that -- that was proposed in the amended DCAT report. Those are really the -- the nature of my -- my concerns. So I would say no, not right now.

(BRIEF PAUSE)

THE CHAIRPERSON: I think that's all the questions we have. Are there any other details to address before we adjourn?

(PANEL STANDS DOWN)

MS. CANDACE GRAMMOND: There may be. Mr. Oakes isn't here. So he obviously won't be cross-examining. We might just want to ask Ms. Peters if she has any questions for the Witness.

MS. LIZ PETERS: No, I have no questions.

MS. CANDACE GRAMMOND: Then the next question would be whether Mr. Williams has any re-direct.

MR. BYRON WILLIAMS: Thank you for the opportunity, but CAC (MANITOBA) has no re-direct. And we thank the panel for the courtesy and -- and all parties to -- to Professor Simpson.

MS. CANDACE GRAMMOND: So I think, then, Mr. Chairman, we are done unless Ms. Kalinowsky has any other matters. So our next hearing date is Tuesday, the 23rd. We'll be back at 9:30 with any evidence that Mr. Johnston is going to give that we discussed earlier. And then he would be cross-examined on that if there is cross-examination. And then I'll do my closing and the rest -- or the Intervenors then after my -- myself.

THE CHAIRPERSON: So thank you very much to -- to Dr. Simpson for both the reports and -- and your presence here today. I know it's a long day, but thank you very much. It was very interesting. At least to me it was very interesting. So we are adjourned until Tuesday morning, at 9:30.

--- Upon adjourning at 3:33 p.m.

Certified Correct,

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Cheryl Lavigne, Ms.