SOCIETY OF ACTUARIES

Survey of Waiver of Premium/Monthly Deduction Rider Assumptions and Experience

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Caveat and Disclaimer

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Survey of Waiver of Premium/Monthly Deduction Rider Assumptions and Experience

Section 1: Introduction

Waiver of premium or waiver of monthly deduction riders are commonly offered on many individual life products, with variations among products and companies. In the event of disability, the rider may waive premium due or contribute an amount to a flexible account, such as the average premium paid over the past year, or the cost of insurance charges. The waiting periods and benefit periods will vary depending on the design of the rider.

Milliman, Inc. (Milliman), has been retained by the Society of Actuaries (SOA) to perform a survey of companies' assumptions for waiver of premium/monthly deduction riders. The results will provide a resource for life insurers on the prevalence of these riders, and the assumptions being used for mortality, pricing and valuation in order to help enhance practices in supporting and managing this benefit. The survey will also assist companies as they prepare for determining reserves and capital under a principle-based framework.

We would like to thank the following members of the Project Oversight Group for their support and contributions on this project:

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1.1 Caveats and Limitations

In conducting our analysis, Milliman relied upon the survey data submitted by 14 carriers. Milliman did not audit or independently verify any of the information furnished, except that we did review the data for reasonableness and consistency. To the extent that any of the data or other information supplied to us was incorrect or inaccurate, the results of our analysis could be materially affected.

This report is intended for the benefit of the SOA. Although the authors understand that this report will be made widely available to third parties, Milliman does not assume any duty or liability to such third parties with its work. In particular, the results in this report are technical in nature and are dependent on certain assumptions and methods. No party should rely upon these results without a thorough understanding of those assumptions and methods. Such an understanding may require consultation with qualified professionals. This report should be distributed and reviewed only in its entirety. This report is subject to the agreement between Milliman and the SOA dated May 30, 2017.

We, Jennifer Fleck and Paul Correia, are consulting actuaries for Milliman. We are members of the American Academy of Actuaries and meet the qualification standards of the Academy to render the actuarial opinions contained herein.

Section 2: Executive Summary

This report is meant to serve as a resource to actuaries working with individual life insurance U.S. products. Section 3 outlines the results of our survey of companies working with products that offer waiver of premium or monthly deduction riders. The survey covered products sold in 2016 and was conducted in September – November of 2017. Overall, the products offered are similar, but there are some variations. Most of the companies offer waiver riders that define disability as the inability to perform the insured's own occupation for 24 months, followed by the inability to perform any occupation. Most companies will also allow the premiums/charges to be waived for the insured's lifetime after being disabled for six months. However, there are some variations in these benefits, as discussed in Section 3.

Most of the companies surveyed indicated that it has been more than 10 years since their products were repriced. Presumably, this is due to a combination of the small size of the premium relative to the base life policy, and a lack of industry data to support repricing. The last time an experience study was done on this product was in 1952, which is the basis for the current statutory valuation standard.

Section 4 of this report looks at the 1952 table compared to some more recent tables to determine if a new experience study on individual life waiver of premium/monthly deduction riders is needed. The results suggest that a new study would be meaningful for the following reasons:

- Disabled claimants have been staying on claim longer than in the past (lower claim termination rates), which can be attributed, in part, to improved medical care and decreased population mortality. Claimants are living longer while collecting various disability benefits.

- Improvements in medical care have contributed to a reduction in disability incidence rates, especially at older ages. The incidence rate curves have shifted over time.

- The newer tables show that there are significant differences in both claim incidence and claim termination rates by gender, which are not variables in the 1952 table.

Finally, Section 5 looks at the availability of data to conduct an updated experience study to address the issues with using an outdated table. Eleven of the 14 companies that responded to the survey indicated that they would be willing to share data for an experience study. These 11 companies represented 99% of the riders sold in 2016 from these respondents.

Section 3: Results of Survey of Practices

Fourteen companies responded to a survey of practices regarding waiver of premium benefits on life insurance products. The survey was sent to approximately 50 carriers doing business in the U.S. The survey covered products sold in 2016 and was conducted in September – November of 2017.

The survey covered waiver of premium riders attached to universal life (UL), whole life and term life policies. It asked insurance carriers about plan design features, claim management procedures, pricing and reserving methodologies, and company willingness to participate in an updated experience study.

The survey participants collectively sold 1.1 million individual life policies for approximately $2.5 billion of annualized premium in 2016. Of those policies sold, 37% contained disability waiver riders. Broken down by underlying policy type, 26% of universal life, 50% of whole life and 33% of term life policies were sold with disability waiver riders in 2016.

According to LIMRA retail industry estimates, the total individual life insurance sales for 2016 was $13.7 billion of annualized premium. Therefore, this survey represents approximately 18% of the U.S. individual life market as a whole.

The following survey summary shows the number of respondents in each category. Each category may not add up to the total of 14 respondents, because some companies are not selling all lines of business (universal life, whole life, and term life.)

3.1 Plan Design Features

All respondents' waiver riders define disability as the inability to perform the insured's own occupation for some time period (24 months was specifically mentioned by three respondents), followed by the inability to perform any occupation thereafter. Generally, "any occupation" is further clarified to be any occupation that the claimant is reasonably fitted to perform based on education, training or experience.

There was more variability in responses related to the length of the waiver rider maximum benefit period. The table in Figure 1 shows the number of respondents in each benefit period, split by the type of life insurance policy to which the rider is attached. The category "Other" contains primarily benefit durations that vary based on the age of disability (before or after age 60).

Figure 1: Waiver Benefit Period

	Universal Life	Whole Life	Term Life
To retirement age	2	1	2
Lifetime	9	6	7
Other	3	2	3

All respondents indicated that the waiver riders remain on the policy of active (not disabled) lives to either retirement age or age 65. The one exception was for one company's term life rider, which was only effective to age 60.

The table in Figure 2 shows the number of respondents by elimination period. The elimination period provision specifies the amount of time the insured must remain disabled before the rider's benefits will begin. These elimination periods are shorter than the typical nine-month elimination period for a group life policy, making the use of group life waiver tables less appropriate for the valuation of these waiver benefits.

Figure 2: Elimination Period			
	Universal Life	Whole Life	Term Life
3 months	1	1	1
4 months	2	1	1
6 months	11	7	10

We also asked if waived premium is retroactive back to the date of disability once the elimination period was met. The majority of respondents indicated that the waiver benefit was retroactive—for 12 out of 14 respondents for UL policies, eight out of nine respondents for whole life policies, and all 12 respondents for term life policies.

For term life policies, we asked if the waiver rider allowed the insured to convert to a permanent life policy while disabled. Six respondents said the insured was automatically converted to a permanent policy, two had the option to convert, two did not allow this conversion and two did not respond.

3.2 Claim Management

Claim management procedures vary primarily by the frequency in requesting proof of disability from the disabled insured. The table in Figure 3 shows the type of claim management used by number of respondents. A few companies mentioned that they stopped managing the claim after a certain age, like 65, or after a certain number of years.

Figure 3: Claim Management			
	Universal Life	Whole Life	Term Life
Monitoring more frequently than annually	3	2	3
Requiring annual medical statement	6	4	4
Requiring proof of disability when requested, which can vary by age, amount, or diagnosis	5	3	5

3.3 Pricing

The table in Figure 4 shows the number of responding companies based on when they last repriced their waiver riders. The majority of companies last repriced these riders more than 10 years ago.

Figure 4: Time Since Last Waiver Pricing			
	Universal Life	Whole Life	Term Life
This past year	0	1	0
1–3 years ago	0	0	0
3–5 years ago	2	1	3
5–10 years ago	3	2	2
More than 10 years ago	9	5	7

The table in Figure 5 shows the number of respondents by the pricing method that best describes each company's pricing process. Responses in the "Other" category include "combination of methods," "extrapolation from existing products," and "unknown."

Figure 5: Pricing Methodology			
	Universal Life	Whole Life	Term Life
First principles approach	6	3	4
Loss-ratio-based adjustments	1	1	1
Market-based competitive analysis	4	3	4
Other	3	2	3

The table in Figure 6 shows that the majority of companies writing disability waiver riders do not have them reinsured.

Figure 6: Are the Waiver Riders Reinsured?			
	Universal Life	Whole Life	Term Life
Yes	2	1	3
No	10	7	7
Select blocks only	2	1	2

3.4 Reserving

The table in Figure 7 shows the number of respondents by the active life reserving method that best describes each company's process. Responses in the "Other approximation" category include "net level premium," "interpolated terminal reserve," and "unearned guaranteed cost of insurance (COI) reserve."

Figure 7: Reserving Methodology			
	Universal Life	Whole Life	Term Life
Present value (PV) of expected waiver of premium (WOP) benefits less PV of net WOP premium	8	7	9
One-half monthly COI or WOP for annual renewable term (ART) premium scales	3	1	1
Other approximation	2	1	1

The table in Figure 8 shows the number of respondents by incidence table used for setting statutory and GAAP active life reserves. All of the following tables are used at 100% by all respondents. Statutory reserves are predominantly set by using 100% of the 1952 SOA Disability Table for incidence.

Figure 8: Reserve Incidence Table		
	Statutory	GAAP
1952 SOA Disability Table	8	5
1964 CDT Table	0	0
1985 CIDA Table	2	2
2013 Individual Disability Table	0	0
Company experience	1	1
Other	1	1

For claim (disabled life) reserves, almost all respondents indicated they set reserves based on a seriatim calculation of the present value of expected future benefits.

The table in Figure 9 shows the number of respondents by the termination rate table used for setting statutory and GAAP claim reserves. All of the following tables are used at 100% by all respondents. No companies indicated that they included mortality improvement assumptions in their termination rate tables. Similar to the incidence rate results, statutory claim reserves are predominantly set by using 100% of the 1952 SOA Disability Table for termination rates.

Figure 9: Reserve Termination Table		
	Statutory	GAAP
1952 SOA Disability Table	10	7
1964 CDT Table	0	0
1985 CIDA Table	1	1
2013 Individual Disability Table	0	0
Company experience	1	1
Other	1	1

The table in Figure 10 shows the number of respondents by the assumed benefit cost for the active life waiver reserves.

Figure 10: Assumed Benefit Cost for Reserve Calculation		
	Statutory	GAAP
Current gross premium schedule	3	3
Guaranteed gross premium schedule	5	4
Base policy valuation net premium	0	0
Reinsurance premium net of expense allowance	0	0
Other	3	2

The table in Figure 11 shows the number of respondents broken down by how the companies assess reserve adequacy for waiver riders. The majority of companies are ensuring adequacy of their waiver rider reserves either by declaring them immaterial or through the cash flow testing process.

Figure 11: Assessment of Reserve Adequacy for Waiver Riders	
Included in cash flow testing	4
Margins of adequacy in underlying tables	1
Immaterial	5
“I don't know”	1
Other	2

Section 4: Comparison of Current Tables

The current morbidity table requirement for setting statutory reserves for waiver of premium benefits on individual life products reads as follows:

> For total and permanent disability benefits in or supplementary to ordinary policies or contracts, the tables of Period 2 disablement rates and the 1930 to 1950 termination rates of the 1952 Disability Study of the Society of Actuaries, with due regard to the type of benefit or any tables of disablement rates and termination rates adopted after 1980 by the NAIC, for use in determining the minimum standard of valuation for those policies.[1]

This language allows states to implement new tables for use in reserving for individual life waiver of premium riders, but to date none have adopted any more recent tables.

The Period 2 disablement rates are those from the study with anniversary dates between 1935 and 1939. There have been significant changes in disability incidence and claim terminations in the past 80 years and several new studies have been performed, but none that focus specifically on this product.

Waiver of premium/monthly deduction riders provide a form of disability benefit. In order to understand how disability experience has changed over time, it is helpful to consider valuation tables used for other disability benefits, including individual disability income, group disability income, and group term life waiver of premium.

A summary of the different valuation tables used since 1964 for computing statutory minimum reserves for group life waiver of premium benefits, and group and individual disability income benefits follows:

- The 1985 Commissioner's Individual Disability Table A (1985 CIDA) is an update to the 1964 Commissioner's Disability Table (1964 CDT) that was designed to be used for individual disability income policies. In addition to using updated experience, this table expands on the 1964 table by providing separate results by gender and occupation class.

- The 2005 Group Term Life Waiver Reserve Table (2005 GTLW) was the first update for group waiver since the 1970 Krieger table. This was the first group waiver table to include claim termination rates that vary by gender.

- The 2012 Group Long Term Disability Valuation Table (2012 GLTD) is based on group disability experience from 1997 through 2006. It replaced the 1987 Commissioner's Group Disability Table (1987 CGDT) as the statutory claim termination basis, and adds distinctions for gender, diagnosis, monthly benefit amount and definition of disability.

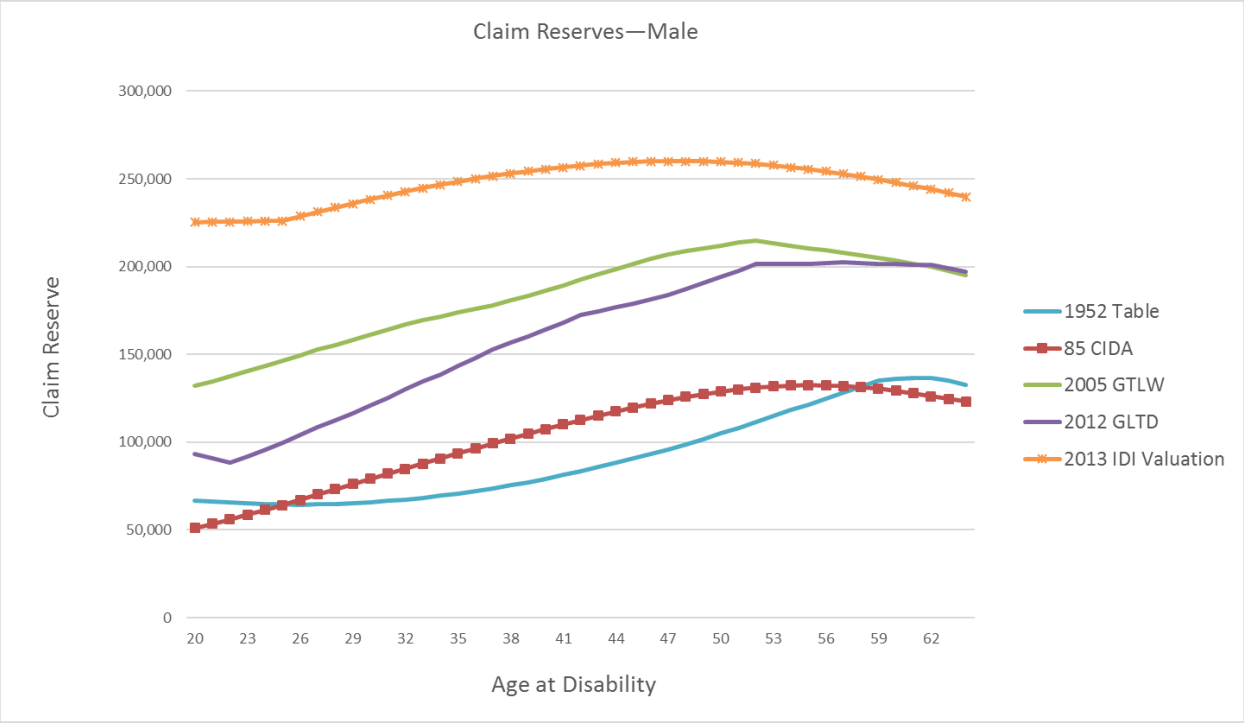
- The 2013 Individual Disability Income Valuation Table (2013 IDI) is based on individual disability income experience from 1990 through 2007. The 2013 IDI table will become the new statutory valuation standard for IDI policies starting in 2020. This table contains distinctions for categories such as benefit period, market type, product type, diagnosis, and tobacco use.

To compare the overall impact of changes in disability claim termination rates over time, the charts in Figures 12 and 13 show the initial claim reserves (i.e., as of the date of disability) for males and females respectively, computed using

[1] NAIC, *Accounting Practices & Procedures Manual as of March 2017*, vol. 1, A820-4.

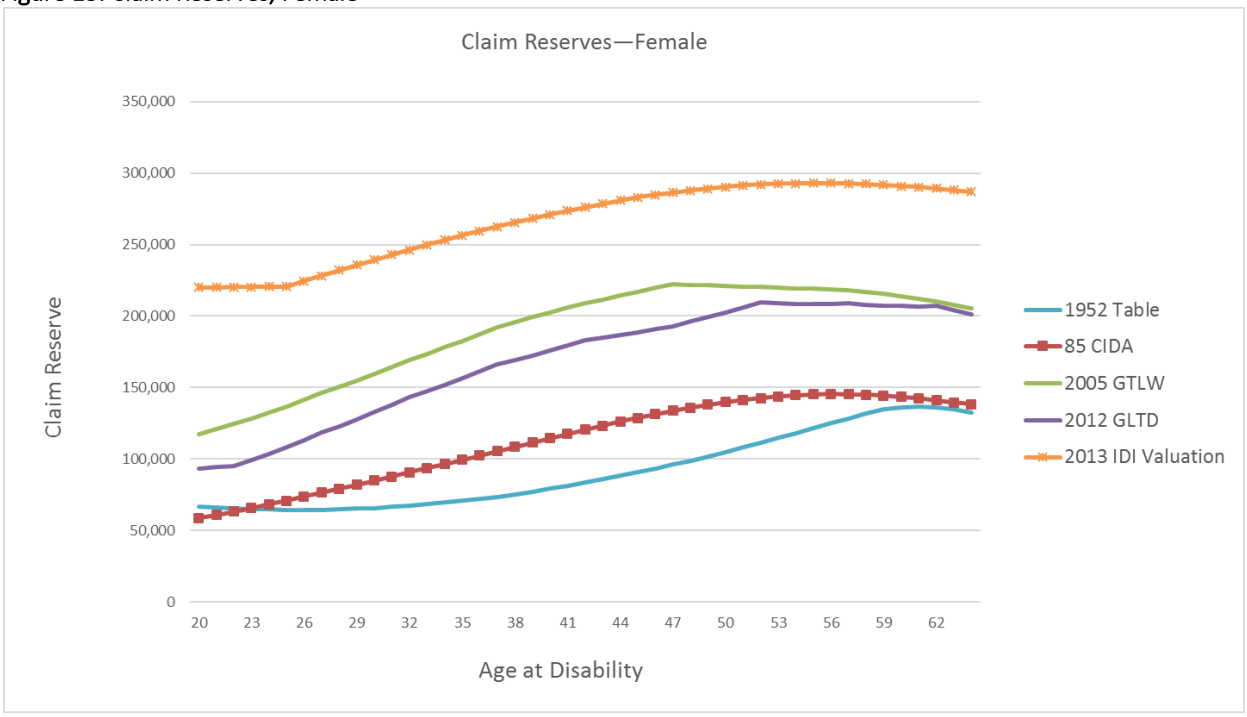
each of these termination tables, by age at disability.[2] To simplify the comparisons, these claim reserve amounts all assume that a benefit of $2,000 per month is being paid to the disabled claimant.

Figure 12: Claim Reserves, Male



[2] Assumes Occupation Class 1 (white-collar and professional occupations), 180-day elimination period, gross monthly benefit = indexed gross monthly benefit = $2,000, benefit period ends at age 99, 24-month own occupation period, 3.5% interest, no diagnosis category, no cost-of-living adjustment (COLA).

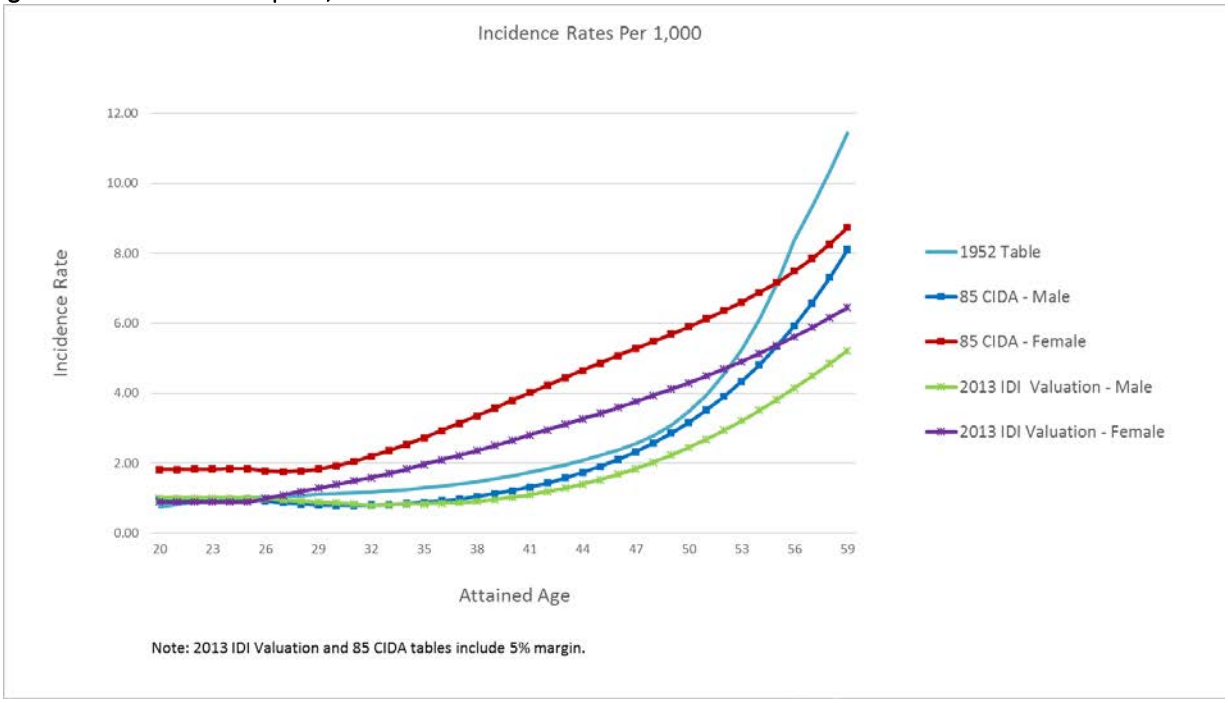
Figure 13: Claim Reserves, Female



The 1952 table produces lower claim reserves at almost all ages when compared to the various tables that have been developed since then, suggesting that the underlying 1952 claim termination rates are outdated.

Disability claim incidence has also shifted over time. The chart in Figure 14 shows the 1952 disability incidence rates compared to the 1985 CIDA and the 2013 IDI incidence rates.[3] Note that the 2005 GLTW and 2012 GLTD tables did not include incidence rates.

Figure 14: Incidence Rates per 1,000

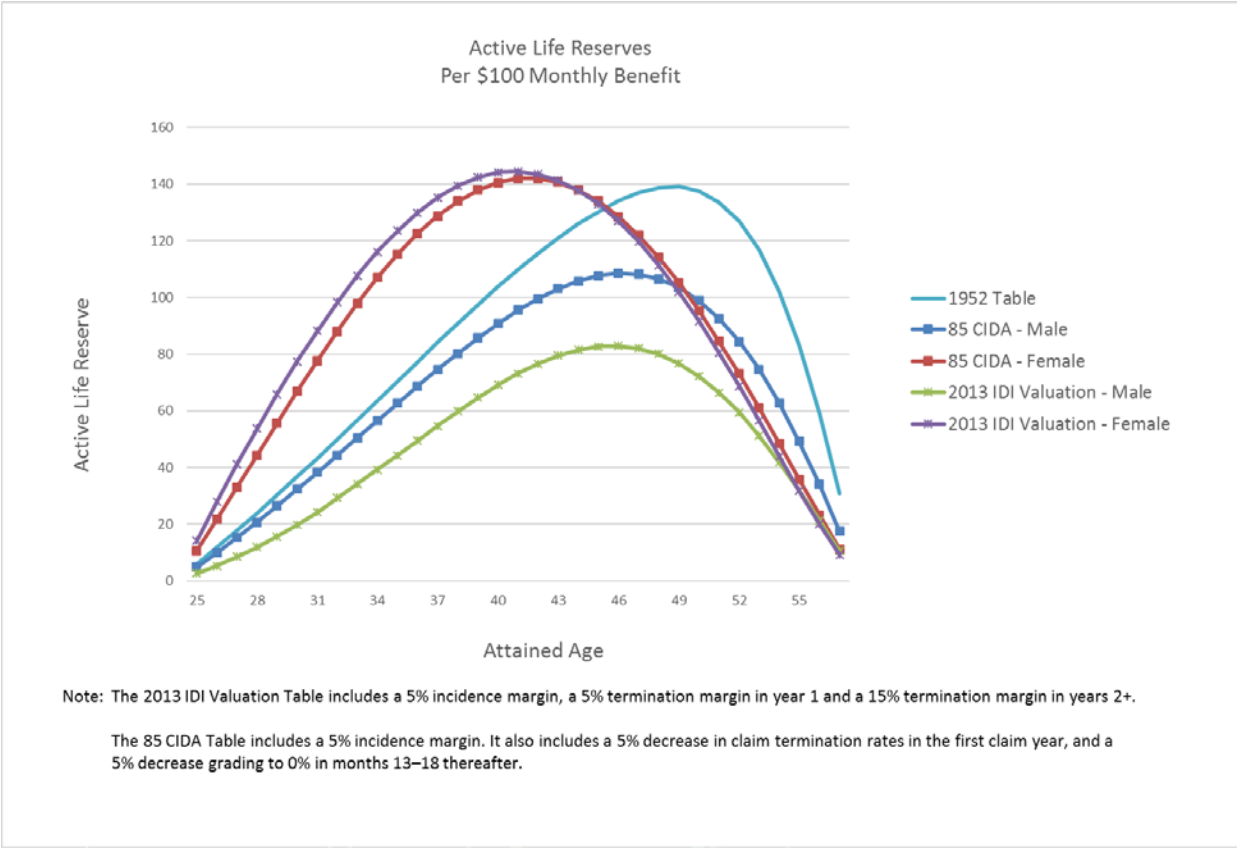


The shape of the 1952 table is steeper than the more recent tables after approximately age 50. Over time, the various studies have shown that incidence rate curves have been flattening. Steeper curves generally produce higher active life reserves than flatter curves. It should also be noted that this chart ends at attained age 59 because that is the highest age with incidence rates available from the 1952 table. This is problematic because benefits today are generally sold to retirement age, or age 65.

[3] Assumes Occupation Class 1 (white-collar and professional occupations), accident and sickness causes combined, 180-day elimination period.

Combining incidence and termination gives us a look at the active life reserves required for this rider. The chart in Figure 15 shows the active life reserves calculated from the 1952 disability, 1985 CIDA and 2013 IDI tables.[4] We have computed active life reserves on a net level basis, and have assumed that premium payments and coverage periods end at age 59 because we do not have incidence rates at older ages for the 1952 table.

Figure 15: Active Life Reserves per $100 Monthly Benefit



Note: The 2013 IDI Valuation Table includes a 5% incidence margin, a 5% termination margin in year 1 and a 15% termination margin in years 2+.

The 85 CIDA Table includes a 5% incidence margin. It also includes a 5% decrease in claim termination rates in the first claim year, and a 5% decrease grading to 0% in months 13–18 thereafter.

The active life reserve produced by the1952 table is between the male and female reserve for 1985 CIDA and 2013 IDI until attained age 46. After that, the active life reserves produced by the 1952 table are higher than the reserves produced by either of the newer tables. Also, notice that the difference between the male and female reserves has widened from 1985 CIDA to 2013 IDI.

The 1952 table is outdated for both incidence and termination rates. Incidence has generally trended down over time for both group and individual disability income. However, disability income policies are purchased and underwritten specifically for income replacement, so the same dynamic may not translate to individual life disability waiver incidence. Disability incidence curves have also flattened by age in more recent time periods. Finally, the 1952 table does not vary by key factors such as gender or occupation.

[4] Assumes Occupation Class 1 (white-collar and professional occupations), accident and sickness causes combined, aggregate smoker status, 180-day elimination period, 3.5% interest, coverage to age 59, benefits to age 65, 2017 CSO mortality and lapse rates.

Section 5: Feasibility of Updated Experience Study

The final questions on the survey gauged the willingness of the companies to share their data for an updated experience study. Eleven of the 14 companies responding to this survey indicated they would be willing to share data for an experience study. These 11 companies represented 99% of riders sold in 2016 in our survey.

There are several advantages to developing a new experience study for waiver of premium or monthly deduction riders on individual life policies. Eighty years is a very long interval for the results of the 1952 study to remain valid. (Recall that the 1952 study was actually based on 1935–1939 disability dates.) There have been significant changes in the population, demographics and lifestyles since that time, including the availability of female data to have gender-distinct tables. There has also been considerable mortality improvement since the 1930s, which tends to increase disability costs and may contribute to the inadequacy of outdated tables.

The current statutory table is dated 1952 and is the basis for approximately 80% of statutory reserves in force today. This table produces claim reserves that could be understated when compared to those using more recent disability tables. Companies may need to increase claim reserves as a result of cash flow testing.

An updated experience study would allow for improved pricing opportunities in this market. The expected claim cost calculations would be more precise if based on more recent experience.

Other disability claim termination rate tables that have been created since 1952 have been designed for other product lines and may not be applicable to waiver of premium riders on individual life products. For instance, group tables do not have individual underwriting and hence the underlying experience may be very different. Individual disability tables have rates that reflect the specific underwriting of those products as well as different motivations by the insured to purchase the policy.

For these reasons, the SOA may wish to initiate an experience study to update the 1952 SOA Disability Table. Based on the results of this survey, we believe there is sufficient willingness by the industry to provide data to be used in the study.

About The Society of Actuaries

The Society of Actuaries (SOA), formed in 1949, is one of the largest actuarial professional organizations in the world dedicated to serving more than 27,000 actuarial members and the public in the United States, Canada and worldwide. In line with the SOA Vision Statement, actuaries act as business leaders who develop and use mathematical models to measure and manage risk in support of financial security for individuals, organizations and the public.

The SOA supports actuaries and advances knowledge through research and education. As part of its work, the SOA seeks to inform public policy development and public understanding through research. The SOA aspires to be a trusted source of objective, data-driven research and analysis with an actuarial perspective for its members, industry, policymakers and the public. This distinct perspective comes from the SOA as an association of actuaries, who have a rigorous formal education and direct experience as practitioners as they perform applied research. The SOA also welcomes the opportunity to partner with other organizations in our work where appropriate.

The SOA has a history of working with public policymakers and regulators in developing historical experience studies and projection techniques as well as individual reports on health care, retirement and other topics. The SOA's research is intended to aid the work of policymakers and regulators and follow certain core principles:

Objectivity: The SOA's research informs and provides analysis that can be relied upon by other individuals or organizations involved in public policy discussions. The SOA does not take advocacy positions or lobby specific policy proposals.

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