Canadian Segregated Funds Product Experience Study

Sponsored by:

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Project Directors

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A list of the participating companies is included in Appendix A.

We would also like to thank the Canadian Segregated Funds Experience Committee for their support, guidance, direction, and feedback throughout the project.

The members of the Canadian Segregated Funds Experience Committee are

Francis Bergeron
Aaron Bradford
Yan Decelles
Liz Mews
Chris Moorley (Chair)
Jonathan Nadeau
Khalid Sadequin
Dean Stamp
Peter Zhao

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Study Overview and Content

This report presents the results of a joint study conducted by the Society of Actuaries (SOA), LIMRA, and the Canadian Institute of Actuaries (CIA) examining both mortality and policyholder behavior experience for Canadian segregated funds products.

The report represents the first industry study of Canadian segregated funds product policyholder behavior and mortality experience that materially impact the cost of guaranteed death, maturity, and withdrawal benefits provided by segregated funds products.

The primary objective of this study is to provide insurers with recent experience data for Canadian segregated funds products in the following areas:

- Full surrenders;
- Partial withdrawals;
- Guaranteed withdrawal benefit (GWB) utilization; and
- Mortality.

Individual policy-level data for Canadian segregated funds products was collected from six participating companies for calendar years 2008–2013. These companies represented approximately 83 percent of the contract value inforce in 2013 based on the Canadian Insurance Advisory report published in January 2014. Please see Appendix A for a list of participating companies.

The data includes products both with and without GWBs. This report uses the following definitions:

- Contracts without GWB: Those contracts with only a guaranteed minimum death benefit (GMDB) and/or a guaranteed minimum accumulation benefit or guaranteed minimum maturity benefit (GMAB/GMMB).
- Contracts with GWB: Those contracts with a GWB elected in addition to the GMDB and/or GMAB(GMMB). GWBs include both GMWBs (guaranteed minimum withdrawal benefits) and GLWBs (guaranteed lifetime withdrawal benefits).

GWBs have been a popular type of guaranteed benefit offered in both the Canadian segregated funds market and the US market for variable annuities over the past decade. GMWBs provide for the withdrawal of a specified protected benefit base over the course of seven to 15 years. With the purchase of a GLWB, owners are guaranteed a stream of annual withdrawals up to a maximum percent of the defined benefit base, regardless of the market performance of the annuity underlying funds. GWB contract owners have flexibility in deciding when to start their withdrawals and whether to have withdrawals based on a single life or the joint lives of the owner/annuitant and his or her spouse.

The GWB benefit base is typically equal to the sum of premium payments made into the contract, enhanced to include investment growth, bonuses prior to the commencement of withdrawals, or resets to the guaranteed withdrawal base. Owners can usually elect to take withdrawals immediately after purchasing their contracts, but may wait for several years to benefit from guaranteed growth in the benefit base that provides for a higher amount of guaranteed withdrawals. Such flexibility and withdrawal benefits make segregated funds more attractive than other equity-based investment options that do not offer guarantees on future withdrawal values.

This report is presented in two sections. The first examines policyholder behavior experience including contract activity for full surrenders, withdrawals, and benefit utilization. The second section focuses on mortality experience for segregated funds contracts during the study experience period.

Acronyms

This paper uses the following acronyms:

NREG: Non-registered Account;

RRIF: Registered Retirement Income Fund; and

RRSP: Registered Retirement Savings Plan.

Caveat and Disclaimer

This study is published by the Society of Actuaries, the Canadian Institute of Actuaries, and LIMRA. It contains information from a variety of sources. It may or may not reflect the experience of any individual company. The study is for informational purposes only and should not be construed as professional or financial advice. The sponsors of this report do not recommend or endorse any particular use of the information provided in this study and make no warranty, express or implied, or representation whatsoever, and assume no liability in connection with the use or misuse of this study.

Study Methodology

This study examines the rates of full surrender, partial withdrawal, GMWB utilization, and mortality at an industry level. Both in-force and transaction data were provided by contributing companies for purposes of the study.

Data was contributed to the study on a calendar year basis for the period 2008 to 2013. Contributing companies were asked to provide information on their entire in-force block at the individual policy level. All data was converted to a policy year basis for analysis.

Results are reported on an age-nearest-birthday basis in all cases.

Note that not all contributing companies were able to provide data for all policies and product factors requested and therefore aggregate results should be used with caution.

See Appendix B for a list of the data fields and layout of the in-force and transaction files.

Data Validation and Reconciliation

LIMRA served as the data aggregator for the study and in that role began by performing a series of data validations to ensure that the data submitted by participants was reasonable and consistently defined and reported across companies. Next, experience results were developed for each participating company individually for each of the experience factors under study. These results were then shared with the individual companies for review and reconciliation with internal experience studies performed for these blocks of business. All contributing companies reviewed results and provided sign-off that the data included in the industry study provide an accurate representation of their business.

To provide industry results on a consistent basis across contributing companies, the committee developed the following definitions to classify transactional data for full surrender, partial withdrawal, and death. Note that not all companies use these definitions in their individual internal experience analysis work.

Definitions

Full Surrender or Lapse	This category of termination includes full external transfers only.
	Full surrenders do not include internal transfers or exchanges and do not include depletion of single or multiple funds within a contract.
Partial Withdrawal	This category includes transactions to withdraw funds from a contract by the contract holder for both GWB and non-GWB policies.
	This category includes scheduled withdrawals such as GWB withdrawals and Registered Retirement Income Fund (RRIF) withdrawals as well as non-scheduled withdrawals of contract value.
	These transactions do not terminate the contract with the company but only reduce the market value of the contract as well as the contract benefit base for the death benefit base (GMDB), the maturity benefit base (GMMB and GMAB), and the withdrawal benefit base (GWB) where withdrawals exceed the maximum level prescribed in the contract.
Death	This category of transaction may or may not result in contract termination and/or external transfer.
	These transactions occur when the carrier is notified of the death of a primary contract holder.

Both policy count and policy amount exposure were calculated on an annual basis for full surrenders and mortality, respectively.

Rates of full surrender, rates of partial withdrawal, and rates of mortality were calculated as follows.

Full Surrenders Rates

Contract Count Full Surrender Rate = $\dfrac{\text{Number of Contracts Surrendered}}{\text{Number of Contracts Exposed to Surrender}}$

- The number of contracts exposed recognizes the length of time each contract is exposed to the risk of surrender (external transfer) during the year.
- Surrenders contribute exposure for a full year (exposure contribution = 1).
- Contracts that terminate due to death, disability, maturity, or annuitization are excluded from the numerator of the surrender rate but are included in the denominator (exposure) based on available information about the timing of the termination. So for example, if a death occurs midway through the year, the policy will contribute .5 to the exposure total for that year.
- Contracts that had partial withdrawal activity but remained in force at the end of the year were treated identically to contracts without partial withdrawal activity that remained in force at the end of the year.

Contract Amount Full Surrender Rate = $\dfrac{\text{Contract Market Value Surrendered}}{\text{Contract Market Value Exposed to Surrender}}$

- The contract value exposed recognizes the amount exposed to the risk of surrender during the year.
- Partial withdrawals prior to surrender are not included in the contract amount surrender rates.
- Contracts that had partial withdrawal activity but remained in force at the end of the year were treated identically to contracts without partial withdrawal activity that remained in force at the end of the year after reflecting reductions in contract value for withdrawals.

Partial Withdrawals/Utilization Rates

Partial withdrawal activity will be reported in two ways.

1. Percentage of contracts taking a withdrawal in a given year.

2. For contracts taking a withdrawal, the average amount withdrawn in the given year:

    Average Amount Withdrawn = $\dfrac{\text{Amount of contract value withdrawn}}{\text{Contract Market Value on Anniversary in the year}}$

For purposes of reporting partial withdrawal activity, the following definitions are used.

Scheduled Withdrawals – withdrawals that are made on a regular basis over time and paid by the insurer in an amount specified by the contract holder.

Non-scheduled Withdrawals – withdrawals that are not made on a planned schedule with regard to timing and amounts paid.

Mortality Rates

Mortality Rate by Count = $\dfrac{\text{Number of Contracts with Reported Death}}{\text{Number of Contracts Exposed to Death}}$

- Deaths contribute exposure for a full year (exposure contribution = 1).
- Contracts that terminate due to full surrender, disability, maturity, or annuitization are excluded from the numerator of the mortality rate but are included in the denominator (exposure) based on available information about the timing of the termination.
- Contracts that had partial withdrawal activity but remained in force at the end of the year were treated identically to contracts without partial withdrawal activity that remained in force at the end of the year.

Mortality Rate by Amount = $\dfrac{\text{Contract Market Value on Death}}{\text{Contract Market Value Exposed to Death}}$

- The contract market value exposed recognizes the amount exposed to risk of death during the year.

Actual-to-Expected Mortality Ratios by Number of Contracts and Contract Value:

Results are also presented on an actual-to-expected basis. For this study, we have employed the following expected mortality bases across all participating companies.

Expected Mortality Bases:

- Contracts with guaranteed withdrawal benefit:

The expected basis is equal to the Canadian Insured Payout Mortality Table (CIP 2014).

- Contracts without guaranteed withdrawal benefit:

The expected basis is based on the CIA 97-04 life insured mortality tables. These tables are select and ultimate, sex and smoker distinct (there is also a combined table for smoker status) with a select period of 15 years. For this study, the expected basis equals a 20 percent/80 percent (smoker/non-smoker) blended table using the ultimate rates only.

Different bases were selected due to the fact that GWB insureds are considered to have experience more like payout annuity insureds.

Reporting Criteria

Rates of surrender and mortality presented in this study are determined based on a minimum of 1,000 contracts exposed to risk and 50 events. Rates that do not meet this criteria are not shown in the report tables.

To ensure that the published analyses protect the confidentiality of the individual participants' results, each reported rate (data point) must also be determined based on a sufficient number of companies. Therefore, if fewer than three companies contributed to a data point, even if the exposure and event criteria above are met, the experience rate is not disclosed.

Executive Summary

This study is the first published examination of rates of full surrender, partial withdrawal, GMWB utilization, and mortality for Canadian segregated funds products at an industry level. Data was contributed to the study on a calendar year basis for the period 2008 to 2013. The study was jointly sponsored by the Society of Actuaries (SOA), LIMRA, and the Canadian Institute of Actuaries (CIA). The SOA provided overall project management and administrative support. LIMRA served as the data aggregator, providing data collection, data validation and data editing services. LIMRA also developed the first draft of the report and provided support for edits and changes over the course of the analysis—allowing for better version control. The CIA provided a group of industry experts to direct the data collection, analysis, and report writing process.

Below is a summary of results across all areas of analysis.

Policyholder Behavior: Full Surrender Rates

- The total exposure to full surrender for the study period was 11.0 million on a contract number basis and C$336.2 billion on a contract market value basis, resulting in a mean contract market value exposed of just over $30,000. Full surrender exposure for segregated funds contracts with GWB represents approximately 7 percent of the total segregated funds product exposure on a contract count basis and 16 percent of the total segregated funds product exposure on a contract amount basis.

- For purposes of this report, **full surrender** is defined as a withdrawal of the full contract value that terminates the contract (i.e., full external transfers only). Full surrender rates are presented on both a contract count and a contract amount (contract market value) basis.

- The overall rate of full surrender for the study period 2008–2013 was 7.3 percent on a contract count basis and 6.5 percent on a contract market value basis with a slightly increasing trend over time.

- The rate of full surrender for the study period 2008–2013 was materially lower for business with a GWB elected (3.3 percent on a count basis and 2.8 percent on an amount basis) versus business with no GWB or none elected (7.6 on a count basis and 7.2 percent on an amount basis).

- For the purposes of this report, ITM is defined as the ratio of current contract market value to GWB benefit base. Therefore, the lower the ratio, the greater the degree the GWB contract is "in the money" and the greater the value of the benefit to the contract holder. For GWB business in Canada, rates of full surrender decrease as the value of the benefit to the contract holder increases. A similar pattern has been seen in the US business with differences being more or less pronounced in any given observation year.

Policyholder Behavior: Partial Withdrawal Activity

- Withdrawal activity for the study period (2008–2013) is examined for **all** segregated funds contracts (distinguishing those with and without a GWB). Withdrawals include both scheduled and non-scheduled withdrawals.

- For both GWB and non GWB, the percentage of contracts taking withdrawals increases over the study period and with increasing attained age.

Policyholder Behavior: GLWB Utilization

- For contracts that have elected a GLWB, the report examines the percentage of contracts that are defined as utilizing benefits during the study period. Only study years 2011–2013 had sufficient exposure for contracts utilizing benefits to report results for this study.

> Definition of Utilization of Benefits: Because there is no specific contract event to "initiate" the GLWB, determining whether a contract owner is actively "utilizing" a guaranteed withdrawal benefit needs to be defined for study purposes. The following definition is used in US studies of these types of products and was applied for this study to allow for consistency:
>
> o   Withdrawals have occurred under a **scheduled** process;
>
> o   Withdrawals have occurred below the full surrender amount level; and
>
> o   The contract holder has met the minimum age requirements for initializing GLWB benefits.

- There are few contract owners at ages below 55 utilizing benefits during the period 2011–2013. Results are shown for all registration types combined, as there was insufficient credibility to split data by both age and registration type.

- Note that, like withdrawal activity in general, the percent of contracts utilizing guaranteed lifetime withdrawals increased by age over the study period.

- For ages under 70, between 58 and 79 percent of contract owners utilizing benefits are withdrawing between 90–110 percent of the maximum contractual amount or less. This is important to consider because amounts withdrawn above the contractually defined maximum level could lead to reductions in the benefit base over time. However, for ages 70 and over, the majority of contract owners (nearly 70 percent) are withdrawing 110 percent of the maximum or more. It appears that similar to variable annuities with GLWB benefits in the US, the oldest contract holders are not always efficiently acting to maximize the value of their GWB benefit.

Mortality Experience

- Mortality experience for segregated funds products is reported both as a raw rate of mortality by contract count and contract amount as well as on an actual to expected ("A to E" or "A/E") mortality basis. It should be noted that total exposure amounts for mortality and surrender are not completely consistent. This is because for some companies not all observation years submitted for the study could be used in the mortality analysis due to questions about underreporting of deaths.

- For this study we have employed the following **expected mortality bases** across all participating companies. Different bases were selected for GWB and non-GWB business due to the fact that GWB insureds are considered to have experience more like payout annuity insureds.

Contracts with Guaranteed Withdrawal Benefit (GWB):

The expected basis is equal to the Canadian Insured Payout Mortality Table (CIP 2014).

Contracts without Guaranteed Withdrawal Benefit (non GWB):

The expected basis is equal to the CIA 9704 life insured mortality table. This table has mortality rate scales for males and females split by smoker, non-smoker, and combined with a select period of 15 years. This study uses the ultimate rates only for males and females assuming the same weighted average of smokers and non-smokers underlying the general population statistics (80 percent non-smoker, 20 percent smoker).

- Overall, mortality rates for GWB business are slightly lower than rates for non-GWB business on a contract count basis and on a contract amount basis. However, this pattern is not consistent by attained age group.

- For all segregated funds business, the mortality rate on a contract amount basis is higher than the mortality rate on a contract count basis. This result is consistent across age groups over 40 but is more pronounced at ages 70 and older. The result is also relatively consistent across all the participating companies—with mortality rates on an amount basis that are either equal to or greater than rates on a count basis for most age groups. This result will be followed in subsequent studies and additional policy and product design data will be requested to aid in understanding the outcome.

SECTION 1: POLICYHOLDER BEHAVIOR EXPERIENCE

This section examines those product experience factors that are driven by choices contract holders make regarding the options and guarantees provided within their contracts. These factors include full surrenders, partial withdrawals of contract value, and utilization of guaranteed withdrawal benefits.

FULL SURRENDERS

The total exposure to full surrender for the study period was 11.0 million on a contract number basis and C$336.2 billion on a contract value basis, resulting in an average contract market value exposed of just over $30,000.

Exposure Characteristics (Surrenders)

Table 1 provides a breakdown of the total exposure by policy year on a contract count and a contract amount basis. For this report, contract amount refers to the current contract market value on policy anniversary during the study year. The data is also split by contracts with a GWB and those without a GWB.

In the current study, full surrender exposure for segregated funds contracts with GWB represents approximately 7 percent of the total segregated funds product exposure on a contract count basis and 16 percent of the total segregated funds product exposure on a contract amount basis.

Most of the products submitted for this study offer a lifetime withdrawal benefit; however, there are a small number of plans that offer either a GMWB benefit only or offer both options.

Table 1: Full Surrender – Exposure by Policy Year
Contract Count Basis

Policy Year	Total Segregated Funds Contracts	Non-GWB Contracts	GWB Contracts	% GWB
1	1,071,351	879,974	191,378	18%
2	1,053,098	884,372	168,726	16%
3	1,036,896	908,030	128,866	12%
4	1,001,340	896,861	104,479	10%
5	919,839	856,204	63,634	7%
6	838,770	802,923	35,846	4%
7	775,203	757,545	17,658	2%
8	718,246	707,834	10,412	1%
9	655,932	649,696	6,236	1%
10	617,144	616,086	1,058	0%
11	568,844	568,844		0%
12	469,825	469,825		0%
13	369,517	369,517		0%
14	272,514	272,514		0%
15–19	523,238	523,238		0%
20–24	88,194	88,194		0%
25–29	26,558	26,558		0%
30 and later	2,541	2,541		0%
Overall	11,009,050	10,280,757	728,293	7%

Contract Amount Basis

Policy Year	Total Segregated Funds Contracts	Non-GWB Contracts	GWB Contracts	% GWB
1	39,426,406,660	26,654,748,073	12,771,658,588	32%
2	39,311,083,902	27,148,391,906	12,162,691,996	31%
3	37,462,235,068	27,933,820,601	9,528,414,468	25%
4	35,508,384,185	27,577,542,501	7,930,841,684	22%
5	31,071,124,527	25,868,886,787	5,202,237,740	17%
6	27,084,725,098	23,807,007,819	3,277,717,279	12%
7	23,059,895,347	21,325,981,570	1,733,913,777	8%
8	19,423,244,472	18,277,656,567	1,145,587,905	6%
9	16,200,639,861	15,425,435,939	775,203,923	5%
10	13,854,753,243	13,730,096,215	124,657,028	1%
11	12,239,823,164	12,239,823,164		0%
12	10,090,621,698	10,090,621,698		0%
13	8,187,560,382	8,187,560,382		0%
14	6,357,700,817	6,357,700,817		0%
15–19	14,281,796,799	14,281,796,799		0%
20–24	2,009,249,535	2,009,249,535		0%
25–29	550,454,592	550,454,592		0%
30 and later	96,778,637	96,778,637		0%
Overall	**336,216,477,989**	**281,563,553,603**	**54,652,924,386**	**16%**

Table 2 provides a breakdown of full surrender exposure by issue age group.

Table 2: Full Surrender – Exposure by Issue Age Group
Contract Count Basis

Issue Age Group	Total Segregated Funds Contracts	Non-GWB Contracts	GWB Contracts	% GWB
Under 30	1,671,582	1,667,362	4,220	0%
30–39	1,889,155	1,864,626	24,529	1%
40–49	2,644,088	2,518,822	125,266	5%
50–54	1,332,467	1,200,546	131,921	10%
55–59	1,128,440	979,957	148,483	13%
60–64	834,185	701,253	132,931	16%
65–69	703,541	615,488	88,052	13%
70–74	372,404	327,307	45,097	12%
75–79	237,343	214,950	22,393	9%
80–84	135,892	131,869	4,023	3%
85+	59,955	58,577	1,378	2%
Overall	**11,009,050**	**10,280,757**	**728,293**	**7%**

Issue Age Group	Total Segregated Funds Contracts	Non-GWB Contracts	GWB Contracts	% GWB
Under 30	15,087,074,453	14,927,074,868	159,999,585	1%
30–39	33,616,268,072	32,523,505,454	1,092,762,618	3%
40–49	70,749,921,127	63,052,084,219	7,697,836,908	11%
50–54	46,554,078,813	37,188,444,393	9,365,634,420	20%
55–59	46,846,994,749	35,349,038,211	11,497,956,537	25%
60–64	39,393,109,775	28,343,094,613	11,050,015,162	28%
65–69	33,368,715,998	25,751,636,016	7,617,079,982	23%
70–74	19,717,383,862	15,986,703,073	3,730,680,789	19%
75–79	14,546,541,227	12,640,682,304	1,905,858,923	13%
80–84	10,413,761,918	10,025,300,794	388,461,123	4%
85+	5,922,627,996	5,775,989,658	146,638,338	2%
Overall	**336,216,477,989**	**281,563,553,603**	**54,652,924,386**	**16%**

Table 3 provides a breakdown of full surrender exposure by attained age group.

Table 3: Full Surrender – Exposure by Attained Age Group
Contract Count Basis

Attained Age Group	Total Segregated Funds Contracts	Non-GWB Contracts	GWB Contracts	% GWB
Under 30	1,044,373	1,041,374	2,999	0%
30–39	1,161,703	1,143,446	18,258	2%
40–49	2,191,445	2,098,629	92,817	4%
50–54	1,461,964	1,345,802	116,162	8%
55–59	1,463,841	1,318,705	145,135	10%
60–64	1,298,855	1,154,439	144,416	11%
65–69	929,628	823,526	106,102	11%
70–74	580,692	517,467	63,224	11%
75–79	397,024	369,603	27,421	7%
80–84	270,616	260,911	9,705	4%
85+	208,909	206,854	2,055	1%
Overall	**11,009,050**	**10,280,757**	**728,293**	**7%**

Attained Age Group	Total Segregated Funds Contracts	Non-GWB Contracts	GWB Contracts	% GWB
Under 30	7,673,393,925	7,559,992,484	113,401,442	1%
30–39	15,738,724,724	15,019,858,713	718,866,011	5%
40–49	48,082,093,420	42,921,760,527	5,160,332,893	11%
50–54	43,019,644,581	35,291,384,197	7,728,260,384	18%
55–59	51,605,264,788	40,723,870,593	10,881,394,195	21%
60–64	52,072,272,910	40,261,618,172	11,810,654,738	23%
65–69	41,051,042,226	31,720,822,177	9,330,220,048	23%
70–74	27,766,812,384	22,303,165,756	5,463,646,627	20%
75–79	18,944,746,442	16,582,788,745	2,361,957,697	12%
80–84	14,979,692,307	14,108,849,118	870,843,189	6%
85+	15,282,790,283	15,069,443,120	213,347,163	1%
Overall	**336,216,477,989**	**281,563,553,603**	**54,652,924,386**	**16%**

Table 4 shows full surrender exposure by product (registration) type.

Table 4: Full Surrender – Exposure by Product (Registration) Type

Contract Count Basis

Product Type	Total Segregated Funds Contracts	Non-GWB Contracts	GWB Contracts	% GWB
NREG	2,102,202	1,969,919	132,283	7%
RRIF	945,523	820,580	124,943	15%
RRSP	4,918,000	4,466,437	451,563	10%
Other/Unknown	3,043,325	3,023,821	19,504	1%
Overall	**11,009,050**	**10,280,757**	**728,293**	**7%**

Contract Amount Basis

Product Type	Total Segregated Funds Contracts	Non-GWB Contracts	GWB Contracts	% GWB
NREG	100,475,701,232	86,921,193,141	13,554,508,091	13%
RRIF	46,200,376,003	35,857,204,543	10,343,171,459	22%
RRSP	137,003,538,559	107,133,030,974	29,870,507,585	22%
Other/Unknown	52,536,862,195	51,652,124,944	884,737,250	2%
Overall	**336,216,477,989**	**281,563,553,603**	**54,652,924,386**	**16%**

Full Surrender Activity

The overall rate of full surrender for the study period 2008–2013 was 7.3 percent on a contract count basis and 6.5 percent on a contract market value basis with a slightly increasing trend over time.

For this report, we define full surrenders as a withdrawal of the full contract value that terminates the contract (i.e., full external transfers only). Full surrender rates are provided on both a policy count and a policy amount basis (market contract value).

The rate of full surrender for the study period 2008–2013 was materially lower for business with a GWB elected (3.3 percent on a count basis and 2.8 percent on an amount basis) versus business with no GWB or none elected (7.6 percent on a count basis and 7.2 percent on an amount basis).

Figure 1 shows exposure by contract amount for each observation year in the study as well as a comparison of full surrender rates by contract count and contract amount for both business with and without GWB. Note that the surrender rates trend slightly upward over the study period for both types of segregated funds contract. Also, surrender rates by count are consistently greater than surrender rates by amount, implying that larger contracts are less likely to surrender.

Figure 1: Full Surrender Rates for Segregated Funds Business by Observation Year (2008–2013)
With and without GWB
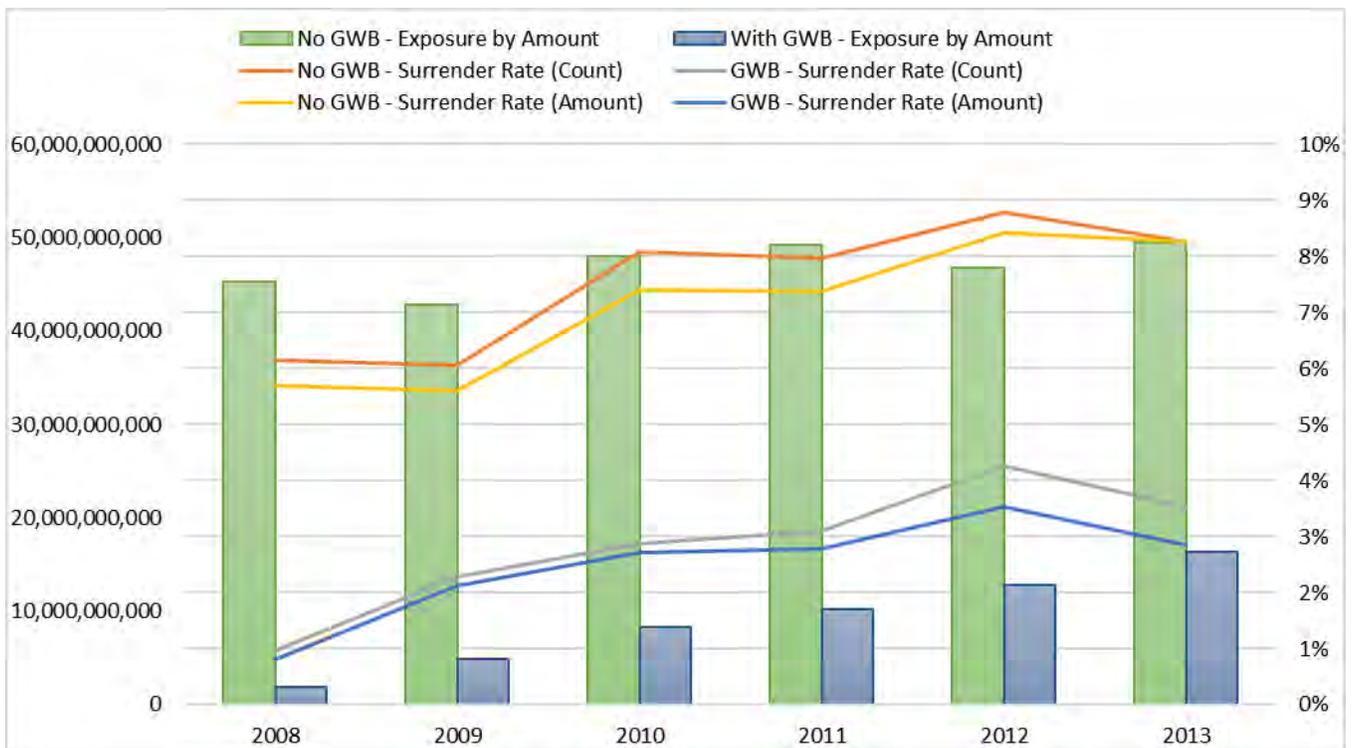
Figure 2a examines business without a GWB and shows the increase in rates of surrender by contract year. Rates of surrender peak at the end of the common seven-year surrender charge period and then decrease both by count and by contract value from year eight to year 10.

Figure 2a: Full Surrender Rates for Segregated Funds Business by Policy Year
Without GWB
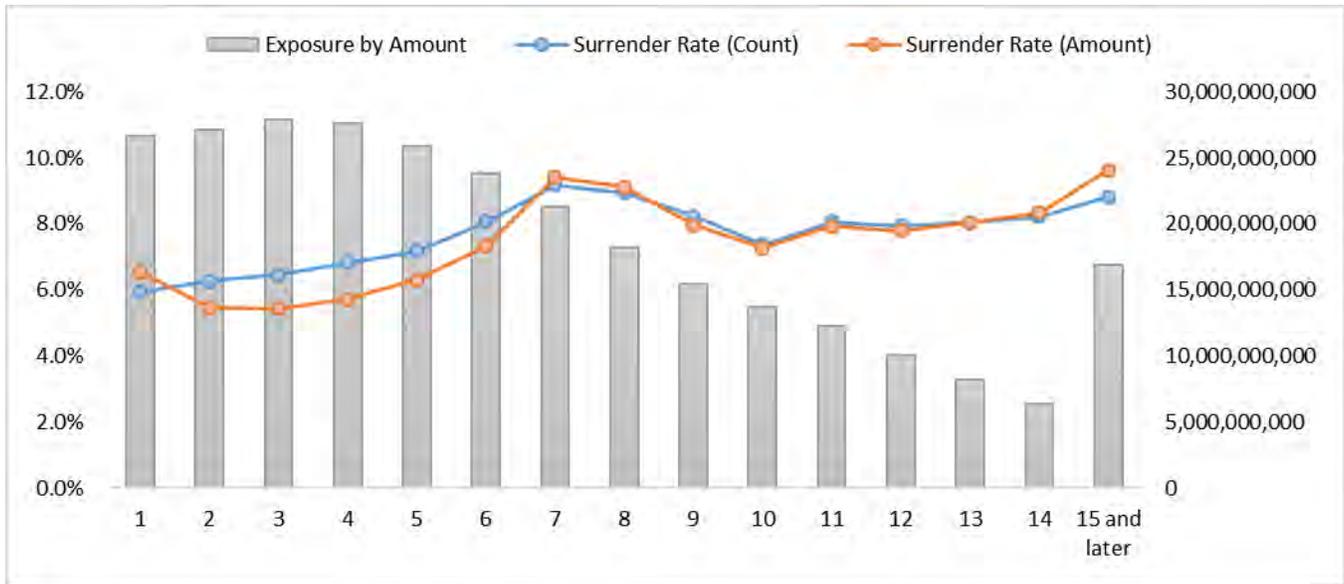
Figure 2b shows results by policy year for contracts with GWB. Here we see a surrender rate high point around policy year three with a continuing downward trend through year nine. Note that the exposure for this business gets relatively low after policy year six and most contracts have not reached the end of the surrender charge period where increased surrender activity would be expected.

Figure 2b: Full Surrender Rates for Segregated Funds Business by Policy Year
With GWB
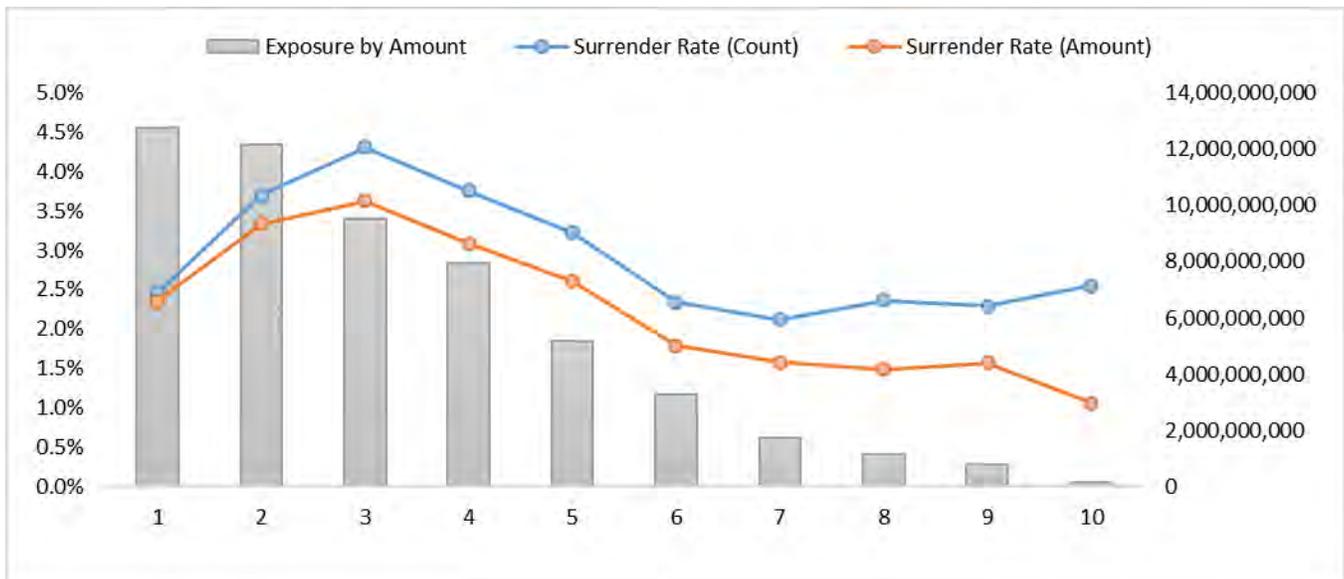
Figures 3a, 3b 3c, and 3d provide a comparison of surrender rates for GWB business on the basis of what type of withdrawals (if any) have been made from the contract during the study period. Surrender rates are presented on both a contract count and a contract amount basis.

Note that Figures 3a and 3b examine contracts that have either not taken any withdrawals during the study period or have only taken non-scheduled withdrawals. Figures 3c and 3d provide a split of the contracts taking scheduled withdrawals into those only withdrawing funds on a regularly scheduled basis and those that also have some occasional non-scheduled withdrawals.

Note that because a relatively small portion of GWB business has reached the end of the surrender charge period the pattern of ultimate lapses cannot yet be discerned from data underlying the current study.

Figure 3a examines surrender rates for those GWB contracts that did not take withdrawals of any kind. For these contracts, surrender rates start around 2.5 percent and increase to between 4 and 4.5 percent by year three where they level out.

Figure 3a: Full Surrender Rates for Segregated Funds Business with GWB by Policy Year and Withdrawal Type
Contracts with no withdrawals during the study period
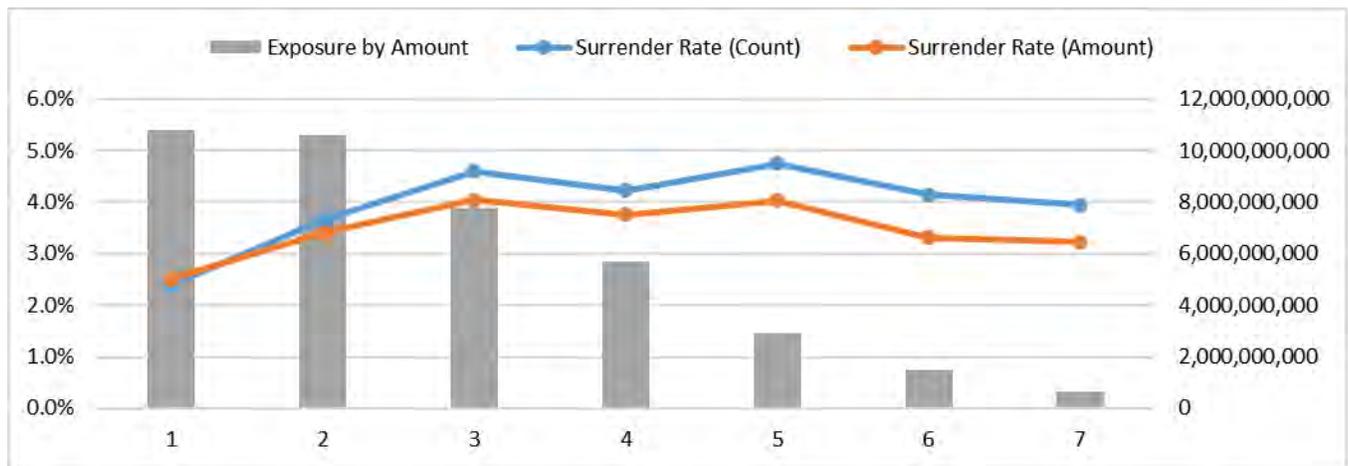
Figure 3b focuses on those contracts that took withdrawals but only on an occasional or non-scheduled basis. Here surrender rates decline over the first five contract years, reaching below 1 percent by year five on both a contract count and a contract amount basis.

Note that rates of surrender for this category of business are greater in the US than in Canada. US results appear to be driven by situations where unanticipated financial needs in retirement or pre-retirement can lead first to withdrawals and then ultimately to full surrender of the contract.

Figure 3b: Full Surrender Rates for Segregated Funds Business with GWB by Policy Year and Withdrawal Type
*Contracts taking withdrawals during the study period – non-scheduled withdrawals only*
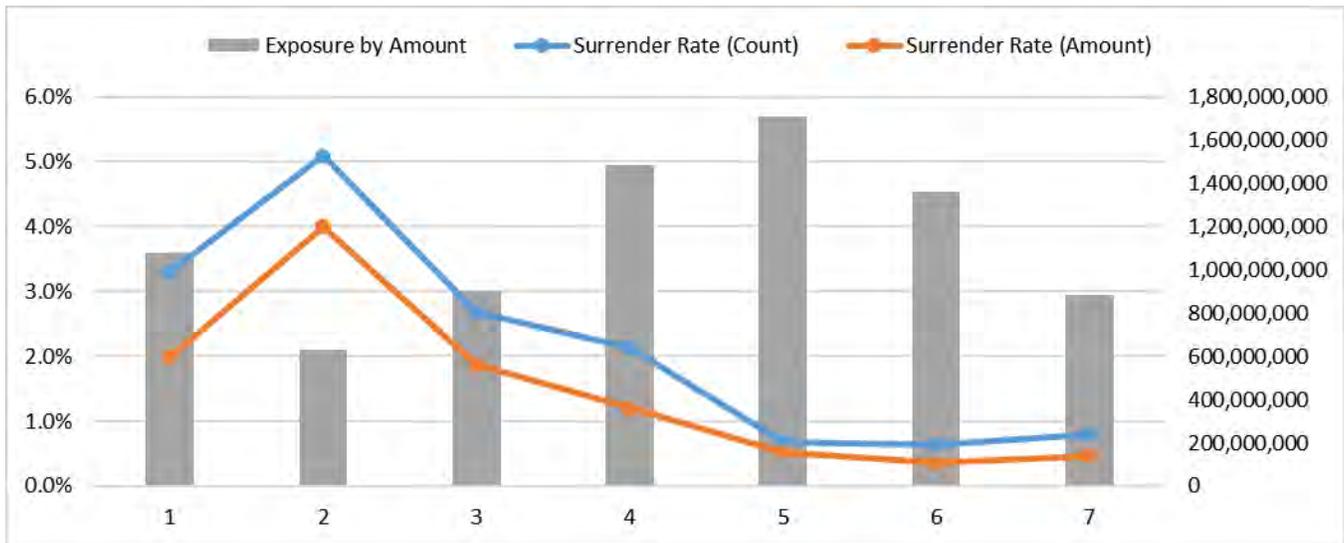
Contracts included in Figure 3c exhibit an opposite surrender pattern to those shown in Figure 3b. For those contracts that have taken **scheduled withdrawals only**, rates of surrender start at less than 1 percent on an amount basis and increase to just over 4 percent by year five. In the US, variable annuities with similar GLWB benefits and similar withdrawal patterns have experienced extremely low rates of lapse with surrender rates that are consistently 1 percent or less across all policy years.

Figure 3c: Full Surrender Rates for Segregated Funds Business with GWB by Policy Year and Withdrawal Type
Contracts taking withdrawals during the study period – scheduled withdrawals only
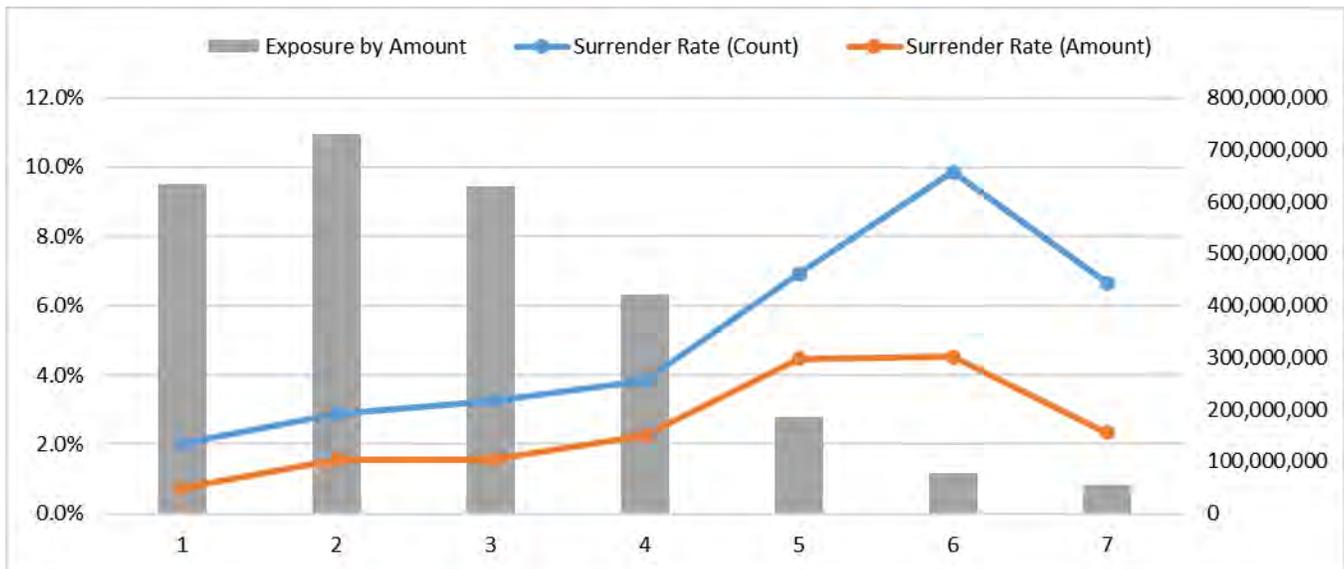
Figure 3d examines surrender rates for contracts that have taken a combination of scheduled and non-scheduled withdrawals. The experience for these contracts is more level by contract year with rates of surrender falling generally between the levels for those taking only scheduled and those taking only non-scheduled withdrawals. Surrender rates vary between 1.9 and 3.4 percent on a contract count basis and between 1 and 2.2 percent on a contract amount basis.

Figure 3d: Full Surrender Rates for Segregated Funds Business with GWB by Policy Year and Withdrawal Type
Contracts taking withdrawals during the study period – both scheduled and non-scheduled withdrawals

Figures 4 and 5 provide surrender results for all segregated funds business (both with or without a GWB) by issue age group (Figure 4) and attained age group (Figure 5) on a contract count and amount basis. Note that by issue age, rates of surrender for non-GWB business are highest for ages between 50 and 60 while for GWB business they are lowest for ages between 40 and 60.

Figure 4: Full Surrender Rates for Segregated Funds Business by Issue Age Group
With and without GWB

By attained age, rates of surrender are highest for contract owners between 70 and 74 for both GWB and non-GWB business.

Figure 5: Full Surrender Rates for Segregated Funds Business by Attained Age Group
With and without GWB
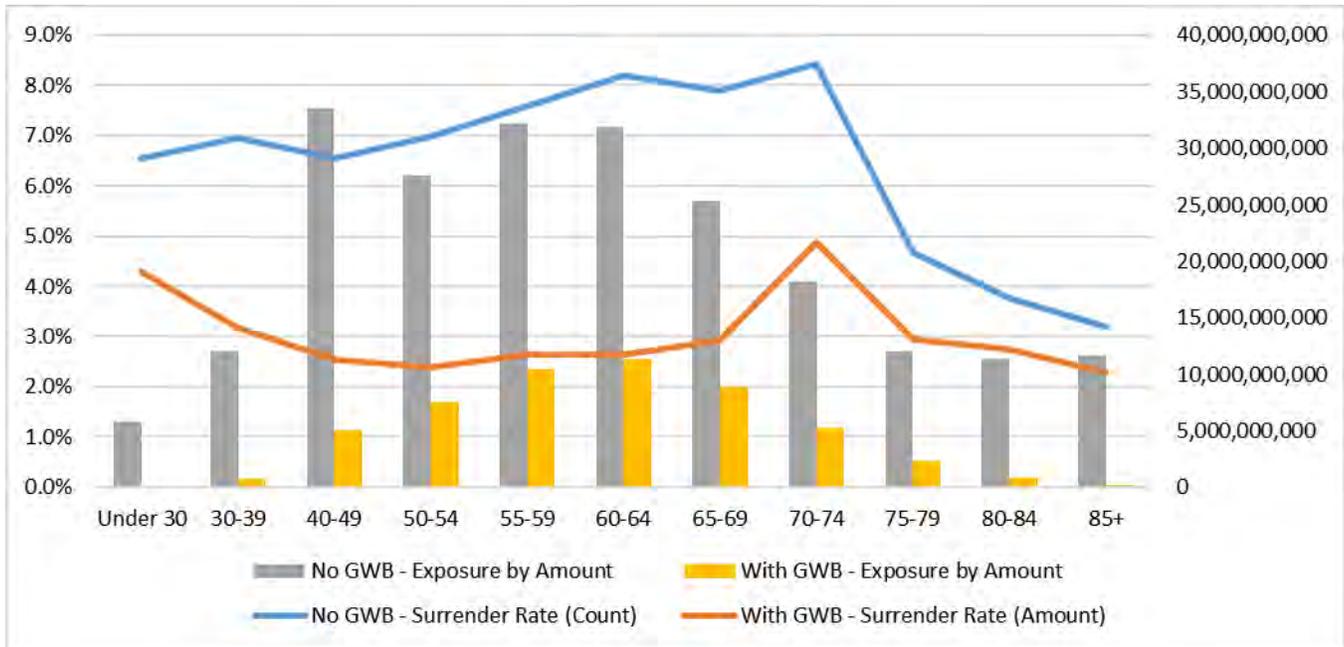
Figures 6a and 6b look at surrender rates by amount for different product (registration) types for both contracts without and with GWB respectively. Beginning in policy year two, RRSP exhibits the highest rates of full surrender with RRIF running about 2 percent lower on average. NREG business has the lowest rates of full surrender beginning in policy year five.

Figure 6a: Full Surrender Rates for Segregated Funds Business by Product (Registration) Type and Policy Year
Without GWB
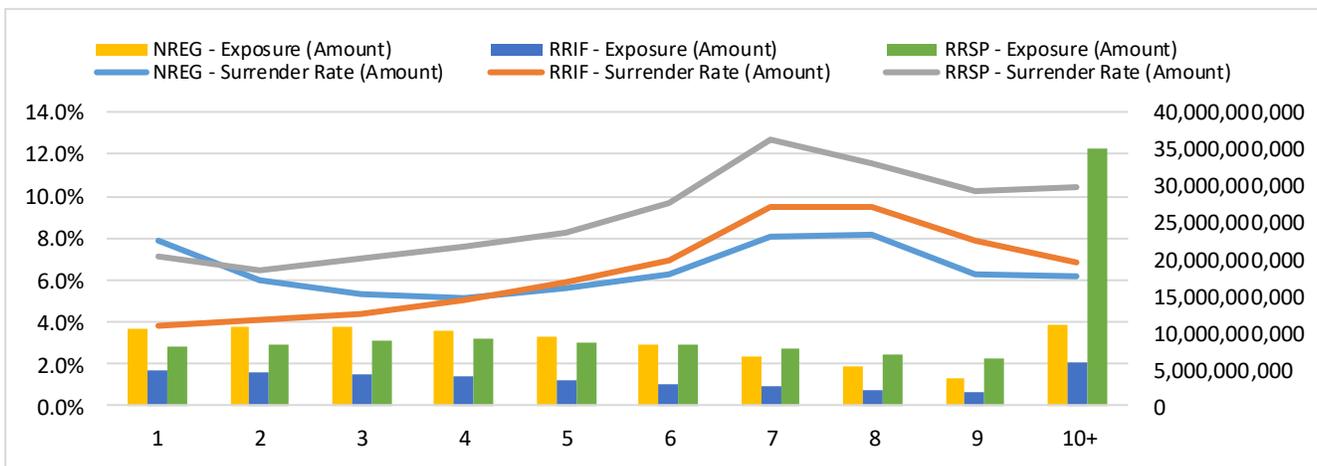
For contracts with GWB, NREG business followed by RRSP has the highest rates of full surrender for GWB contracts through year six followed by all rates varying between 0.5 percent and 2 percent beginning in year seven.

Figure 6b: Full Surrender Rates for Segregated Funds Business by Product Type and Policy Year
With GWB
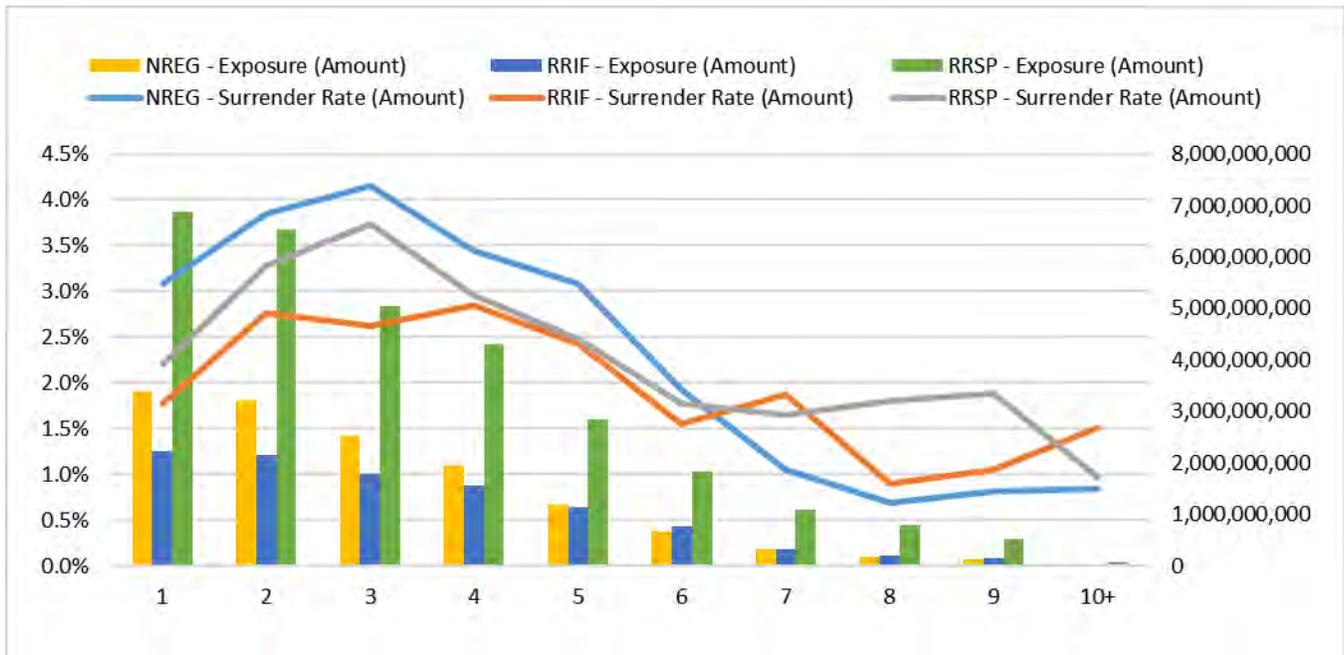
Figure 7 presents the surrender results for the blocks of business with GWB by degree of "in the moneyness" (ITM) of the contract. For this report, ITM is defined as the ratio of current contract market value to GWB benefit base. Therefore, the lower the ratio, the greater the degree the GWB contract is "in the money" and the greater the value of the benefit to the contract holder.

For GWB business in Canada, rates of full surrender decrease as the value of the benefit to the contract holder increases. A similar pattern has been seen in the US business with differences more or less pronounced in any given observation year.

Figure 7: Full Surrender Rates for Segregated Funds Business with GWB by In-the-Moneyness (ITM) Ratio
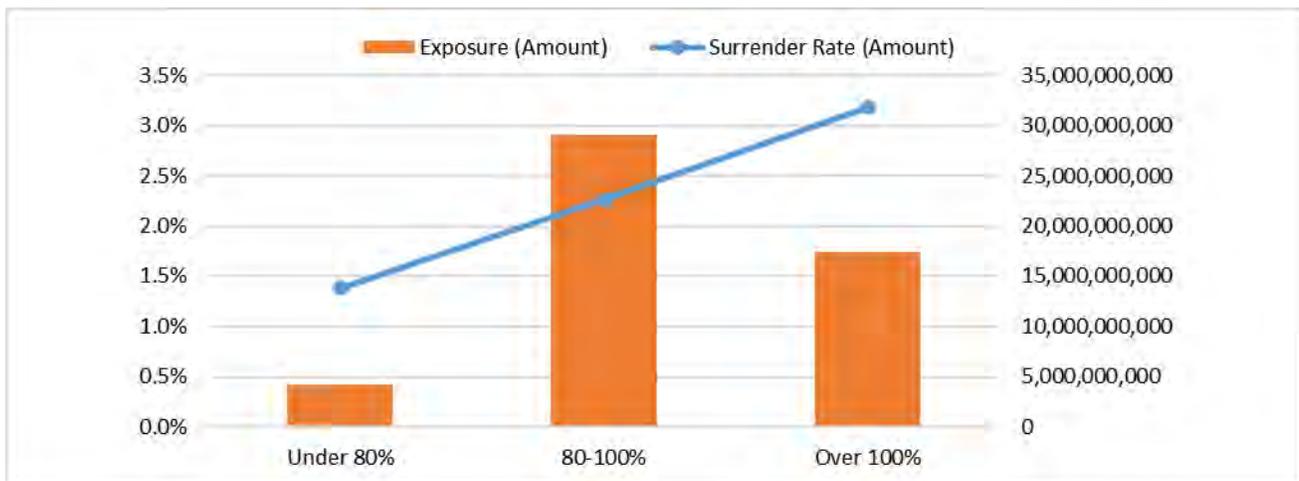
WITHDRAWAL ACTIVITY AND UTILIZATION EXPERIENCE

In this section, all withdrawal activity for segregated funds business is examined for both contracts with and without a GWB benefit.

In addition, for contracts with a guaranteed lifetime withdrawal benefit, rates of utilization for GLWB benefits are defined and reported. Very few GWB products without lifetime benefits had withdrawal activity reported for the study and therefore results for these options are not examined for this study.

Note that only four of the six participating companies were able to provide all the information necessary to be included in this section of the report.

Also note that a relatively small percentage of Canadian contracts have initiated withdrawals under a GLWB either during or prior to the study period of this report. Therefore, this report should be considered a first benchmark with future reports to provide updates of the experience over time.

Withdrawal Activity

In Table 4, we examine withdrawal activity for the study period (2008–2013) for all segregated funds contracts (distinguishing those with and without a GWB).

Here, withdrawals include both scheduled and non-scheduled withdrawals. For purposes of this report, the following definitions apply for these terms:

Scheduled Withdrawals – withdrawals that are made on a regular basis over time and paid by the insurer in an amount specified by the contract holder.

Non-scheduled Withdrawals – withdrawals that are not made on a planned schedule with regard to timing and amounts paid.

Results include all contracts with lifetime withdrawal options whether or not they utilize benefits based on the definition on page 34. Rates of GLWB benefit utilization are examined separately at the end of Section 2.

The percentage of contracts taking withdrawals as shown in Tables 5–12 is defined as follows:

Percentage of contracts taking withdrawals =   Number of contracts that have taken withdrawals
                                               Number of contracts in force at beginning of the observation year

For both GWB and non-GWB, the percentage of contracts taking withdrawals increases over the study period. Note that the percentage of contracts taking scheduled withdrawals is lower for contracts with a GWB until 2012 and 2013. This may be due to the fact that this block of business is newer and so fewer contract holders are ready to begin taking a regular retirement income. Overall, the percentage generally increases over the study period with the aging of the block.

Table 5 also shows average amounts withdrawn for each category of withdrawal type and for GWB and non-GWB business.

Table 4: Percentage of Contracts Taking Withdrawals by Observation Year and Type of Withdrawal
All product (registration) types/contracts with and without GWB

	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	% Contracts taking withdrawals					
Study Year	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
2008	9%	0%	4%	0%	5%	0%
2009	9%	1%	5%	1%	4%	0%
2010	10%	3%	6%	2%	5%	0%
2011	10%	5%	6%	4%	5%	1%
2012	11%	8%	6%	7%	5%	1%
2013	12%	15%	7%	12%	5%	3%
	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	Average Amounts Withdrawn					
Study Year	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
2008	9,632	11,470	6,840	6,498	12,613	23,987
2009	9,886	10,379	6,503	6,536	14,198	20,681
2010	11,548	10,381	7,381	6,759	16,544	21,632
2011	10,219	9,574	6,733	6,978	14,850	18,785
2012	9,087	6,955	6,476	5,926	12,172	13,333
2013	9,249	8,395	6,782	6,354	12,456	15,715

* With or without additional non-scheduled withdrawals

Table 6 provides the same data regarding withdrawal activity but by attained age group for all observation years combined. Note that the percentage of contracts taking withdrawals increases by attained age for both GWB and non-GWB contracts.

Table 6: Percentage of Contracts Taking Withdrawals by Attained Age Group and Type of Withdrawal
All registration types/contracts with and without GWB

	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
			% Contracts taking withdrawals			
Attained Age Group	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
Under 30	5%	1%	5%	1%	0%	0%
30–39	4%	1%	4%	1%	0%	0%
40–49	4%	1%	4%	1%	0%	0%
50–59	6%	1%	5%	1%	1%	0%
60–64	12%	2%	6%	1%	5%	1%
65–69	18%	5%	7%	2%	11%	4%
70–74	32%	20%	7%	3%	24%	17%
75–79	43%	30%	9%	4%	34%	26%
80–84	36%	39%	9%	5%	27%	34%
85+	25%	47%	9%	4%	16%	43%
	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
			Average Amounts Withdrawn			
Attained Age Group	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
Under 30	4,719	16,958	14,197	4,351	4,668	20,382
30–39	8,516	11,826	7,478	4,796	8,544	12,786
40–49	12,497	21,163	6,879	9,876	12,952	23,190
50–59	15,478	16,825	10,293	8,654	17,193	20,898
60–64	13,009	12,911	9,070	7,019	17,225	21,534
65–69	10,498	8,786	7,768	6,072	15,815	17,999
70–74	7,633	7,134	6,153	6,215	14,608	14,870
75–79	6,522	6,942	5,438	6,470	12,872	11,490
80–84	6,803	7,472	5,167	6,714	13,492	15,147
85+	9,596	9,060	6,063	8,863	17,602	12,136

* With or without additional non-scheduled withdrawals

Tables 7–12 provide similar withdrawal information as Tables 5 and 6 but results are shown for each product (registration) type separately. Note that the percentage of contracts taking scheduled withdrawals is very low for RRSP business, larger for NREG business, and largest for RRIF business.

Table 7: Percentage of Contracts Taking Withdrawals by Observation Year and Type of Withdrawal
RRSP only/contracts with and without GWB

	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	% Contracts taking withdrawals					
Study Year	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
2008	3%	0%	0%	0%	3%	0%
2009	3%	1%	3%	1%	1%	0%
2010	4%	1%	0%	0%	4%	1%
2011	4%	2%	0%	0%	3%	1%
2012	4%	1%	0%	0%	3%	1%
2013	3%	2%	0%	0%	3%	2%
	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	Average Amounts Withdrawn					
Study Year	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
2008	12,745	14,457	11,276	6,770	12,792	16,093
2009	15,434	15,503	9,347	8,947	15,626	16,965
2010	17,949	15,977	10,723	5,963	18,147	17,442
2011	14,751	17,254	9,354	7,264	14,936	19,069
2012	12,629	12,788	10,603	10,367	12,689	12,788
2013	13,397	15,962	9,208	**	13,515	15,962

* With or without additional non-scheduled withdrawals

** Insufficient data

Table 8: Percentage of Contracts Taking Withdrawals, by Attained Age Group and Type of Withdrawal
RRSP only/contracts with and without GWB

Attained Age Group	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	% Contracts taking withdrawals					
	No GWB	With GWB	No GWB	With GWB	No GWB	With GWB
Under 30	2%	1%	0%	0%	2%	1%
30–39	3%	1%	0%	0%	2%	1%
40–49	3%	1%	0%	0%	3%	1%
50–59	4%	1%	1%	0%	3%	1%
60–64	5%	1%	1%	0%	4%	1%
65–69	5%	2%	1%	1%	4%	1%
70–74	3%	2%	1%	1%	3%	1%
75–79	**	**	**	**	**	**
80–84	**	**	**	**	**	**
85+	**	**	**	**	**	**

Attained Age Group	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	Average Amounts Withdrawn					
	No GWB	With GWB	No GWB	With GWB	No GWB	With GWB
Under 30	5,158	6,198	3,756.48	**	5,159	6,198
30–39	7,658	10,714	8,309.42	**	7,658	10,714
40–49	11,920	15,706	8,524.76	3,371	11,931	15,798
50–59	16,562	16,590	10,475.12	10,027	16,675	16,858
60–64	17,104	15,993	9,446.33	6,754	17,504	17,223
65–69	16,991	15,181	7,350.13	7,488	17,599	17,748
70–74	22,742	18,170	1,448.72	6,698	24,311	23,078
75–79	**	**	**	**	**	**
80–84	**	**	**	**	**	**
85+	**	**	**	**	**	**

* With or without additional non-scheduled withdrawals

** Insufficient data

Table 9: Percentage of Contracts Taking Withdrawals, by Observation Year and Type of Withdrawal
NREG only/contracts with and without GWB

	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	% Contracts taking withdrawals					
Study Year	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
2008	12%	2%	1%	1%	12%	0%
2009	12%	4%	1%	3%	11%	1%
2010	13%	7%	1%	4%	12%	3%
2011	13%	10%	1%	8%	12%	2%
2012	13%	9%	3%	0%	10%	9%
2013	13%	18%	2%	15%	11%	3%
	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	Average Amounts Withdrawn					
Study Year	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
2008	13,854	14,791	13,749	7,064	13,862	38,284
2009	13,565	14,019	11,643	10,686	13,768	29,758
2010	14,958	15,363	13,615	7,866	15,109	33,615
2011	15,763	12,111	12,674	7,862	16,143	22,962
2012	14,198	9,390	13,094	7,523	14,339	17,280
2013	15,323	6,493	12,935	**	16,143	5,842

* With or without additional non-scheduled withdrawals

** Insufficient data

Table 10: Percentage of Contracts Taking Withdrawals, by Attained Age Group and Type of Withdrawal
NREG only/contracts with and without GWB

	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
			% Contracts taking withdrawals			
Attained Age Group	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
Under 30	9%	4%	0%	1%	8%	3%
30–39	10%	3%	0%	1%	10%	2%
40–49	11%	2%	1%	1%	10%	2%
50–59	12%	3%	1%	1%	12%	2%
60–64	15%	4%	2%	2%	13%	2%
65–69	16%	9%	2%	6%	14%	3%
70–74	16%	13%	3%	9%	13%	4%
75–79	15%	18%	3%	14%	12%	4%
80–84	15%	28%	3%	23%	12%	5%
85+	13%	38%	3%	36%	10%	3%
	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
			Average Amounts Withdrawn			
Attained Age Group	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
Under 30	7,694	14,620	15,629	15,770	7,558	15,770
30–39	10,571	9,002	13,113	9,371	10,499	9,371
40–49	16,208	15,547	15,983	16,205	16,220	16,205
50–59	18,857	11,112	18,527	11,069	18,885	11,069
60–64	16,734	10,197	15,771	10,812	16,863	10,812
65–69	14,261	8,954	12,697	9,415	14,535	9,415
70–74	12,404	8,084	10,086	9,144	12,882	9,144
75–79	12,886	7,098	10,870	7,740	13,367	7,740
80–84	13,408	7,780	10,650	9,235	14,213	9,235
85+	16,832	9,494	12,660	8,957	18,364	8,957

* With or without additional non-scheduled withdrawals

Table 11: Percentage of Contracts Taking Withdrawals, by Observation Year and Type of Withdrawal
RRIF only/contracts with and without GWB

	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	% Contracts taking withdrawals					
Study Year	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
2008	52%	3%	39%	3%	13%	0%
2009	53%	11%	48%	11%	5%	0%
2010	55%	23%	52%	17%	3%	7%
2011	57%	37%	55%	30%	3%	7%
2012	60%	58%	57%	39%	3%	19%
2013	62%	84%	59%	71%	3%	13%
	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	Average Amounts Withdrawn					
Study Year	**No GWB**	**With GWB**	**No GWB**	**With GWB**	**No GWB**	**With GWB**
2008	6,944	5,421	14,289	9,382	5,167	4,048
2009	6,601	6,128	16,408	16,248	4,552	5,149
2010	7,693	6,553	14,653	9,851	6,137	5,900
2011	6,794	6,769	24,691	12,177	4,868	5,827
2012	6,817	5,535	31,237	8,833	4,790	5,252
2013	6,893	6,140	29,843	10,474	4,604	5,754

* With or without additional non-scheduled withdrawals

Table 12: Percentage of Contracts Taking Withdrawals, by Attained Age Group and Type of Withdrawal

RRIF only/contracts with and without GWB

Attained Age Group	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	% Contracts taking withdrawals					
	No GWB	With GWB	No GWB	With GWB	No GWB	With GWB
Under 30	**	**	**	**	**	**
30–39	32%	**	32%	**	**	**
40–49	44%	**	37%	**	7%	**
50–59	40%	17%	32%	5%	8%	11%
60–64	49%	18%	44%	5%	5%	13%
65–69	47%	20%	42%	7%	5%	13%
70–74	60%	41%	55%	25%	5%	16%
75–79	69%	57%	65%	47%	4%	9%
80–84	66%	68%	63%	60%	4%	8%
85+	61%	67%	57%	61%	4%	6%
Attained Age Group	All Withdrawals	All Withdrawals	Scheduled Withdrawals*	Scheduled Withdrawals*	Non-Scheduled Withdrawals Only	Non-Scheduled Withdrawals Only
	Average Amounts Withdrawn					
	No GWB	With GWB	No GWB	With GWB	No GWB	With GWB
Under 30	3,526	**	5,246	**	**	**
30–39	4,013	**	9,793	**	2,643	**
40–49	5,157	10,786	11,655	**	3,499	**
50–59	10,785	5,840	25,202	10,569	6,872	4,494
60–64	9,524	5,897	23,761	11,361	6,674	4,739
65–69	7,991	5,250	21,693	8,641	5,567	4,665
70–74	6,484	6,303	17,940	10,889	4,733	5,671
75–79	5,632	6,541	16,272	10,839	4,257	6,012
80–84	5,122	6,794	14,021	13,039	4,124	6,115
85+	5,161	8,302	13,030	9,627	4,342	8,195

* With or without additional non-scheduled withdrawals

** Insufficient data

Utilization of Guaranteed Lifetime Withdrawal Benefits

In this section, we focus on contracts that have elected a GLWB and report the percentage of contracts that were considered to be utilizing benefits during the study period. Only study years 2011–2013 had sufficient exposure for contracts utilizing benefits to report results for this study.

Because there is no specific contract event to "initiate" the GLWB, in order to determine whether a contract owner is actively utilizing a guaranteed withdrawal benefit, utilization needs to be defined. The following criteria are used in the US studies of these types of products and was applied to this study to allow for consistency. A contract is considered to be utilizing the GLWB if all of the following conditions are met:

- Withdrawals have occurred under a scheduled process;
- Withdrawals have occurred below the full surrender amount level; and
- The contract holder has met the minimum age requirements for initializing GLWB benefits.

So, if a contract holder is taking scheduled withdrawals at an age greater than the minimum attained age allowed under a lifetime withdrawal option, the contract holder is considered to be utilizing the GLWB benefits. Note that there may be some contract holders utilizing the GLWB outside a scheduled withdrawal option; however, these contracts are difficult to distinguish from those just taking occasional non-scheduled withdrawals and are assumed to be a small percentage of the business.

Figure 8 shows the percentage of contracts utilizing withdrawals under the definition above by attained age and study year. There were very few contract owners at ages below 55 utilizing benefits during the period 2011–2013. These results are based on all registration types combined, as there was insufficient credibility to split data by both age and registration type.

Note that, like withdrawal activity in general, the percentage of contracts defined as utilizing guaranteed lifetime withdrawals increased at all ages over the study period.

Figure 8: Percent of GLWB Contracts Utilizing Guaranteed Withdrawal Benefits

By attained age and observation year/all registration types
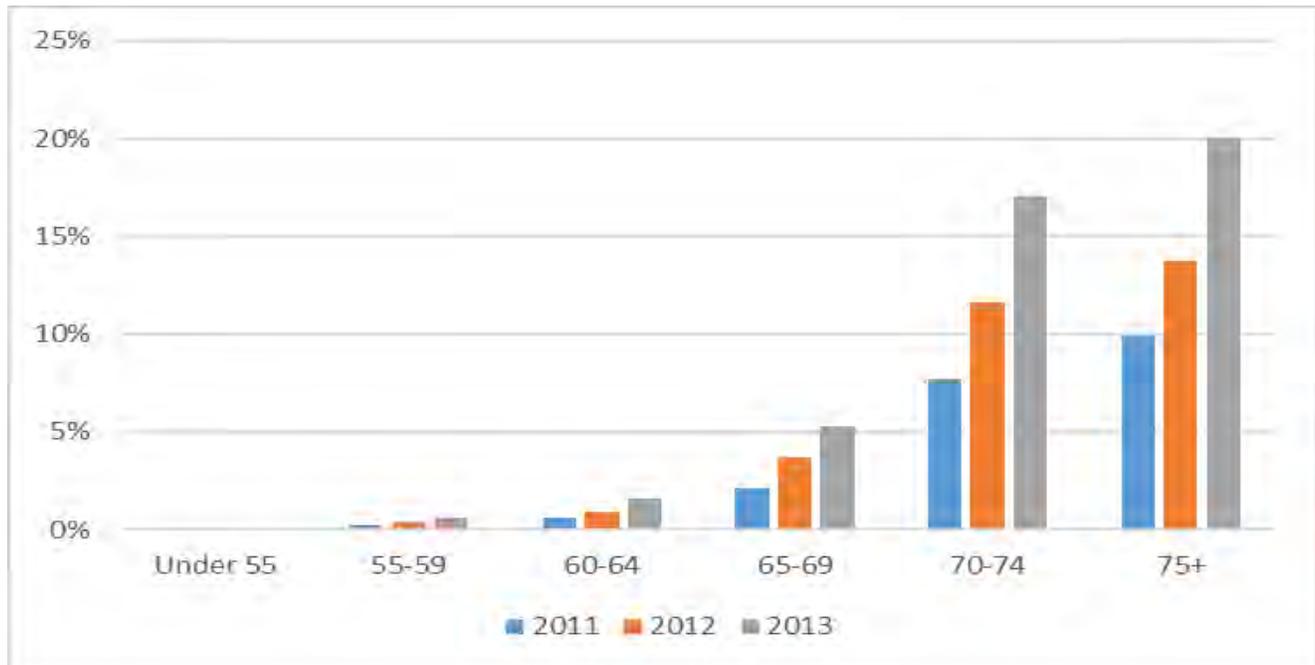
Figure 9 provides a split of those contracts utilizing lifetime withdrawals by both attained age group and percent of the maximum allowed amount taken (as defined in the contract). The black line indicates the number of contracts utilizing benefits in each payout-level group. This is not a large number of contracts and therefore these results should be used with caution.

These results are only for contracts taking scheduled withdrawals, but include all withdrawals in determining the percentage of the maximum. Note that in each study year, there is a relatively similar pattern by age. For ages under 70, between 58 and 79 percent of contract owners utilizing benefits are withdrawing between 90–110 percent of the maximum contractual amount or less (amounts withdrawn above the contractually defined maximum level could lead to reductions in the benefit base over time). However, for ages 70 and over, the majority of contract owners (nearly 70 percent) are withdrawing 110 percent of the maximum or more. The results at the oldest ages indicate that these contract owners are not acting to efficiently maximize the value of their GWB benefits.

Figure 9: Contracts Utilizing GWB – Percent by Attained Age and Percentage of Maximum Withdrawn

All registration types/study year 2011
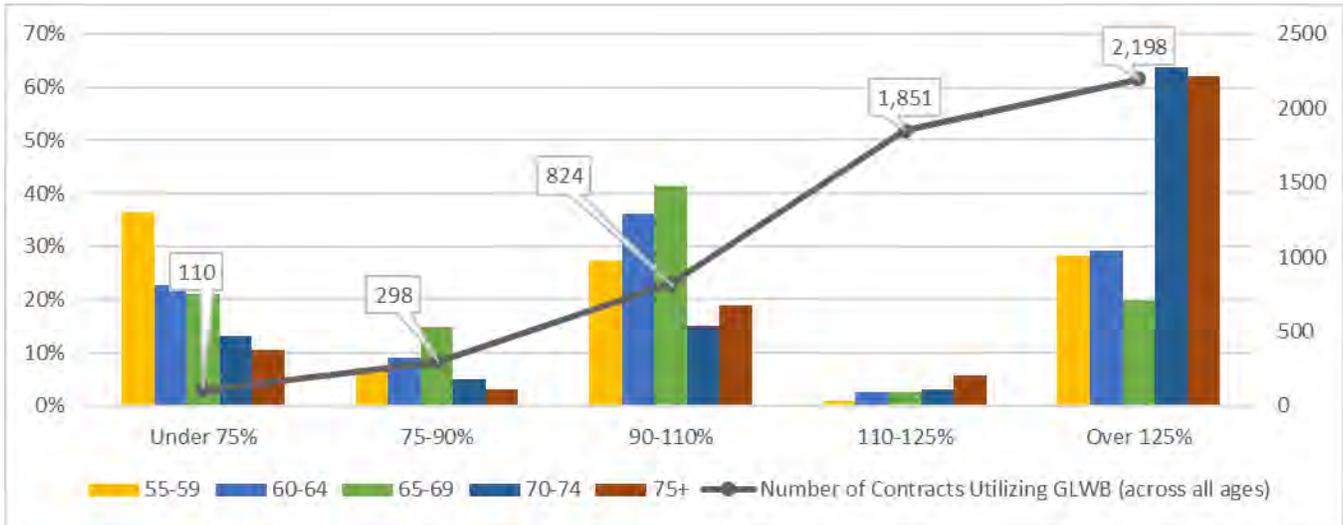
All registration types/study year 2012
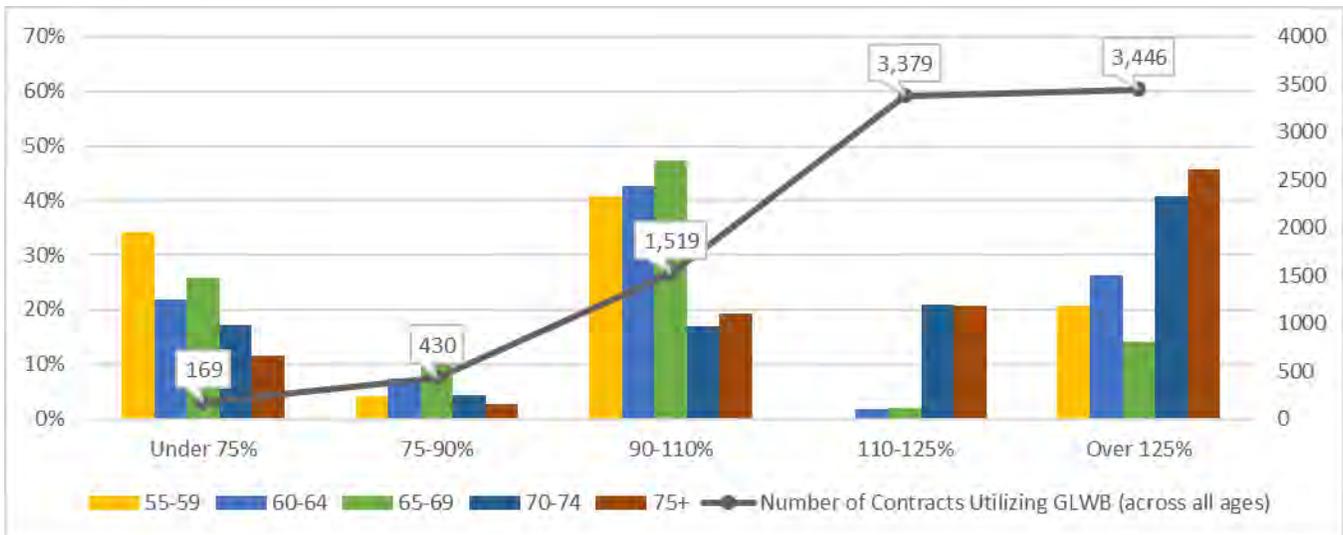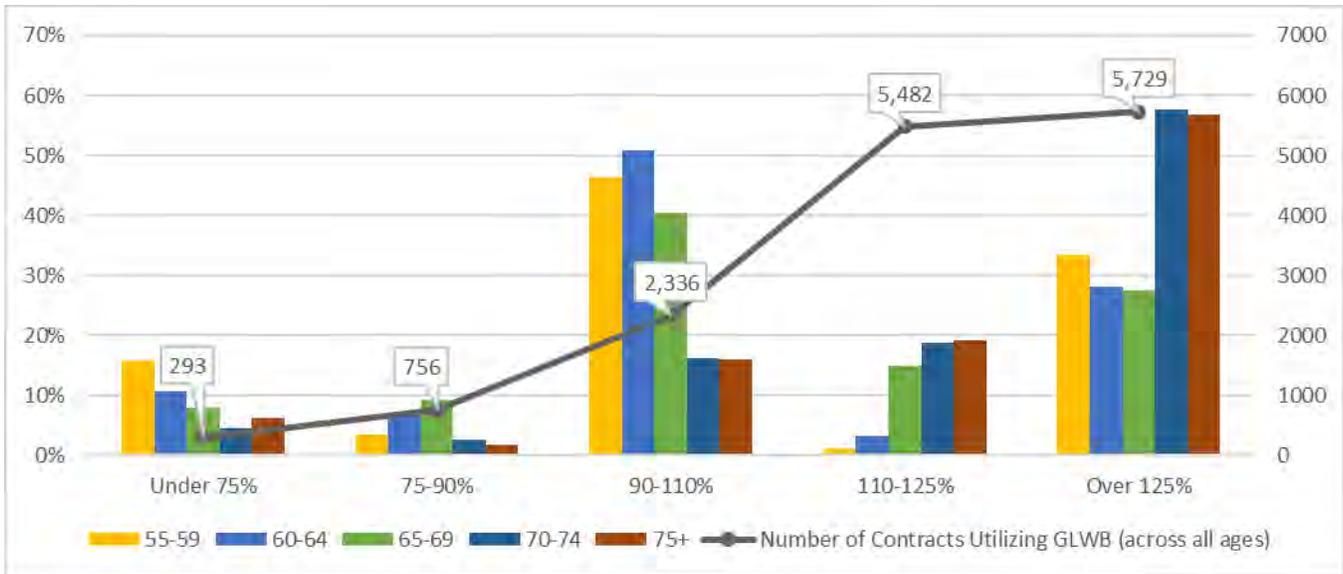
This study also examined data on the time to the commencement of GLWB benefit utilization for those contracts defined as first utilizing benefits during the period of the study. Figure 10 shows the percentage of contracts that began utilizing benefits under a GLWB by attained age during the period 2011–2013. So for contract holders attained ages 55–59 that have a GLWB, during the period 2011–2013 approximately 6 percent initiated utilizing benefits under the definition above. This percentage increases to just under 16 percent for contract holders ages 70–74. In the US, we see similar results related to the minimum distribution tax requirements that begin at age 70 and one half.

Figure 10: Percent of Contracts by Commencing Utilization of GWB Benefits by Attained Age
All registration types
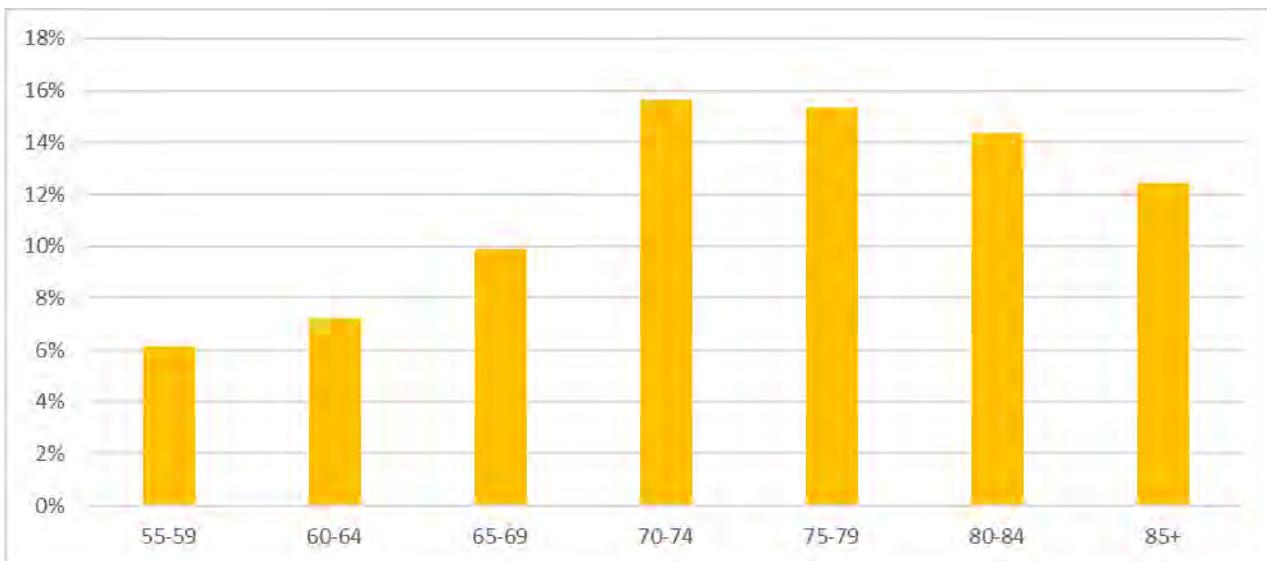
SECTION 2: MORTALITY EXPERIENCE

EXPOSURE CHARACTERISTICS (MORTALITY)

The total exposure for mortality for the study period was 8.2 million on a contract number basis and C$285.3 billion on a contract market value basis, resulting in an average contract value exposed of just under $35,000.

Table 13 provides a breakdown of the total exposure on a contract count basis by attained age, sex, and presence of a GWB.

Note that total exposure amounts for mortality and surrender are not completely consistent. This is because for two companies not all data submitted for the study could be used in the mortality analysis due to questions of data quality.

Table 13: Mortality Exposure by Attained Age, Sex, and Presence of GWB
Count Basis

Attained Age	Female				Male				Total	
	No GWB	GWB	Total	%GWB	No GWB	GWB	Total	%GWB	All Segregated Funds Contracts	%GWB
Under 20	41,274	41	41,315	0%	39,193	44	39,237	0%	80,552	0%
20–29	139,893	1,220	141,113	1%	154,577	1,148	155,725	1%	296,838	1%
30–39	452,220	8,171	460,391	2%	440,006	7,855	447,861	2%	908,253	2%
40–49	846,530	44,799	891,328	5%	783,335	37,734	821,069	5%	1,712,398	5%
50–59	1,066,365	129,994	1,196,359	11%	953,660	106,589	1,060,249	10%	2,256,608	10%
60–64	453,982	70,400	524,382	13%	421,567	60,934	482,501	13%	1,006,882	13%
65–69	323,264	50,527	373,792	14%	314,281	46,012	360,292	13%	734,084	13%
70–74	211,102	30,889	241,991	13%	196,103	26,474	222,576	12%	464,567	12%
75–79	162,698	14,486	177,184	8%	136,492	10,765	147,256	7%	324,440	8%
80–84	122,380	5,696	128,077	4%	85,523	3,701	89,224	4%	217,300	4%
85–89	72,400	1,103	73,503	2%	41,272	638	41,910	2%	115,412	2%
90–94	22,579	225	22,805	1%	11,025	113	11,138	1%	33,943	1%
95 and over	3,161	5	3,167	0%	1,335	14	1,349	1%	4,515	0%
Overall	**3,917,850**	**357,557**	**4,275,407**	**8%**	**3,578,368**	**302,019**	**3,880,387**	**8%**	**8,155,794**	**8%**

Table 14 provides a breakdown of the total exposure on a contract amount basis by attained age, sex, and presence of a GWB.

Table 14: Mortality Exposure by Attained Age, Sex, and Presence of GWB
Amount Basis

	Female			
Attained Age	**No GWB**	**GWB**	**Total**	**%GWB**
Under 20	379,927,799	1,346,818	381,274,617	0%
20–29	1,144,874,110	43,711,095	1,188,585,205	1%
30–39	5,823,950,273	292,716,988	6,116,667,261	2%
40–49	17,502,343,379	2,345,141,360	19,847,484,739	5%
50–59	30,672,223,328	8,738,953,650	39,411,176,978	11%
60–64	15,441,945,355	5,363,596,719	20,805,542,074	13%
65–69	11,959,777,823	4,059,981,203	16,019,759,026	14%
70–74	9,181,656,885	2,466,179,103	11,647,835,988	13%
75–79	7,820,590,855	1,201,329,576	9,021,920,431	8%
80–84	7,611,055,071	520,990,604	8,132,045,675	4%
85–89	5,885,250,870	108,616,375	5,993,867,245	2%
90–94	2,323,455,822	30,649,118	2,354,104,940	1%
95 and over	340,041,967	674,225	340,716,191	0%
Overall	**116,087,093,535**	**25,173,886,834**	**141,260,980,369**	**8%**
	Male			
Attained Age	**No GWB**	**GWB**	**Total**	**%GWB**
Under 20	379,437,144	2,304,295	381,741,439	1%
20–29	1,531,785,629	36,187,724	1,567,973,353	2%
30–39	6,946,223,411	316,330,955	7,262,554,366	4%
40–49	19,261,674,173	2,183,120,662	21,444,794,835	10%
50–59	33,033,124,295	8,063,124,966	41,096,249,261	20%
60–64	18,087,234,083	5,333,001,486	23,420,235,569	23%
65–69	14,474,998,437	4,402,386,227	18,877,384,664	23%
70–74	9,800,253,890	2,469,059,386	12,269,313,276	20%
75–79	6,957,934,955	951,512,761	7,909,447,717	12%
80–84	5,062,646,933	330,974,192	5,393,621,125	6%
85–89	3,164,820,216	66,245,211	3,231,065,427	2%
90–94	1,066,493,049	11,464,079	1,077,957,127	1%
95 and over	136,747,978	1,273,180	138,021,158	1%
Overall	**119,903,374,193**	**24,166,985,124**	**144,070,359,318**	**17%**
	All Segregated Funds Contracts			
Overall	**235,990,467,728**	**49,340,871,958**	**285,331,339,687**	**17%**

Table 15 provides a breakdown of the total deaths on a contract count basis by attained age, sex, and presence of GWB.

Table 15: Death Counts by Attained Age, Sex, and Presence of GWB

Attained Age	Female				Male				Total	
	No GWB	GWB	Total	%GWB	No GWB	GWB	Total	%GWB	All Segregated Funds Contracts	%GWB
Under 20	7	-	7	0%	16	-	16	0%	23	0%
20–29	21	1	22	5%	74	1	75	1%	97	2%
30–39	114	3	117	3%	201	4	205	2%	322	2%
40–49	632	37	669	6%	828	51	879	6%	1,548	6%
50–59	2,141	238	2,379	10%	2,841	292	3,133	9%	5,512	10%
60–64	1,767	264	2,031	13%	2,802	335	3,137	11%	5,168	12%
65–69	2,280	318	2,598	12%	3,195	448	3,643	12%	6,241	12%
70–74	2,482	284	2,766	10%	3,218	366	3,584	10%	6,350	10%
75–79	3,426	304	3,730	8%	3,889	293	4,182	7%	7,912	8%
80–84	4,745	232	4,977	5%	4,346	246	4,592	5%	9,569	5%
85–89	5,129	52	5,181	1%	3,720	52	3,772	1%	8,953	1%
90–94	2,758	12	2,770	0%	1,681	12	1,693	1%	4,463	1%
95 and over	633	-	633	0%	286	2	288	1%	921	0%
Overall	**26,135**	**1,745**	**27,880**	**6%**	**27,097**	**2,102**	**29,199**	**7%**	**57,079**	**7%**

Table 16 provides a breakdown of the total deaths on an amount basis by attained age, sex, and presence of GWB.

Table 16: Death Amounts by Attained Age, Sex, and Presence of GWB

	Female			
Attained Age	**No GWB**	**GWB**	**Total**	**%GWB**
Under 20	24,287	-	24,287	0%
20–29	113,470	46,628	160,098	29%
30–39	1,334,320	88,392	1,422,712	6%
40–49	15,013,164	2,456,163	17,469,327	14%
50–59	74,601,633	18,040,985	92,642,618	19%
60–64	73,115,182	19,771,314	92,886,496	21%
65–69	100,081,634	28,625,602	128,707,237	22%
70–74	125,638,299	27,545,354	153,183,653	18%
75–79	237,958,512	32,450,972	270,409,484	12%
80–84	367,272,211	26,923,243	394,195,455	7%
85–89	515,488,844	5,683,412	521,172,256	1%
90–94	312,865,486	1,436,736	314,302,223	0%
95 and over	80,484,001	-	80,484,001	0%
Overall	**1,903,991,043**	**163,068,803**	**2,067,059,847**	**8%**
	Male			
Attained Age	**No GWB**	**GWB**	**Total**	**%GWB**
Under 20	212,648	-	212,648	0%
20–29	875,572	82,233	957,805	9%
30–39	3,832,911	237,235	4,070,146	6%
40–49	21,295,517	2,901,139	24,196,656	12%
50–59	111,490,958	25,362,331	136,853,289	19%
60–64	138,861,759	34,042,434	172,904,193	20%
65–69	151,953,208	44,204,623	196,157,831	23%
70–74	163,841,098	33,347,597	197,188,695	17%
75–79	216,953,972	26,520,012	243,473,985	11%
80–84	308,574,012	23,338,653	331,912,666	7%
85–89	347,574,464	6,576,836	354,151,300	2%
90–94	192,989,968	1,384,955	194,374,923	1%
95 and over	30,859,055	234,126	31,093,181	1%
Overall	**1,689,315,144**	**198,232,174**	**1,887,547,317**	**11%**
	All Segregated Funds Contracts			
Overall	**3,593,306,187**	**361,300,977**	**3,954,607,164**	**17%**

MORTALITY RESULTS

Mortality experience for segregated funds products is reported both as raw rates of mortality by contract count and contract amount as well as on an actual-to-expected (A/E) mortality basis.

For this study we have employed the following expected mortality bases across all participating companies. Different bases were selected due to the fact that GWB insureds are considered to have experience more like payout annuity insureds.

Expected Mortality Basis

- Contracts with Guaranteed Withdrawal Benefit (GWB):

  The expected basis is equal to the Canadian Insured Payout Mortality Table (CIP 2014).

- Contracts without Guaranteed Withdrawal Benefit (non-GWB):

The expected basis is based on the CIA 97-04 life insured mortality tables. These tables are select and ultimate, sex, and smoker distinct (there is also a combined table for smoker status) with a select period of 15 years. For this study, the expected basis equals a 20 percent/80 percent (smoker/non-smoker) blended table using the ultimate rates only.

Tables 17 and 18 provide high-level results by attained age on both a contract count and contract amount basis for males, females, and all business combined.

Table 17: Overall Mortality Results by Attained Age, Sex, and Presence of GWB
Non-GWB Contracts

Attained Age	Females			
	Mortality Rate (Count Basis)	Mortality Rate (Amount Basis)	A/E Count	A/E Amount
Under 40	0.02%	0.02%	57%	48%
40–49	0.07%	0.09%	74%	83%
50–59	0.20%	0.24%	76%	90%
60–64	0.39%	0.47%	68%	82%
65–69	0.71%	0.84%	73%	87%
70–74	1.18%	1.37%	79%	92%
75–79	2.11%	3.04%	101%	146%
80–84	3.88%	4.83%	116%	141%
85+	8.68%	10.63%	91%	106%
Overall	**0.67%**	**1.64%**	**88%**	**110%**

Attained Age	Males			
	Mortality Rate (Count Basis)	Mortality Rate (Amount Basis)	A/E Count	A/E Amount
Under 40	0.05%	0.06%	58%	68%
40–49	0.11%	0.11%	74%	75%
50–59	0.30%	0.34%	87%	96%
60–64	0.66%	0.77%	81%	93%
65–69	1.02%	1.05%	68%	71%
70–74	1.64%	1.67%	67%	68%
75–79	2.85%	3.12%	76%	83%
80–84	5.08%	6.10%	87%	103%
85+	10.60%	13.08%	80%	94%
Overall	**0.76%**	**1.41%**	**77%**	**88%**
Attained Age	All Contracts			
	Mortality Rate (Count Basis)	Mortality Rate (Amount Basis)	A/E Count	A/E Amount
Under 40	0.03%	0.04%	57%	62%
40–49	0.09%	0.10%	74%	78%
50–59	0.25%	0.29%	82%	93%
60–64	0.52%	0.63%	75%	89%
65–69	0.86%	0.95%	70%	76%
70–74	1.40%	1.53%	72%	77%
75–79	2.44%	3.08%	86%	107%
80–84	4.37%	5.33%	100%	121%
85+	9.36%	11.46%	86%	101%
Overall	**0.71%**	**1.52%**	**82%**	**98%**

Table 18: Overall Mortality Results by Sex and Presence of GWB
GWB Contracts

Attained Age	Females			
	Mortality Rate (Count Basis)	Mortality Rate (Amount Basis)	A/E Count	A/E Amount
Under 40	0.04%	0.04%	99%	92%
40–49	0.08%	0.10%	87%	109%
50–59	0.18%	0.21%	85%	94%
60–64	0.37%	0.37%	89%	87%
65–69	0.63%	0.71%	93%	104%
70–74	0.92%	1.12%	83%	101%
75–79	2.10%	2.70%	114%	147%
80–84	4.07%	5.17%	132%	165%
85+	4.80%	5.09%	65%	66%
Overall	**0.49%**	**0.65%**	**94%**	**110%**

Attained Age	Males			
	Mortality Rate (Count Basis)	Mortality Rate (Amount Basis)	A/E Count	A/E Amount
Under 40	0.06%	0.09%	46%	74%
40–49	0.14%	0.13%	66%	64%
50–59	0.27%	0.31%	66%	74%
60–64	0.55%	0.64%	78%	90%
65–69	0.97%	1.00%	99%	102%
70–74	1.38%	1.35%	90%	88%
75–79	2.72%	2.79%	101%	104%
80–84	6.65%	7.05%	142%	150%
85+	8.64%	10.38%	83%	100%
Overall	**0.70%**	**0.82%**	**89%**	**96%**
Attained Age	All Contracts			
	Mortality Rate (Count Basis)	Mortality Rate (Amount Basis)	A/E Count	A/E Amount
Under 40	0.05%	0.07%	60%	79%
40–49	0.11%	0.12%	74%	79%
50–59	0.22%	0.26%	73%	81%
60–64	0.46%	0.50%	82%	89%
65–69	0.79%	0.86%	96%	103%
70–74	1.13%	1.23%	87%	93%
75–79	2.36%	2.74%	107%	124%
80–84	5.09%	5.90%	137%	158%
85+	6.20%	7.00%	73%	81%
Overall	**0.58%**	**0.73%**	**91%**	**102%**

Below are a few items of note for overall mortality results.

- Overall, mortality rates for GWB business are slightly lower than rates for non-GWB business on a contract count basis and a contract amount basis. However, this pattern is not consistent by attained age group. Ages below 65 have very similar rates of mortality by age while ages above 65 have some age groups experiencing higher rates of mortality and others lower rates for GWB versus non-GWB business.

- For all segregated funds business, the mortality rate on a contract amount basis is higher than the mortality rate on a contract count basis. This result is consistent across age groups over 40 but is more pronounced at ages 70 and older. The result is also relatively consistent across all the participating companies—with mortality rates on an amount basis that are either equal to or greater than rates on a count basis for most age groups. This result will be followed in subsequent studies and additional policy and product design data will be requested to aid in understanding the outcome.

Results for Contracts without GWB

Figures 11 and 12 show non-GWB mortality rates by sex and attained age for the full study period 2008–2013. For both males and females, mortality rates by amount are higher than mortality rates by count beginning at attained age 40 for females and at all ages for males—with the difference widening with increasing age. However, the credibility levels are relatively low for ages where the differences become material, and this is something we will continue to follow in future studies.

Figure 11: Non-GWB Contracts – Male Mortality Rates by Attained Age Group
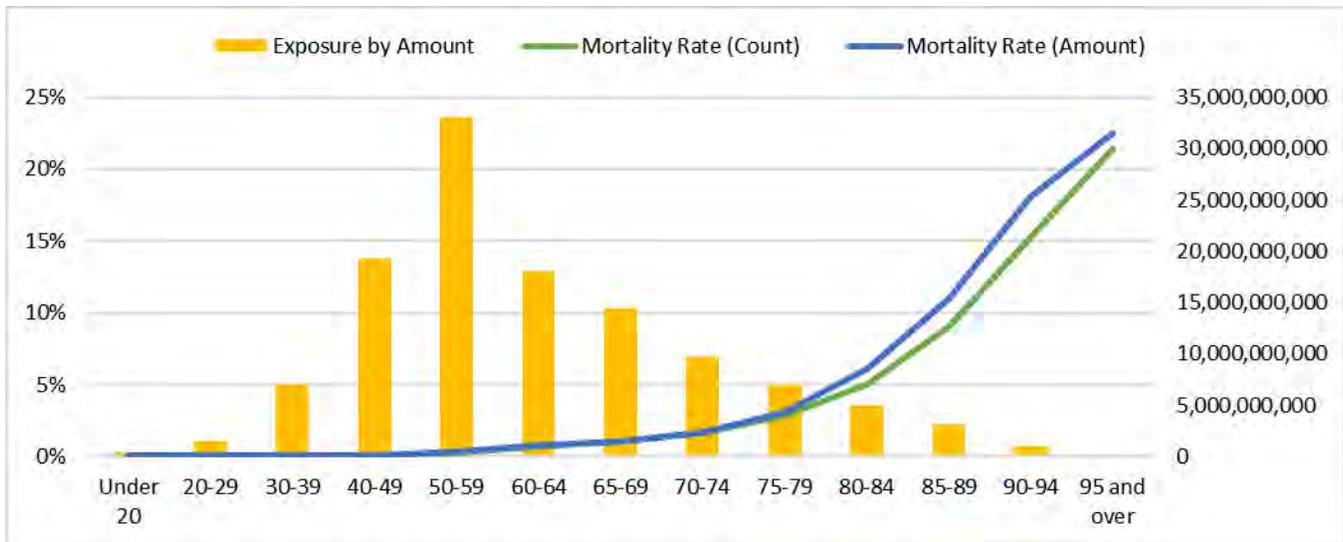
Figure 12: Non-GWB Contracts – Female Mortality Rates by Attained Age Group
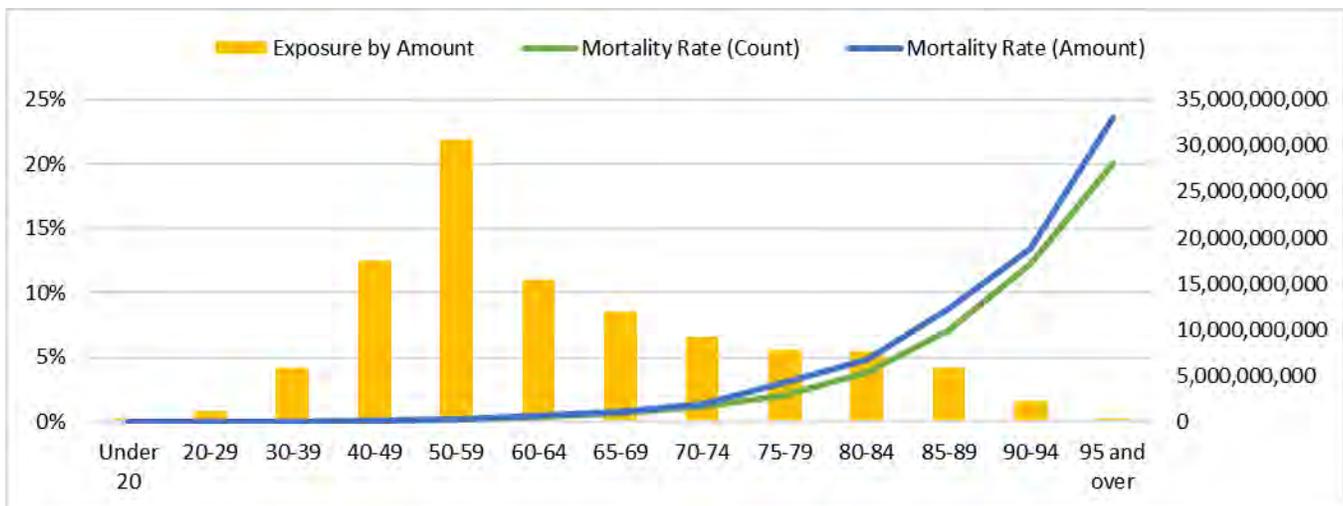
Figures 13 and 14 show actual-to-expected mortality ratios by count and amount for non-GWB business. Results are split by attained age for males and females respectively.

Actual-to-expected ratios by amount range from less than 40 percent in the youngest female age groups to approximately 140 percent of the expected basis for females between 75 and 84.

Note that female actual-to-expected ratios are consistently higher than male ratios beginning at age 65.

Figure 13: Non-GWB Contracts – Male Actual-to-Expected Mortality Ratios by Attained Age Group
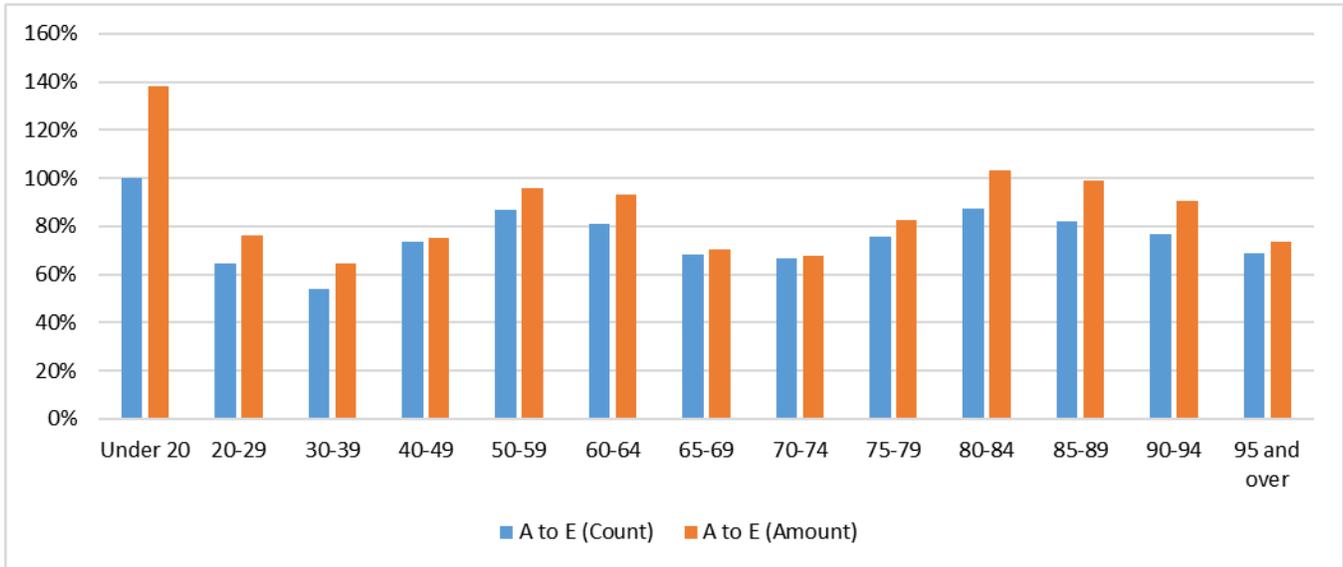

Figure 14: Non-GWB Contracts – Female Actual-to-Expected Mortality Ratios by Attained Age Group
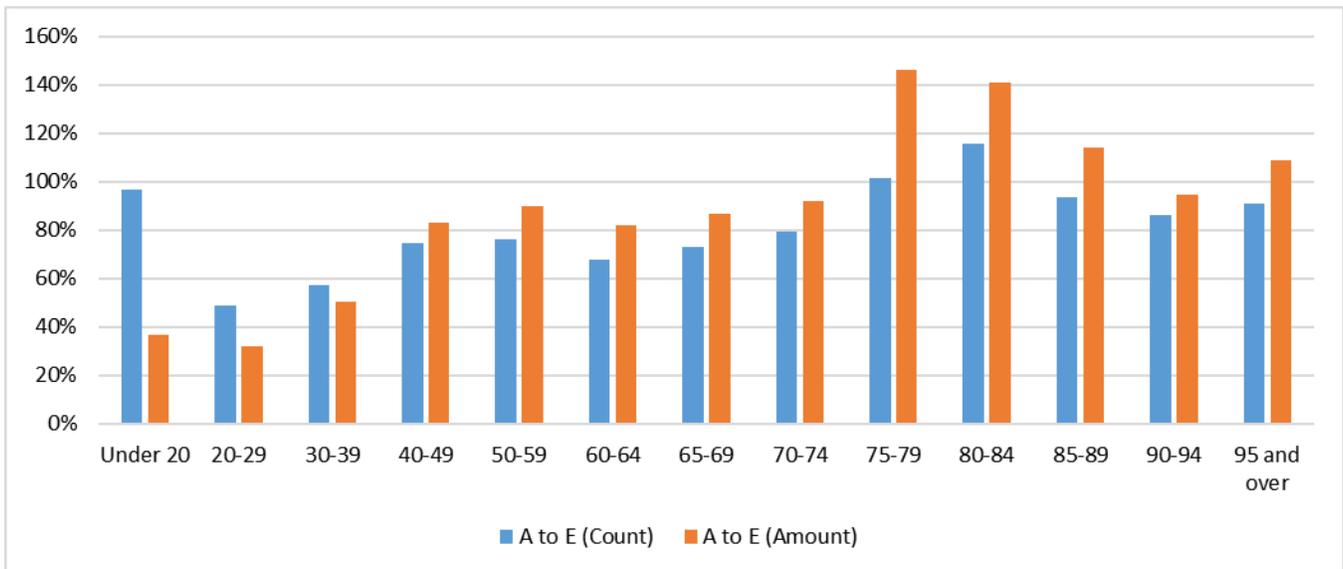

Figure 15 shows actual-to-expected mortality results by policy year and sex for non-GWB contracts to identify any potential impacts of self-selection.

There does not appear to be evidence of self-selection impact (mortality ratios lower in early policy years than in later policy years) on either a count or an amount basis, as actual-to-expected ratios are relatively flat by policy year and, if anything, are slightly higher in the early years than in the later years. This result also holds for each attained age group as indicated in Figure 16, which shows actual-to-expected ratios by attained age on an amount basis. Results are similar on a count basis.

Figure 15: Non-GWB Contracts – Female Actual-to-Expected Mortality Ratios by Sex and Policy Year
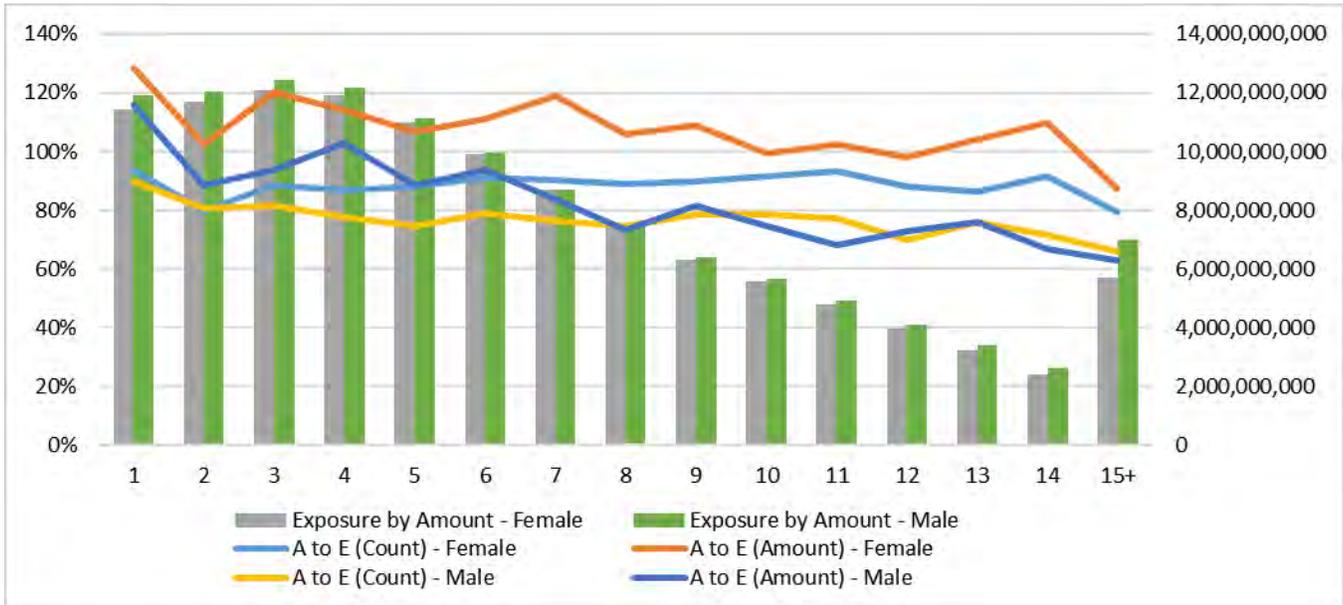

Figure 16: Non-GWB Contracts – Female Actual-to-Expected Mortality Ratios by Attained Age and Policy Year
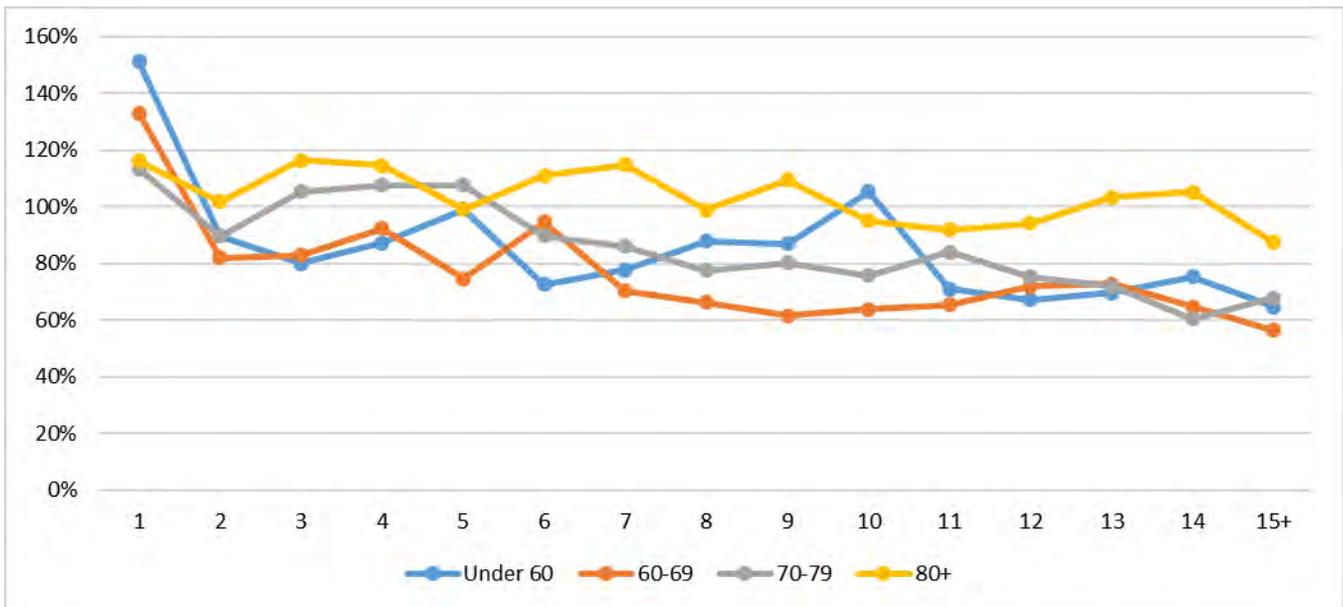
Results for Contracts with GWB

Figures 17 and 18 show mortality rates by count and amount for GWB business for the full study period 2008–2013. Again, we note that for both males and females, mortality rates by amount are higher than mortality rates by count at the majority of attained ages—with the largest differences at the highest ages. Again, the credibility levels are relatively low for ages where the differences become material.

**Figure 17: GWB Contracts – Male Mortality Rates by Attained Age**
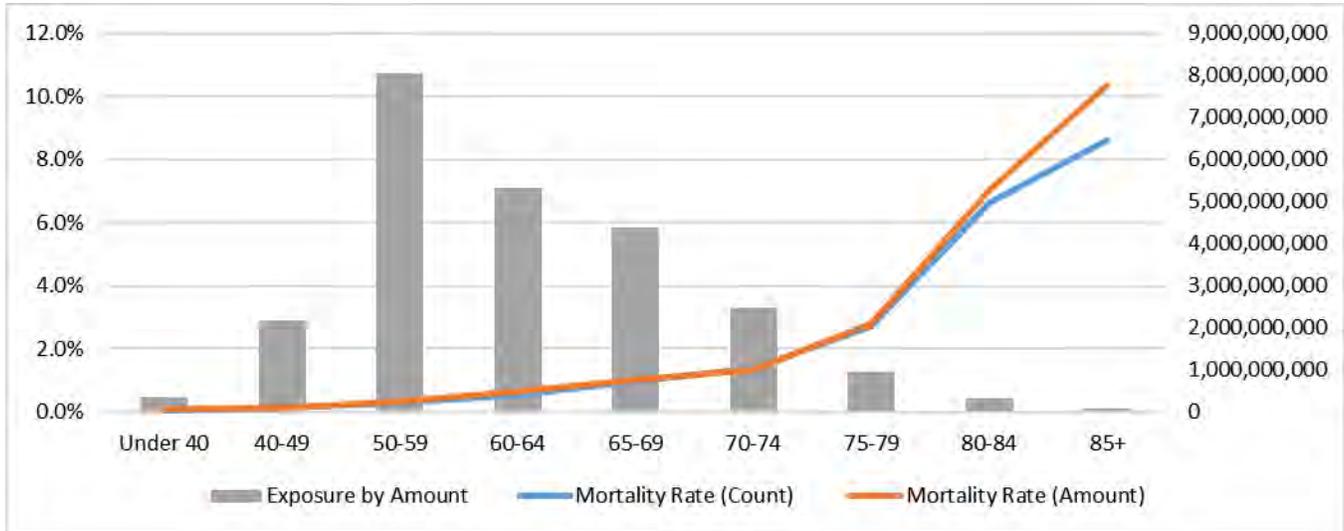
Figure 18: GWB Contracts – Female Mortality Rates by Attained Age
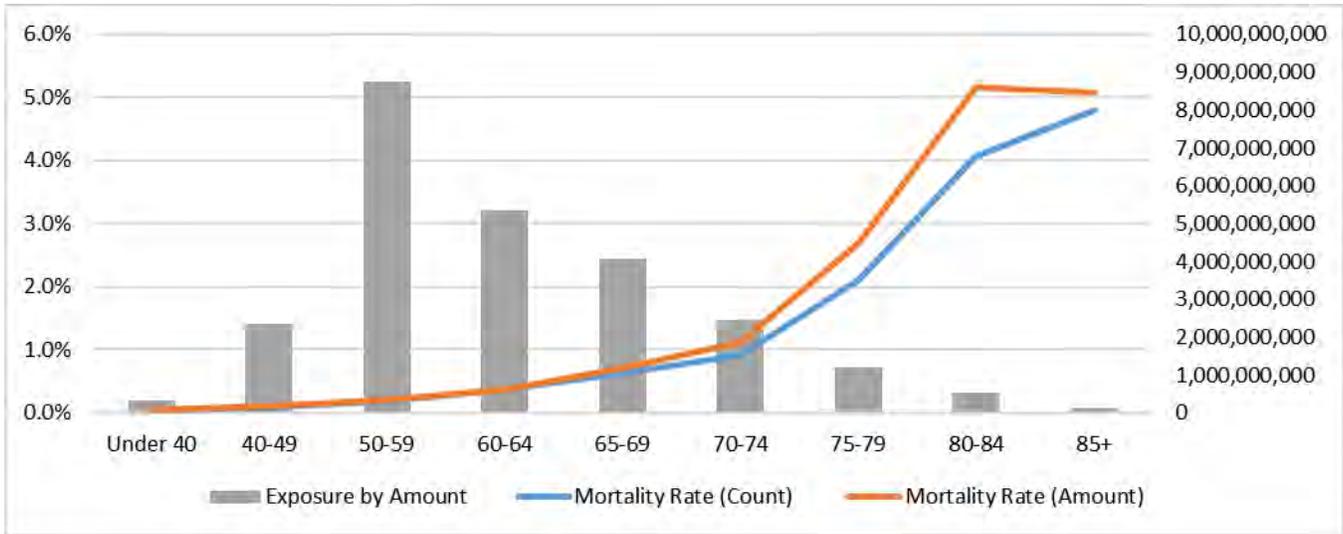
Figures 19 and 20 examine actual-to-expected mortality ratios by count and amount for GWB business. Results are split by attained age for males and females respectively. Ratios for both males and females are highest at ages 80–84. For females, overall ratios were slightly higher on both a count and amount basis. Females averaged 94 percent on a count basis and 110 percent on an amount basis, while males averaged 90 percent on a count basis and 96 percent on an amount basis.

**Figure 19: GWB Contracts – Male A/E Ratios by Attained Age**
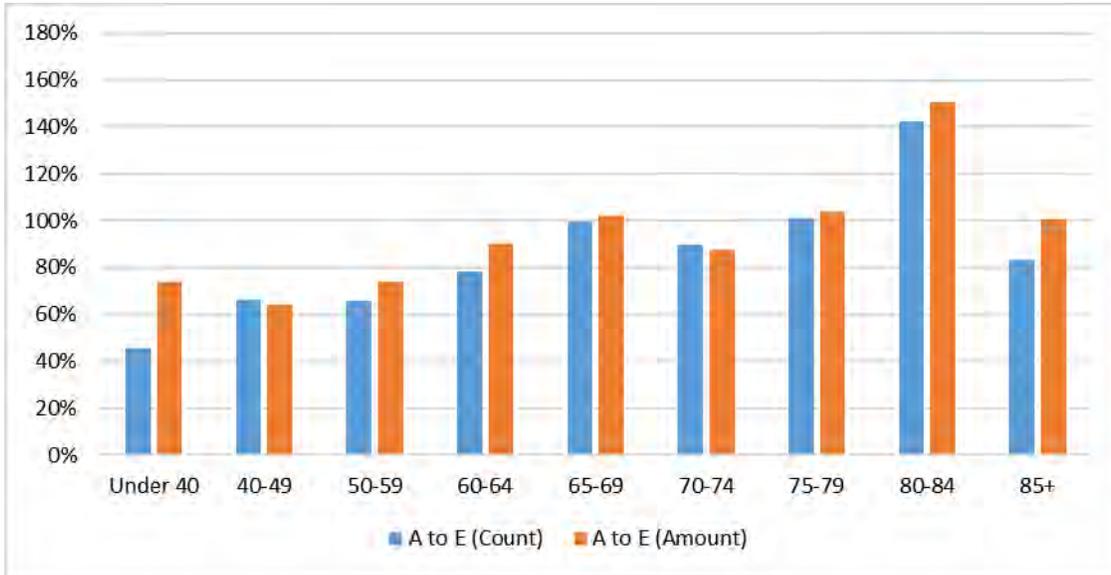
**Figure 20: GWB Contracts – Female A/E Ratios by Attained Age**
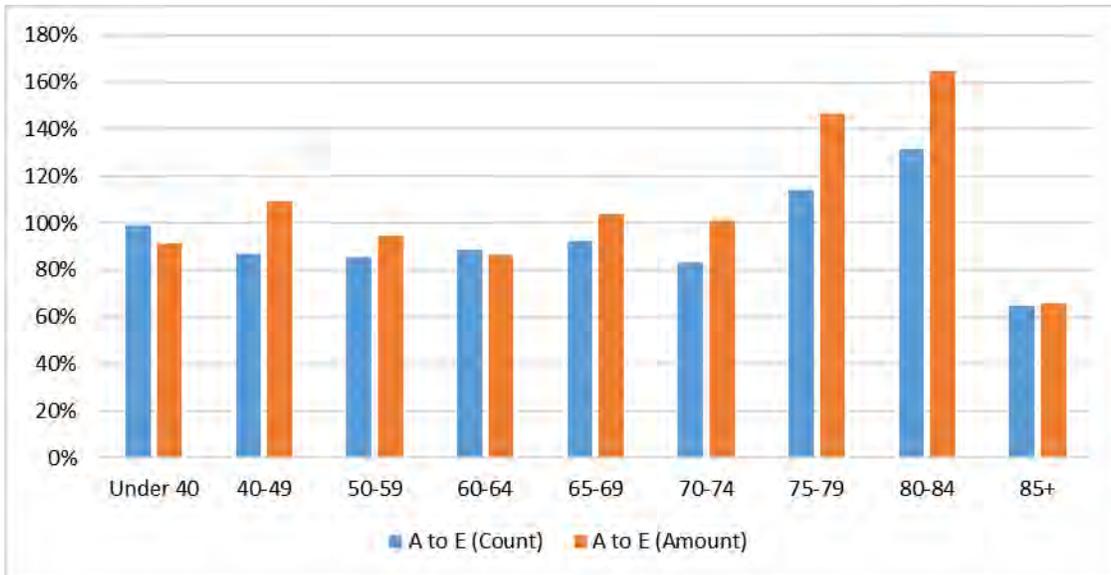
Figure 21 examines actual-to-expected mortality results by policy year and sex for GWB contracts to identify any impact of self-selection.

Figure 21: GWB Contracts – Actual-to-Expected Ratios by Policy Year and Sex
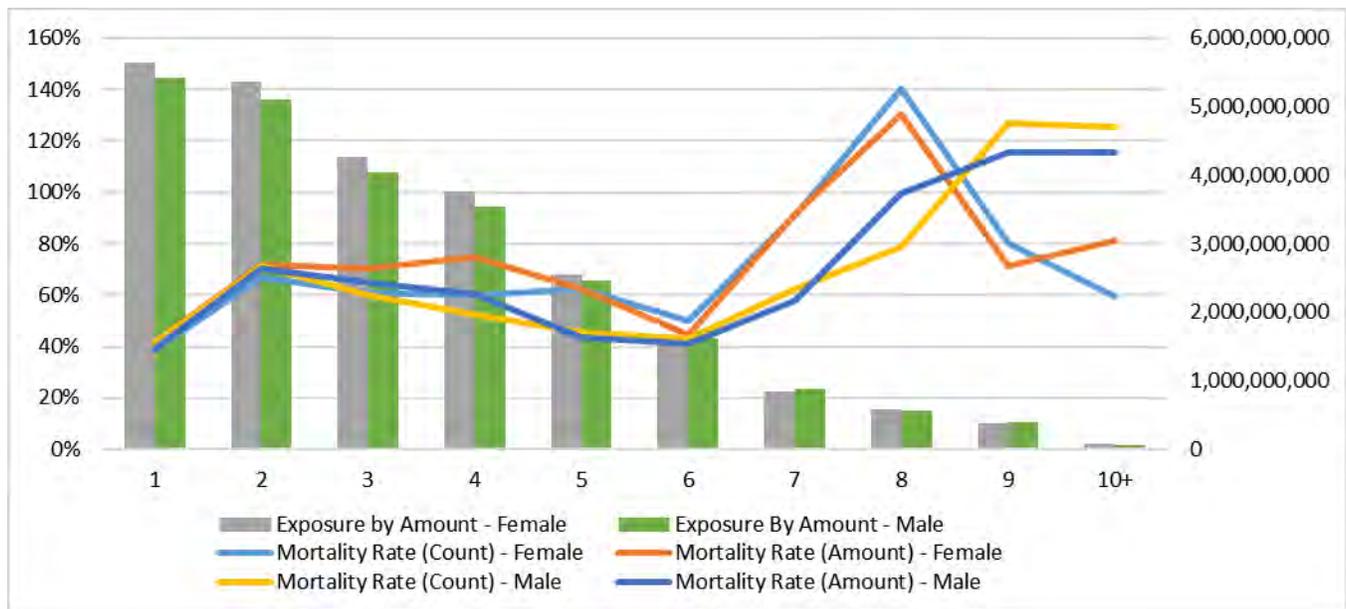
For GWB business, there is some indication of self-selection impact, more on a count basis than an amount basis with mortality ratios that are lower in years one through six than in later policy years. However, credibility is still very low after year seven and so this will be another area to follow in future studies.

Finally, Table 19 shows mortality rates on an amount basis for males and females combined, by attained age group and observation year for all segregated funds contracts, both with and without GWB. Note that there appears to be some evidence of general mortality improvement over the study period. The greatest improvements were seen at ages between 40 and 70 with average annual improvements of 5 to 8 percent over the five-year study period, mostly due to more significant decreases in rates of mortality from 2012 to 2013. Note that the study period for this report is a very short time over which to consider mortality improvement data and therefore we recommend continuing to follow trends over time as future data is collected and more companies are added to the study.

Table 19: Overall Mortality Rates by Attained Age and Observation Year

Observation Year	Under 40	40-49	50-59	60-69	70-79	80-89	90+
2008	0.00035	0.00087	0.00297	0.00701	0.01756	0.05381	0.13534
2009	0.00033	0.00101	0.00252	0.00673	0.01844	0.05732	0.14399
2010	0.00037	0.00086	0.00240	0.00627	0.01917	0.05707	0.15646
2011	0.00031	0.00104	0.00247	0.00758	0.01933	0.05723	0.14492
2012	0.00034	0.00098	0.00257	0.00683	0.01939	0.05918	0.13596
2013	0.00036	0.00069	0.00194	0.00542	0.01535	0.05036	0.13065
Avg Ann Improvement	**-0.6%**	**4.7%**	**8.2%**	**5.0%**	**2.7%**	**1.3%**	**0.7%**

Appendix A: Participating Companies

Desjardins

Empire Life

Great-West/London Life

Industrial Alliance

Manufacturers Life

Sun Life

Appendix B

**Call for Participation and
Data Submission Instructions**

**2008 to 2013 Canadian Segregated Fund
Policyholder Behavior Experience Study**

CALL FOR PARTICIPATION

Purpose of Study

The Society of Actuaries ("SOA"), LIMRA and the Canadian Institute of Actuaries ("CIA") Segregated Fund Experience sub-committee are currently requesting data to perform a comprehensive study of policyholder behavior experience for Canadian segregated funds.

The study is particularly important to Canadian life insurance companies and actuaries since policyholder behavior is a key factor impacting the cost of guaranteed death, maturity and withdrawal benefits provided by segregated fund products. The study will initially focus on the following areas of policyholder behavior experience with a goal of increasing available industry data.

- Full surrender
- Withdrawals
- Premium deposits
- Reset elections (both maturity and death benefit elections where products allow for election death benefit resets)

1. Data Submission Instructions:

This document describes the proposed procedures for collecting data for a study of segregated fund policyholder behavior experience. The study will initially analyze monthly data for the period **December 2007 to December 2013**. This experience period was chosen because it covers periods of both stronger and poorer market performance.

We are asking that data be submitted by **November 15, 2014.** LIMRA will handle the data collection, editing, and validation of data. A confidentiality agreement between each of the participating companies and LIMRA will be signed before data is transferred.

To develop a meaningful analysis of industry experience, your participation is very important. The remainder of the document describes the data to be collected and other requirements for the study.

Please indicate your company's interest and intent to participate in the study by completing and returning the participation form at end of this document.

DATA TO BE COLLECTED

Note that data items described below should only be provided for Canadian business.

The data needed for this study falls into the following general categories:

1. Valuation extracts with in-force policy data by month

2. Movement/Transaction files by month for in-force policies

3. Product Information Forms with product information and descriptions (see Appendix A)

4. Proxy Fund Target Fund Descriptions (see Appendix B)

5. Transaction/Status Code definitions for the Movement/Transaction File extracts

The Valuation extracts and the Movement/Transaction file extracts will be collected for the 61-month period from December 31, 2007 to December 31, 2013. Note that it is acceptable if companies cannot provide all data items or data for all months of the study due to system or data constraints. If this is the case, please note this when data is submitted.

Please use the following instructions in completing the extracts.

1. Valuation Extracts - In-force Policy Data Fields

The valuation in-force extract information can be submitted at policy or deposit/guarantee layer level, but if at policy level, the GMMB and GMDB should be added up to be the value for the whole policy.

Field	Field Name	Field Description
A	Company Code	as provided to company
B	Product Code	Please assign a specific product code to each inforce record. Then fill out a **Product Information Form** for each product code used included in the in-force extract (see Appendix A for details regarding the Product Information Form).
C	Calendar Year and Month of Observation	yyyymm
D	Policy Number	Can be a policy identifier which is not the same as the actual policy number for privacy purposes. The purpose of the field is for a submitting company to be able to tie each record submitted back to its source in force files for data verification and validation purposes.
E	Policyowner's Gender	M or F
F	Policyowner's Date of Birth	mm/dd/yyyy
G	Primary Policyholder's Gender (i.e., Primary Annuitant)	M or F
H	Primary Policyholder's Date of Birth	mm/dd/yyyy
I	Joint Policyholder's Gender (i.e., Joint Annuitant)	M or F
J	Joint Policyholder's Date of Birth	mm/dd/yyyy
K	Policy Issue Date	mm/dd/yyyy
L	Issue Date of the deposit/guarantee layer	mm/dd/yyyy
M	Maturity Date of the deposit/guarantee	mm/dd/yyyy

Field	Field Name	Field Description
	layer at the end of the month	
N	Registration Type	*a.* NRSP (i.e., Non-Registered) *b.* RRSP, *c.* RRIF (PRIF, LRIF, LIF, etc.), and *d.* OTHR (i.e., other registration types like RESP, TFSA)
O	AV at the end of the month (Note that if the extract is at policy level, the AV, GMMB, GMDB and GMWB Base Amount need to be summed up for the whole policy.)	
P	GMMB at the end of the month	
Q	GMDB at the end of the month	
R	GMWB Base Amount at the end of the month	
S	Policy level or deposit/guarantee level indicator	P for policy, D for deposit level
T	Guarantee Class (or guarantee %) for MB	
U	Guarantee Class (or guarantee %) for DB	
V	Percent of GMWB eligible amount to be paid	
W	GMWB indicator	R – rider and W – whole contract
X	Distribution System	*a.* CAS - Career Agents *b.* MGA – MGA-Brokers *c.* DIR - Direct *d.* TPA - Third Party *e.* OTH - Other
Y, Z, AA, AB, AC, …	% of AV in each proxy fund at the end of the month. Use as many fields as necessary. For example, the % of AV in proxy fund 1 should be entered in field Y, the % of AV in proxy fund 2 should be entered in field Z, etc.	Complete a **Fund Information Form** (see Appendix B for details) for each proxy fund field identified (Fund 1, Fund 2, Fund 3, in fields Y, Z, AA, …), specifying target % invested in bond and % in equity.

Movement/Transaction File Extracts

The movement extracts should provide the gross surrender amount, death benefit amount, partial withdrawal amount, transfer of funds amount, premium deposit, reset election, and/or maturity for each transaction. There should be a separate record for each transaction type: surrender amounts, death benefits, partial withdrawals, transfer of funds, premium deposits, reset elections, and/or maturities should be recorded separately.

NOTE:
MER deductions <u>are not withdrawals</u> and should either be excluded from the extracts or identified separately from true withdrawals so that the researcher can remove these records for purposes of the study. These could be shown as withdrawals in your company's administrative system, but are not considered withdrawals for study purposes. Be sure to exclude or identify all those that are "optional guarantee MER deduction".

Field	Field Name	Field Description
A	Policy Number	This must match the policy number or policy identifier on the inforce extract.
B	Product Code	Please assign a specific product code to each movement record. This should match the product code for the policy number indicated on the inforce extract **(inforce extract field B)**.
C	Movement Processing Date	mm/dd/yyyy
D	Movement Effective Date	mm/dd/yyyy
E	Transaction/Status Code (or Movement Code)	include a description of transaction/status codes
F	Amount of Movement (partial withdrawal, surrender, death benefit, reset, additional deposit, transfer, or maturity)	
G	Proxy fund moved into	Enter Fund Identifier (see fund information form in detailed in Appendix B below) Leave blank for withdrawals or full surrenders.
G	Proxy fund moved out of	Enter Fund Identifier (see fund information form detailed in Appendix B below).
H	Indicator for Scheduled (systematic or annuitization) or Non Scheduled Withdrawal, if applicable	0 = Scheduled 1 = Non scheduled (client initiated)
I	Indicator for Scheduled (systematic or annuitization) or Non Scheduled Reset Election, if there is one	0 = Scheduled 1 = Non scheduled (client initiated)
J	Amount of Reset (if applicable)	

Product Descriptions

For each product your company includes in this study, whether or not the product is currently being sold, please complete the attached Product Information Form to the provide information on the product features (so one Product Information Form should be submitted for each product code included on the policy in-force extract file(s) **(Field B)**.

Proxy Fund Information

For each proxy fund included in inforce extract by Fields Y, Z, AA,... and so on, please complete a **Proxy Fund Information Form (see attached)** describing the proxy fund and specifying target % invested in bond and % in equity.

Transaction/Status Code Information

Each company should also include a description of the transaction/status codes used for their submission in Field D on the Movement Extract File(s).

Product Information Form

Product Code (Field B in Inforce Extract)	
Description of Surrender Charge Level and Amount	
Maturity Benefit Guarantee (% of principal covered)	
Death Benefit Guarantee (% of principal covered)	
Maturity Benefit Term – please describe	
Death Benefit	
Reset election interval for Death Benefit Guarantee – please describe	
Reset election interval for Maturity Benefit Guarantee – please describe	
Reset election interval for Guaranteed Withdrawal Base Amt – please describe	
Restriction on Investments - If yes, please describe.	
For GMWB, are withdrawals for lifetime (yes/no)?	
For GMWB withdrawals, please describe the waiting requirement (based on attained age, policy year or other basis) if any.	
Number of resets allowed per year	

Proxy Fund Information Form

Product Code (Field B in Inforce Extract)	For each proxy fund included on the inforce extract Fields Y, Z, AA, AB and so on, for this product code, complete a Fund Information Form.
Fund Identification (Field Z on inforce extracts)	**Name of Fund and brief description**
Target % Invested in Bonds	
Target % Invested in Equities	
Fund Identification (Field AA on inforce extracts)	**Name of Fund and brief description**
Target % Invested in Bonds	
Target % Invested in Equities	
Fund Identification (Field AB on inforce extracts)	**Name of Fund and brief description**
Target % Invested in Bonds	
Target % Invested in Equities	
Fund Identification (Field AC on inforce extracts)	**Name of Fund and brief description**
Target % Invested in Bonds	
Target % Invested in Equities	
Fund Identification (Field AD on inforce extracts)	**Name of Fund and brief description**
Target % Invested in Bonds	
Target % Invested in Equities	
*** Copy form for additional products (one Fund Information form should be submitted for each product form).	