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Correspondence Memorandum

Date: July 24, 2020

To: Group Insurance Board

From: Jim Guidry, Director
Benefit Services Bureau
Division of Retirement Services

Subject: Income Continuation Insurance (ICI) Experience Studies

This memo is for informational purposes only. No Board action is required.

Milliman recently performed experience studies for the state and local ICI programs. Milliman's experience studies used claims data from 2014 through 2019 to develop new actuarial assumptions for performing the December 31, 2019 valuations for the state and local ICI plans. This memo summarizes two changes recommended by Milliman as a result of these experience studies, with the attached letter providing further details on the changes.

First, Milliman recommended updating the ICI claim termination rate assumptions to use the 2012 Group Long-Term Disability Valuation Table (2012 GLTD), adjusted for recent plan experience. In 2019, Segal Consulting performed an actuarial audit of the valuation of the state ICI plan. Segal's audit included a recommendation that Milliman update the base Claims Termination table used to determine claim termination rate assumptions to use the 2012 Group Long-Term Disability Valuation Table (2012 GLTD).

Second, Milliman recommended updating estimate offset assumptions based on recent experience for ICI Social Security Disability Income benefit approval rates and amounts. These were developed from ICI claim experience from 2016 through 2018.

Milliman's recommended assumption updates were included in the 2019 valuations of the state and local ICI programs and approved by the Board at the May 13, 2020 meeting.

The resulting impact of the new valuation assumptions to the state and local ICI plans was a slight decrease (less than 1%) to the total open claim liabilities when compared to the previous assumptions, with all else being equal.

Reviewed and approved by Matt Stohr, Administrator, Division of Retirement Services

Matt Stohr

Electronically Signed 7/28/20

Board	Mtg Date	Item #
GIB	8.19.20	12D

Staff will be at the Board meeting to answer any questions.

Attachment A: Milliman Experience Studies and Assumptions letter, April 15, 2020

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April 15, 2020

Jim Guidry
Director
Benefit Services Bureau
Wisconsin Department of Employee Trust Funds
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Dear Jim:

An independent consulting firm performed an audit of the valuation methods and assumptions for the Income Continuation Insurance (ICI) program in 2019. The outcome from this audit included a recommendation to update certain assumptions that are used to calculate program liabilities. Therefore, we have performed experience studies and have developed new assumptions for computing the December 31, 2019 liabilities for the State and Local ICI plans. This letter describes the assumptions we recommend for performing the December 31, 2019 valuation, and provides documentation of the experience studies performed by Milliman for developing these new assumptions.

Summary and Impact of Recommended ICI Plan Basis

- We recommend updating ICI claim termination rate assumptions to use the 2012 Group Long-Term Disability Valuation Table (2012 GLTD), adjusted for recent plan experience. This table is the most recent industry source of long-term disability claim recovery and mortality experience. The recommended adjustment factors are included in Appendix A of this letter.

- We recommend updating estimated offset assumptions based on recent experience for ICI Social Security Disability Income (SSDI) benefit approval rates and amounts. The recommended estimated offset assumptions are included in Appendix A, and were developed from ICI claim experience from 2016 through 2018.

- The net impact of the changes outlined above is a modest decrease in State and Local ICI liabilities for open claims. Tables 1a and 1b below compare the open claim liability at December 31, 2019 before and after the recommended changes, for the State and Local ICI plans, respectively.

Table 1a Open Claim Liabilities for the ICI State Plan at 12/31/2019 Liabilities Calculated at 7.0% Interest		
Liability Item	Current Basis	Recommended Basis
Standard Benefit	$79,185,619	$78,956,941
Supplemental Benefit	$1,812,826	$1,977,183
$75 Add-on	$248,670	$246,449
Total Open Claim Liability	$81,247,115	$81,180,573

Table 1b Open Claim Liabilities for the ICI Local Plan at 12/31/2019 Liabilities Calculated at 7.0% Interest		
Liability Item	Current Basis	Recommended Basis
Standard Benefit	$5,200,793	$5,143,700
Supplemental Benefit	$135,376	$142,205
$75 Add-on	$25,923	$27,043
Total Open Claim Liability	$5,362,092	$5,312,948

The remainder of this letter provides further detail on each of the changes to the valuation assumptions.

Claim Termination Rates

Claim termination rates (i.e., recovery and mortality rates on disabled lives) are a key driver of estimated plan liabilities. The expected claim termination rates in the current basis are based on the 1987 Commissioners' Group Disability Table (1987 CGDT), adjusted to reflect ICI Plan experience. The 2012 Group Long-Term Disability Valuation Table (2012 GLTD) is an updated industry table that reflects more recent industry experience for long-term disability claims. It also takes into consideration more specific claim characteristics on each claim than 1987 CGDT. For example, the claim termination rates reflected in 2012 GLTD vary by cause of disability, an important variable for estimating recovery and death rates for disabled employees. We recommend using 2012 GLTD as the base table, and adjusting the base rates for ICI plan experience, for estimating plan liabilities for the December 31, 2019 valuation.

We performed experience studies using ICI claim data from January 1, 2014 through June 30, 2019 to compare the actual claim termination rates in recent years to the expected claim termination rates from 2012 GLTD. Actual-to-expected (A/E) ratios greater than 100% indicate that claims have been terminating more quickly than assumed in the base table. Table 2, below, shows the results of an A/E claim termination rate study using ICI claim experience from January 1, 2014 through June 30, 2019, where expected terminations are based on 2012 GLTD.

Table 2 ICI A/E Claim Termination Ratios Expected Basis: 2012 GLTD Study Period: 1/1/2014 through 6/30/2019	
Claim Duration (Months)	A/E Ratio
2-6	157%
7-9	189%
10-12	329%
13-24	73%
25-36	79%
37-48	119%
49-60	78%
61-72	71%
73-84	65%
85-96	78%
97-108	72%
109-120	129%
121+	74%
Total	150%

The A/E ratios are greater than 100% for ICI claims in the first year of disability, indicating that these claims have terminated at a higher rate than what is anticipated in 2012 GLTD. This result is not surprising because a large proportion of ICI claims are for short-term disabilities (STD), and the claim termination rates in 2012 GLTD represent the experience from more traditional long-term disability claims.

A spike in the A/E ratios occurs in months 10 – 12, which coincides with when the ICI definition of disability changes from STD to LTD. At this transition, different criteria are used to evaluate benefit eligibility. For example, during the STD benefit period, the definition of disability is based on the employee's ability to perform the duties of his or her own job, whereas during the LTD benefit period, the definition is based on the employee's ability to perform the duties of any gainful occupation. The spike in A/E ratios in months 10-12 is likely driven by claims that closed because they do not qualify for LTD benefits.

Although the A/E ratios are somewhat volatile for claim durations beyond 12 months, they are less than 100% for most duration groupings. However, the experience used in our CTR study included only 422 claim terminations for claims open beyond 12 months, which is not considered fully credible by industry valuation standards.

We used the A/E ratios shown above as a starting point for developing adjustment factors to 2012 GLTD. The adjustment factors follow a similar pattern to the A/E ratios but with smoother patterns by duration. For claims in early durations, we capture trends in ICI STD claim experience using factors that are greater than 100%, to assume higher termination rates than the base table. We also reflected the spike in claim terminations in months 10-12 in the adjustment factors. For claims beyond 24 months, we developed adjustment factors that assume the experience is only partially credible in later durations, which produces a smoother pattern by duration. We then used an iterative process of testing the new factors for reasonableness, and adjusting the factors as needed, to produce a basis that creates reasonable liability margins by claim duration, and reasonable overall margin.

To evaluate the margins, we performed liability runoff studies similar to the studies that are performed as part of our annual valuation analysis, except that in this case the liabilities were calculated using a new set of valuation assumptions. The claim termination rate adjustment factors that produce reasonable runoff results are provided in Table 3 below, along with the results from the corresponding runoff study that uses these factors. Note that the runoff study results also reflect the impact of the new estimated offset assumption described in the next section.

Table 3
Recommended ICI Claim Termination Rate Adjustment Factors
To the 2012 GLTD Valuation Table

Disability Duration	Adjustment Factor	Average Annual Margin
Months 1-9	1.25	3.9%
Months 10-12	2.50	3.9%
Months 13-24	1.25	9.1%
Months 25-60	0.98	1.3%
Months 60+	0.96	1.1%
Total	NA	2.6%

The results show positive margins in every duration grouping, and an overall margin of 2.6%. The estimated margin in months 13 – 24 is relatively high, despite using an adjustment factor greater than 100%, and also greater than the experience A/E ratio (73%). We understand that ICI experience can be volatile, and we think the pattern of margins sown above is reasonable for the ICI plan at this time. Therefore, we recommend adopting a claim termination rate basis that uses the adjustment factors shown above (also included in Appendix A) applied to 2012 GLTD for the December 31, 2019 valuation.

<u>Estimated Social Security Offsets</u>

Benefits paid under the ICI program are reduced by the amounts of any Social Security Disability Insurance (SSDI) benefits awarded to disabled employees. Although claimants are eligible to receive SSDI benefits after five months of disability, it often takes much longer for claims to be approved for benefits by the Social Security Administration. For this reason, we include an estimated offset assumption in the ICI liability calculations for claims that have not yet been approved for SSDI benefits as of the valuation date. These estimated offset assumptions are based on the probability of receiving SSDI benefits depending on the duration of disability, combined with the expected amount of these benefits.

We have developed new estimated offset assumptions for the December 31, 2019 valuation based on ICI claim experience from 2016 - 2018. We first tabulated the number of claims that had been awarded SSDI benefits by disability duration using claim experience from 2016 – 2018. We then used this information to calculate the probability of being approved for SSDI benefits given that benefits had not yet been approved. These probabilities vary by disability duration, and decrease with longer durations. This means that claims that have not yet been approved for SSDI benefits in early durations are more likely to be approved than claims in later durations. The following table shows the probabilities that we developed for being approved for SSDI benefits.

Table 4 SSDI Probabilities Based on ICI Experience from 2016 - 2018	
Claim Duration	Probability of Future Approval
1	67%
2	58%
3	45%
4	35%
5	9%
6+	0%

We also developed a new assumption for the estimated SSDI offset amount based on ICI claim experience from 2016 – 2018. We calculated the SSDI benefit amount as a percentage of the ICI benefit amount for ICI claims that received SSDI benefits, which tells us the percentage of ICI benefit that is offset by SSDI. The results from this analysis indicate that, on average, SSDI benefits offset approximately 45% of the ICI benefit amount, as shown below.

Table 5 SSDI Benefits as % of ICI Benefits Based on ICI Experience from 2016 - 2018	
Claim Duration	SSDI Benefit as % of ICI Benefit Amount
1	51%
2	45%
3	47%
4	46%
5	46%
6+	45%
Total	45%

Based on these results, we recommend updating the estimated SSDI offset amount assumption to be equal to 45% of the ICI benefit amount.

We have also studied the impact of benefits from other sources on ICI benefit amounts, such as LTDI and 40.63 benefits. At this time, we are not recommending an additional estimated offset assumption for these benefits from other sources, because the new claim termination rate assumptions and estimated SSDI offset assumptions produce reasonable margins in our runoff studies (as shown above in Table 3). We will continue to study the impact of benefits from other sources to determine if additional assumptions should be included in future valuations.

<u>Limitations of Analysis</u>

The analysis in this letter has been prepared solely for the use of Wisconsin ETF, for the purpose of updating the valuation assumptions for the ICI State and ICI Local Plans. It may not be appropriate for other purposes. It may not be shared with any other party without the prior written consent of Milliman. It is a complex, technical analysis that assumes a high level of knowledge concerning Wisconsin ETF operations. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

In preparing this analysis, we have relied on data provided to us by Wisconsin ETF and The Hartford, including historical claim data, historical payment data, and plan design information. To the extent that any of this information is incomplete or inaccurate, the results of our analysis may be materially affected.

This report contains recommended valuation assumptions based on historical plan experience. The estimated liabilities discussed in this letter are based on actuarial assumptions about future experience that were derived, in large part, from the historical analysis presented here. It is highly likely that future experience will vary from these assumptions, meaning that the actual liabilities may be either higher or lower than those implied by the recommendations in this letter.

I, Paul Correia, am a consulting actuary at Milliman, Inc. and a member of the American Academy of Actuaries. I meet its qualification standards to render the actuarial opinion contained herein.

* * *

Please feel free to contact me at (207) 771 - 1204 or paul.correia@milliman.com if you have any questions on this material. Thank you.

Sincerely,

Paul Correia

Paul Correia, FSA, MAAA
Principal and Consulting Actuary

Appendix A
Recommended Valuation Assumptions for ICI Program

- Claim termination rate adjustment factors applied to the 2012 Group Long-Term Disability Valuation Table:

Disability Duration	Adjustment Factor to 2012 GLTD
1 – 9 months	1.25
10 – 12 months	2.50
13 – 24 months	1.25
25 – 60 months	0.98
61 + months	0.96

- Probability of being approved for SSDI benefits if not already approved as of the valuation date:

Disability Duration	Approval Probability
1 – 12 months	67%
13 – 24 months	58%
25 – 36 months	45%
37 – 48 months	35%
49 – 60 months	9%
61 + months	0%

Estimated future SSDI offset amount as percentage of gross benefit amount: 45%.