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Group Disability Income Termination Study

1986-2005

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Francois du Toit
Jethro De Decker
David Mee

Abstract

This paper analyses disability income termination experience in the South African Group Life Insurance Market over the 20 years from 1 January 1986 to 31 December 2005. Insurance companies operating in the Group Market over these years have made their data available for this analysis. With over 125 000 years of exposure data, valuable and representative results were found.

An analysis of costs by cause of claim is also presented. This provides interesting results that may be valuable for future product design considerations and the valuation of disability claims.

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1 Introduction

Since its entry into the South African life insurance industry in 1999, RGA South Africa has steadily expanded its Group Life and Disability portfolio. This steady growth has allowed RGA to carefully monitor, assess and manage its Disability Income portfolio. We have considered the impact of a number of factors on the business, and noted patterns and trends that have emerged.

In order to share results of our investigations and to increase the volume and credibility of our analyses, we broadened the exercise by extending it to the largest life offices. The investigation was done under the auspices of the Actuarial Society of South Africa's Continuous Statistical Investigations Committee (CSI).

There has been a 100% participation rate by insurance companies we approached. Participants provided enough quality data for credible analyses by the selected rating factors.

The aims of the investigation were to:

- <u>Complete a termination experience analysis across the group market</u>
  Variations by the main rating factors and trends over time have been analysed. The difference in experience across some of the rating factors is not always taken into account by the market in pricing bases. For example, the experience study has shown that the impact of socio-economic class (as indicated by salary) on termination experience is significant.

- <u>Complete an analysis of causes of claims</u>
  With data about the level and duration of claims by cause over time, the cost of claims by cause has been determined. This information could be used for product development, for targeted claims management, for understanding underlying and emerging trends, and for improving the accuracy of reserving and claims experience analyses.

- <u>Compare termination experience between insurance companies</u>

  Individual companies' termination experience and claim-cause statistics were benchmarked against that of the market. Detailed feedback to individual companies provides insight into the effectiveness of claims management programmes, differences in companies' membership profiles and information about the variability of experience.

- <u>Analyse trends over time</u>

  Material changes in termination rates over the past few years have been observed. Changes in the composition of claims by cause over time have also been investigated.

2 The Data

Insurance companies were asked to submit their disability income claims data in a standard format. The data fields and formats requested are shown in Appendix A. The required fields per claim were:

- name,
- gender,
- date of birth,
- annual salary at claim date,
- monthly benefit,
- date of disability,
- termination date,
- deferred period,
- benefit escalation rate and
- normal retirement age.

We had a good response from insurance companies, with the seven largest group life insurance companies (approximately 90% of the market in 2005) providing disability income data. Unfortunately not all the companies' data could be used for all the years. After cleaning the data and selecting consistent datasets only, we were left with over 125 000 claim years of exposure data and approximately 12 500 terminations.

2.1 Participating Companies

The participating companies included Capital Alliance, Discovery, Liberty, Metropolitan, Momentum, Old Mutual and Sanlam.

We wish to thank each of the companies for their contributions and continued support.

2.2 Time Period and Data Sanitation

The study aimed to analyse disability income data over 20 years: 1 January 1986 to 31 December 2005. Only one insurance company submitted data that appeared reliable for this entire period. Other insurance companies' data was usable for only part of the period. Unfortunately one insurance company's data was not suitable for this study, but this insurance company is one of the smaller of the seven companies in the PHI market.

We worked closely with the insurance companies to understand which years' data was usable from each insurance company. We identified inconsistencies in companies' experience between periods and relative to the market. These inconsistencies were discussed with the companies and we agreed to exclude the unreliable records from the combined analysis.

Reasons why older data from some insurance companies had to be excluded from the analysis include:

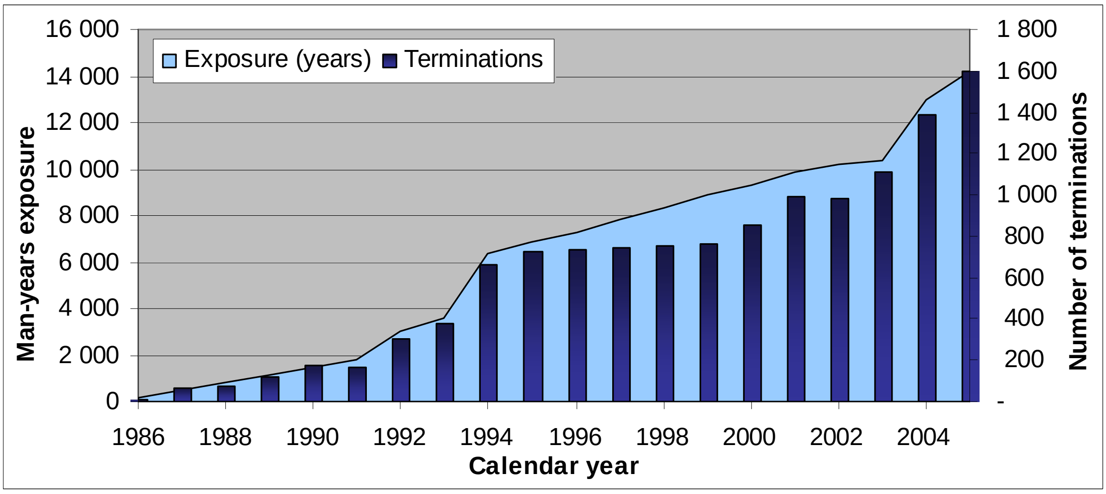
- <u>A change in the insurance company's administration system</u>
  - in such cases, the data from the older system was often of poor quality, e.g. not all terminated claims were migrated to the new system.
- <u>Company or portfolio take-overs</u>
  - these often lead to inconsistencies or incomplete records for periods prior to the take-over.

In some cases the data was out of line for valid reasons, for example, a conscious change in claims management methods. In such cases the data was kept in the study.

For all the rating factor and cause of claim analyses, it was decided to use experience from the period 2000 to 2005 only. A number of insurance companies could not provide usable data prior to this period. Furthermore, this more recent data is more relevant.

About half of the exposure (54%) is for the six year period ending 31 December 2005, with most of the rest of the exposure spread out between the years 1994 and 2000. Graph 1 below shows the distribution of exposure and terminations across the calendar years.

Graph 1: Distribution of exposure and terminations by calendar year



	1/1/1986 - 31/12/1993	1/1/1994 - 31/12/1996	1/1/1997 - 31/12/1999	1/1/2000 - 31/12/2002	1/1/2003 - 31/12/2005	Grand Total
Terminations	1 280	2 125	2 261	2 826	4 087	12 579
Exposure	12 627	20 449	25 037	29 435	37 600	125 148

2.3 Mapping the Causes of Disability

One of the aims of the study was to undertake a cost of claims by cause analysis. For this purpose, the causes of disability needed to be mapped to a generic set of causes. This mapping was done by our claims assessors. Appendix B contains the generic set of causes used.

2.4 Analysing the Data

The termination rate calculations were done in MS Access. The claim cost calculations and rating factor summaries were done in MS Excel.

Each insurance company was provided with an MS Excel spreadsheet that calculates and analyses the actual terminations, exposure and expected terminations. Insurance companies were asked to use this spreadsheet (with their own data) to verify that we are interpreting their data correctly and to check the calculations in respect of their own data.

The data analysis itself has been performed and checked in detail by RGA. In addition, several CSI committee members have reviewed the output of this work.

The terminations and exposure were calculated by

- age at disability,
- gender,
- duration since disability: monthly up to 240 months,
- deferred period (DP): 3 or 6 months,
- calendar period: each calendar year from 1986 to 2005,
- salary adjusted for inflation to 2006: three bands – below R60 000; R60 000 to R120 000 and above R120 000,
- escalation: two categories – “escalates” if the benefit escalation rate is greater than or equal to 3% per year, “no escalation” otherwise,
- causes of claim: see appendix B, and
- insurance company.

2.5 Methods and Assumptions

The following methods and assumptions were used for the termination rate and benchmarking calculations:

- Where a claim terminates, the potential exposure within the termination period was calculated, rather than the exposure up to the termination date. Each termination period is defined by the duration and calendar period at the start of the period.
- Claims with a termination date within 45 days of normal retirement age were treated as retirements. Retirements were not treated as terminations.
- A replacement ratio of 75% was used in a few cases where the salary field was populated, but the benefit field was blank and vice versa.
- Because a broad salary band analysis has been attempted, salaries needed to be inflated or deflated to allow for salary inflation. A salary inflation rate of 8% a year has been used.
- An interest rate of 8% a year has been used in the claims valuation calculations.
- Claims that terminate at exactly 24 months due to a change in definition at that duration have been counted in the period 12 to 24 months.

2.6 Benchmarking the Results to GLTD

The Society of Actuaries in America produced tables in 1987 for group long term disability insurance products (GLTD). They produced both Valuations and Basic tables.

Most insurance companies in South Africa use the Males 1987 GLTD Valuations Table for pricing and valuation purposes. These insurance companies use their own sets of adjustment factors relative to GLTD for both incidence and termination rates.

We have therefore calculated the expected numbers of terminations using 100% of the Males 1987 GLTD Valuation Table Termination rates. These expected numbers of terminations are then compared against the experience for various rating factor combinations.

It should be noted that the termination rates for the GLTD Valuation Table are 10% lower than the GLTD Basic Table. Further details can be found on the SOA website: http://www.soa.org/library/research/transactions-of-society-of-actuaries/1987/january/tsa87v3913.pdf.

We found that the Male GLTD table's shape by age fits the South African experience by age relatively well for both males and females. Benchmarking to GLTD therefore also reduces the impact of a change in the mix of exposure by age when analysing experience by other rating factors.

The GLTD tables we benchmarked against are included in Appendix C.

Ungraduated experience tables, in a similar layout to the GLTD tables, are shown in Appendix D.

2.7 Claims Cost and Duration Calculations

For each claim, the present value of the claim at the date of disability was calculated. This enabled comparisons of the costs and durations of claims by cause and rating factor.

The following assumptions and approximations were used in the cost of claim calculations:

- The expected present value for each in-force claim was calculated using termination experience for claims with the same cause of disability.
- Causes with similar terminations experience were grouped so that credible

termination rates for each duration and rating factor could be calculated.

- Neurological and psychological claims were grouped together and the other generic claim causes analysed were AIDS, cancer, musculoskeletal, respiratory and all remaining causes combined.
- The total cost per claim at the date of claim is calculated as the value of past payments plus the value of future expected claims costs for in-force claims.
- The total value for each claim was expressed in real terms (2006 monetary terms) in order to compare claims costs from different years. A salary inflation rate of 8% was used for this purpose.
- An interest rate of 8% was used to value claims.
- A constant benefit inflation rate of 6% per year was used.
- For some claims, either the benefit or salary was not provided. For these cases the benefits were estimated by assuming an initial replacement ratio of 75%.
- The duration of a claim was calculated in the same way as the value of claims, but the interest rate, inflation and escalation were set to zero, while the claim amount was set to one.

3 Analysis by Rating Factors

This section looks at the termination experience by the major rating factors. Annualised termination rates are graphed by duration. The experience is also benchmarked against GLTD, separately for the 3 and 6 months deferred period products. The graphs have keys showing the numbers of terminations and man-years of exposure. **Termination experience for the six years from 2000 to 2005 is illustrated in the graphs.**

All termination rates in the graphs are annual rates. For example, monthly rates were annualised using the following formula: annual q_x = 1 – ((1-monthly q_x) ^ 12) where $q_{\underline{x}}$ is the termination rate. Quarterly and half-yearly rates were annualised in a similar fashion.

The summary tables at the start of each of the following sections provide interesting claim statistics rather than pertinent pricing or valuation information as contained in the graphs and their keys. The data in the summary tables are in respect of disabilities occurring over a longer period than the experience illustrated in the graphs. We include the claim statistics in respect of disabilities incurred since 1994. The inclusion of claims with dates of disability prior to 1994 would lead to overstated average durations because one of the large insurance companies' coverage of terminations only started in 1994.

The largest three disability income insurance companies provided

- internally and externally consistent data,
- good cause of claim information,
- 80% of the number of claims included in this study and
- data for every year since 1994.

Due to non-provision of cause-of-claim information by one insurance company and the reliance on cause-of-claims experience to calculate future durations and outstanding claim values for in-force claims, we did not include the claims of this insurer in the tables in the following section. The termination experience for this company is however included in the graphs (and the keys to the graphs).

The experience for the two insurance companies for which we decided to only use 2005 data is also included in the graphs but excluded from the tables in order to ensure that a consistent mix of claims by company is included in the tables for the entire 12-year period covered in the tables. We are therefore showing the summary claim statistics of only the three largest participants in the tables.

Unless otherwise specified, the results are for all insurers and for 2000 to 2005.

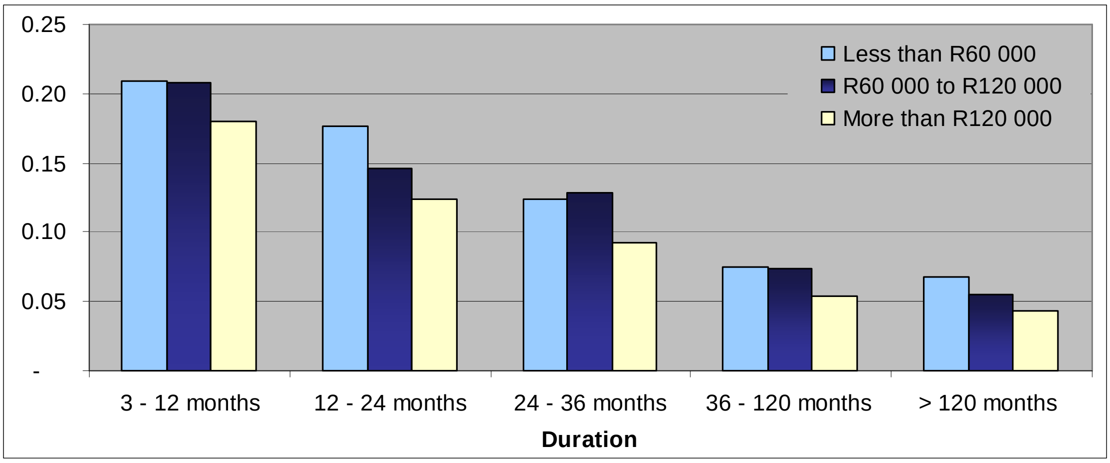
3.1 Annual Salary

Three salary bands were used - below R60 000, R60 000 to R120 000 and above R120 000.

Table 1: Summary statistics by annual salary band

Salary Band	Average Duration	Average Real Annual Benefit	Average Real Claim Cost	Number of Claims	% of Total Claim Cost
Below R60 000	7.1	32 658	188 321	8 964	20%
R60 000 to R120 000	7.6	63 754	373 708	6 286	28%
>R120 000	7.8	157 167	961 615	4 380	51%
Total	7.4	70 397	420 230	19 630	100%

Graph 2: Annualised termination rate by salary band



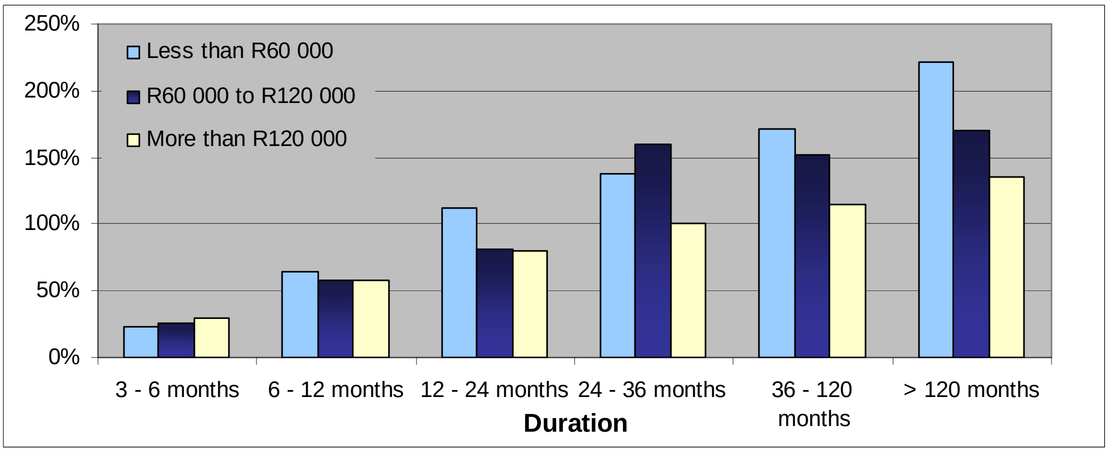
The results are as one would expect, with lower termination rates being associated with higher salaries. Possible reasons for this include

- AIDS claims have high termination rates and the incidence of AIDS claims reduces quickly as income increases in South Africa,
- the higher income groups have experienced a higher proportion of neurological and psychological claims with low termination rates,
- higher salaried claimants have access to better medical care and therefore

survive with disabilities for longer

- the replacement ratio of 75% is sufficient at higher salary levels, but lower earners struggle to survive on a reduced income.

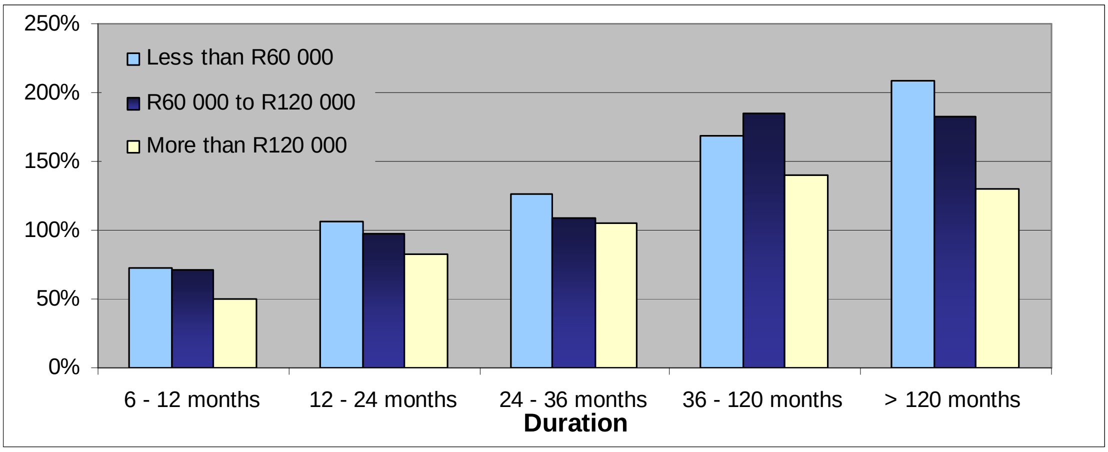
Graph 3: Terminations as a percentage of GLTD by salary band: 3 month DP



Terminations	3 - 6 months	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months	Grand Total
Less than R60 000	133	339	447	243	612	157	1 931
R60 000 to R120 000	104	215	238	215	415	82	1 269
More than R120 000	74	135	152	95	250	54	760
Total	311	689	837	553	1 277	293	3 960
Exposure							
Less than R60 000	709	1 314	2 174	1 803	7 973	2 272	16 245
R60 000 to R120 000	485	888	1 549	1 344	6 106	1 513	11 885
More than R120 000	326	605	1 096	1 007	5 033	1 237	9 305
Total	1 520	2 807	4 819	4 154	19 112	5 022	37 435

The higher termination rate for salaries between R60 000 and R120 000 at durations 24 to 36 months for the 3 months deferred period suggests that some of the terminations as a result of the change in disability definition have been recorded as terminations just after duration 24 months. It appears as though the change of definition has a more pronounced impact on this middle income band than on the other bands.

Graph 4: Terminations as a percentage of GLTD by salary band: 6 month DP



Terminations	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months	Grand Total
Less than R60 000	265	334	203	500	99	1 401
R60 000 to R120 000	165	209	130	414	67	985
More than R120 000	73	117	87	256	34	567
Total	503	660	420	1 170	200	2 953
Exposure						
Less than R60 000	1 140	1 957	1 637	6 565	1 518	12 818
R60 000 to R120 000	728	1 338	1 205	4 950	1 174	9 395
More than R120 000	501	964	901	4 204	817	7 387
Total	2 369	4 259	3 743	15 719	3 509	29 600

The 6 months deferred period experience does not show a significant increase in terminations relative to GLTD at duration 24 months. The longer initial assessment period probably has the effect of reducing the terminations from the change of definition at these durations relative to the 3 months deferred period product.

It is clear that termination rates for claimants with high incomes are significantly lower than for claimants with low incomes. Much of this difference is due to higher income claimants becoming disabled from different causes than lower income claimants. There are more AIDS claims (with high termination rates) and less psychological condition claims (with low termination rates) for lives in the lowest salary band.

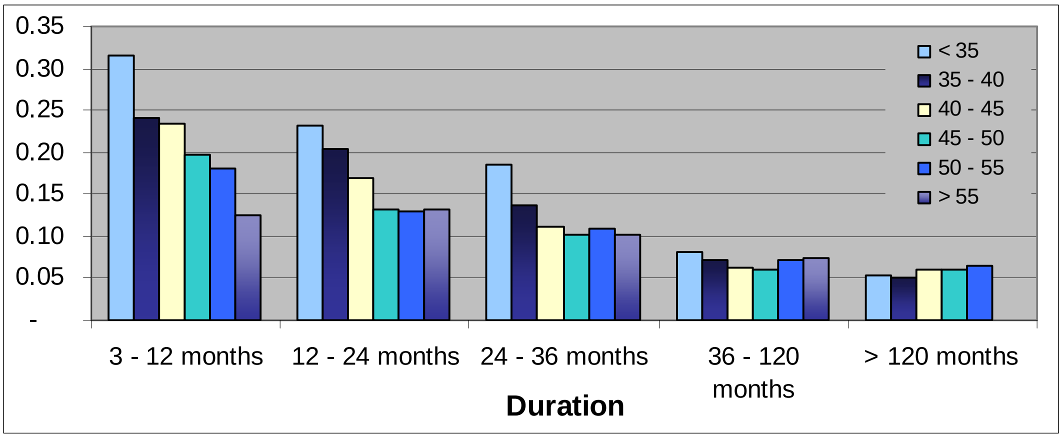
3.2 Age

Table 2: Summary statistics by age band

Age Group	Average Duration	Average Real Annual Benefit	Average Real Claim Cost	Number of Claims	% of Total Claim Cost
Below 35	10.0	58 142	425 830	2 206	11%
35 to 40	9.8	64 486	514 684	2 129	13%
40 to 45	9.6	67 152	507 601	2 821	17%
45 to 50	8.3	71 968	488 368	3 722	22%
50 to 55	6.3	71 697	393 425	4 302	21%
Over 55	4.0	78 787	285 799	4 450	15%
Total	7.4	70 397	420 230	19 630	100%

Due to higher return-to-work rates at younger ages, termination rates reduce as age at disability increases, especially during the first 24 months after disability. Only two insurance companies provided usable cause-of-termination data. We were therefore not able to do a multiple decrement study to accurately determine mortality and return-to-work rates by age.

Graph 5: Annualised termination rate by age at disability

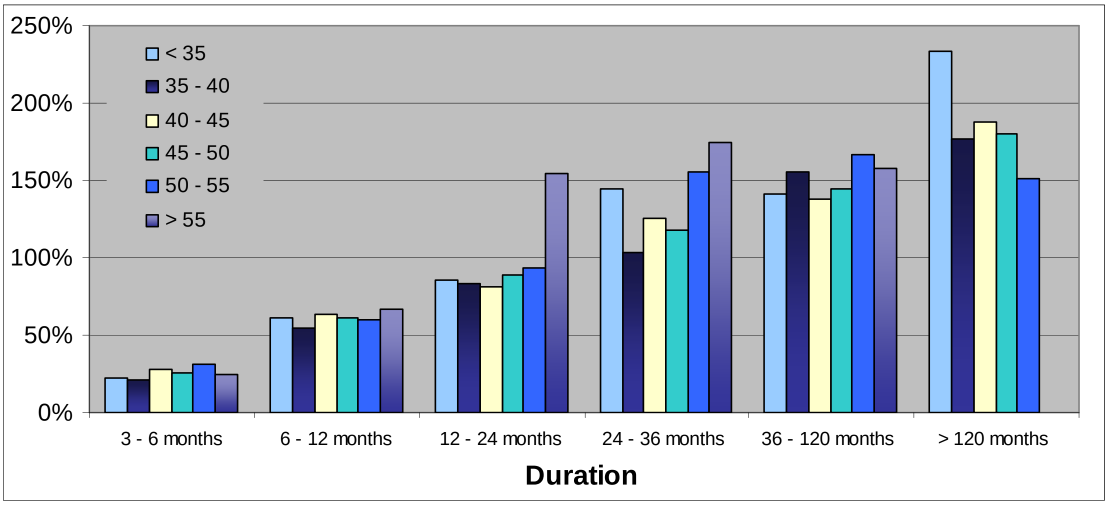


From Graph 6 and 7 on the next two pages, it appears that the age shape of GLTD fits the South African experience well. For each duration group, the experience by age band as a percentage of GLTD is relatively flat. This is the case for both males and females (see the next section).

There seems to be a spike in the experience relative to GLTD at duration 24 months for claimants older than 55 at date of disability. This is most likely due to an increase in early retirements at the end of the 2-year own occupation period.

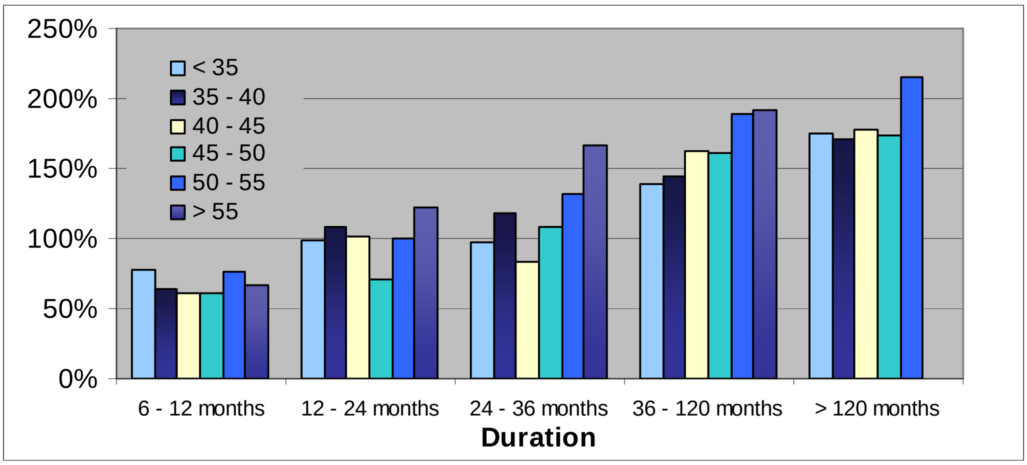
A similar increase in terminations relative to GLTD for claimants older than 55 can be seen at durations 24 to 36 months for the 6 months deferred period product.

Graph 6: Terminations as a % of GLTD by age at disability: 3 month DP



Terminations	3 - 6 months	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months	Grand Total
< 35	50	134	141	104	183	55	667
35 – 40	36	92	108	60	174	42	512
40 – 45	59	124	123	87	193	73	659
45 – 50	59	129	152	93	264	81	778
50 - 55	70	120	152	116	309	42	809
> 55	37	90	161	93	154	-	535
Total	311	689	837	553	1 277	293	3 960
Exposure							
< 35	187	324	549	446	2 246	924	4 676
35 - 40	162	303	506	441	2 328	804	4 545
40 - 45	228	409	695	621	3 263	1 202	6 420
45 - 50	282	530	934	840	4 509	1 325	8 419
50 - 55	337	624	1 083	955	4 532	765	8 295
> 55	324	617	1 053	852	2 234	1	8 295
Total	1 520	2 807	4 819	4 155	19 112	5 022	37 435

Graph 7: Terminations as a % of GLTD by age at disability: 6 month DP



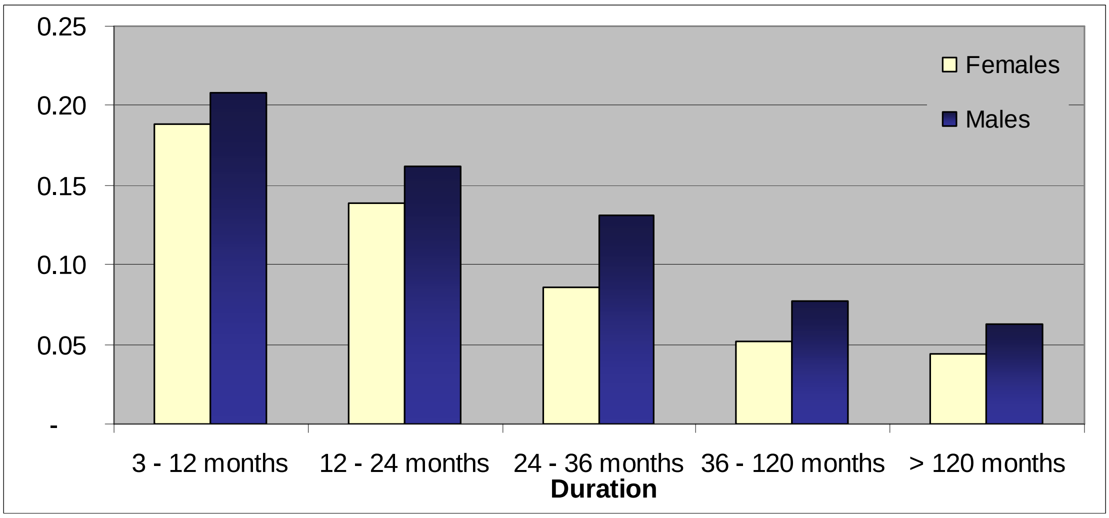
Terminations	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months	Grand Total
< 35	93	101	54	141	31	420
35 - 40	72	107	62	131	29	401
40 - 45	79	116	52	188	48	483
45 - 50	88	94	80	240	54	556
50 - 55	105	130	91	304	38	668
> 55	66	112	81	166	-	425
Total	503	660	420	1 170	200	2 953
Exposure						
< 35	235	401	346	1 698	698	3 378
35 - 40	271	466	399	1 833	574	3 542
40 - 45	358	633	562	2 634	838	5 024
45 - 50	457	848	785	3 634	912	6 636
50 - 55	536	986	881	3 929	488	6 820
> 55	514	925	769	1 992	-	4 199
Total	2 369	4 258	3 743	15 719	3 510	29 600

3.3 Gender

Table 3: Summary statistics by gender

Gender	Average Duration	Average Real Annual Benefit	Average Real Claim Cost	Number of Claims	% of Total Claim Cost
Female	8.1	59 042	400 251	5 597	27%
Male	7.2	74 926	428 198	14 033	73%
Total	7.4	70 397	420 230	19 630	100%

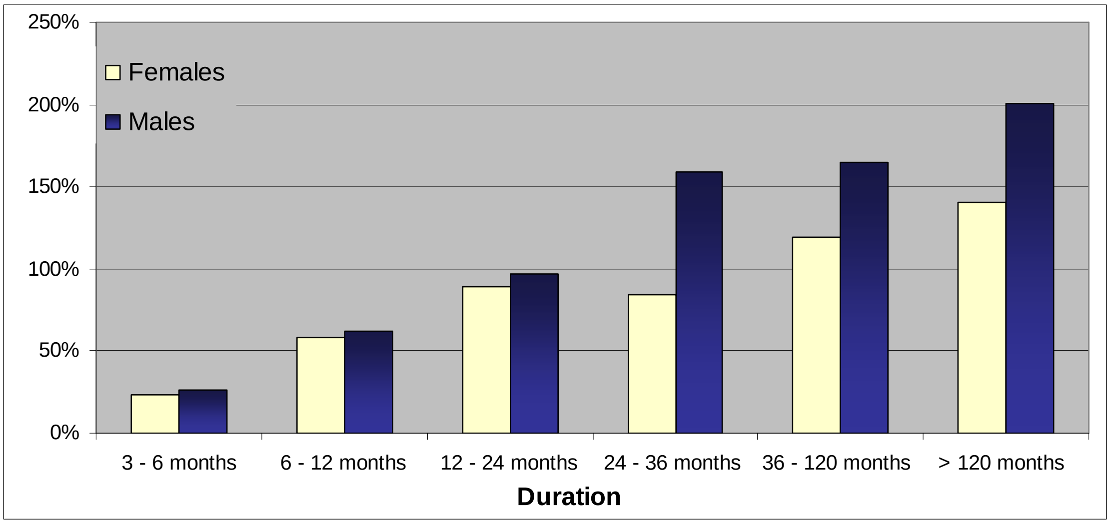
Graph 8: Annualised termination rate by gender



Female termination rates are lower than male termination rates at all durations. An analysis of the ratio of male to female termination rates by salary bands shows that this ratio remains relatively stable within salary bands. In effect, the difference in termination rates between genders appears to be fundamental to gender characteristics and cannot be explained by different socio-economic mixes by gender.

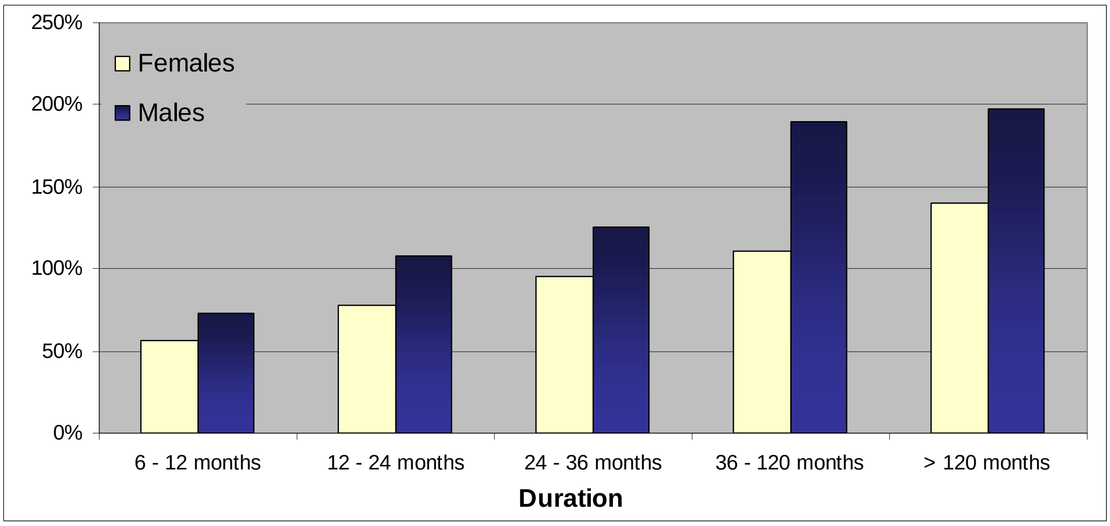
Graph 9 and 10 reflect the same picture as Graph 8 split by deferred period. This confirms that differences in the deferred period by gender is also not contributing significantly to the different level of termination rates experienced between males and females.

Graph 9: Terminations as a % of GLTD by gender: 3 month DP



Terminations	3 - 6 months	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months	Grand Total
Females	84	191	227	104	315	62	983
Males	227	498	610	449	962	231	2 977
Total	311	689	837	553	1 277	293	3 960
Exposure							
Females	439	788	1 354	1 227	5 891	1 401	11 100
Males	1 082	2 019	3 465	2 928	13 221	3 621	26 335
Total	1 521	2 807	4 819	4 155	19 112	5 022	37 435

Graph 10: Terminations as a % of GLTD by gender: 6 month DP

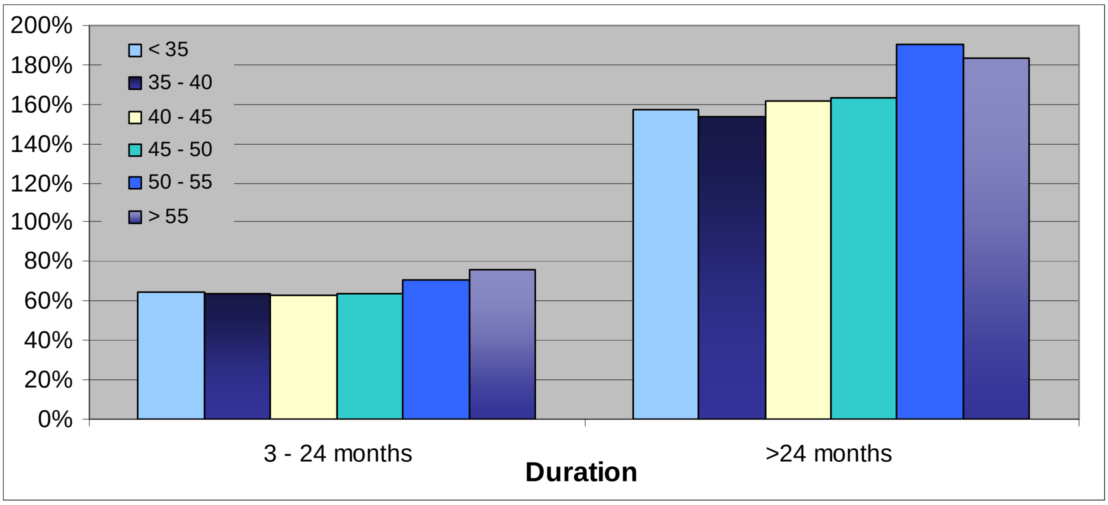


Terminations	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months	Grand Total
Females	127	159	107	235	44	672
Males	376	501	313	935	156	2 281
Total	503	660	420	1 170	200	2 953
Exposure						
Females	713	1 282	1 144	4 703	999	8 840
Males	1 657	2 976	2 598	11 017	2 512	20 760
Total	2 370	4 258	3 742	15 720	3 511	29 600

There is a significant difference in the level of termination experience for males and females at longer durations. It is not possible to accurately determine whether the big difference at durations exceeding 24 months are due to different mortality rates or return-to-work rates. The limited cause-of-termination data suggests that much of the difference is due to significantly higher mortality rates at longer durations for males than females.

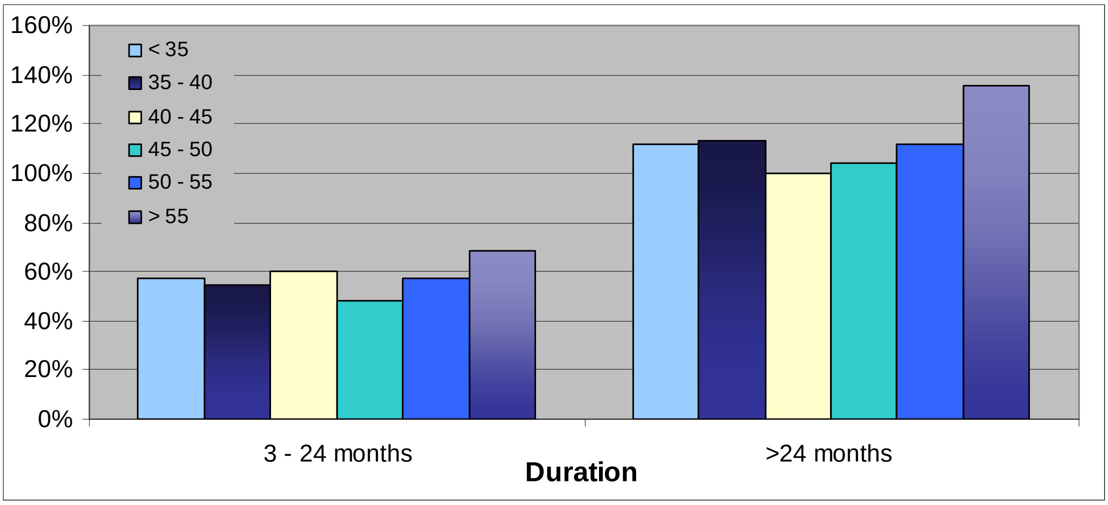
The next set of graphs examine whether the shape of GLTD termination rates by age reasonably reflects gender-specific termination experience. All durations up to 24 months and all durations above 24 months were combined. 3 and 6 month deferred period terminations and expected terminations were also combined in the following graphs. This was done to increase the number of claims per age-gender-duration group.

Graph 11: Termination rates for males by age group relative to GLTD



Terminations	3 to 24 months	> 24 Months	Grand Total
< 35	366	422	788
35 - 40	306	370	676
40 - 45	351	491	842
45 - 50	389	629	1 018
50 - 55	439	732	1 171
> 55	277	362	639
Total	2 128	3 006	5 134
Exposure			
< 35	1 166	4 352	5 518
35 - 40	1 209	4 317	5 526
40 - 45	1 604	6 117	7 721
45 - 50	2 082	8 254	10 336
50 - 55	2 551	8 374	10 925
> 55	2 016	4 055	6 071
Total	10 628	35 469	46 097

Graph 12: Termination rates for females by age relative to GLTD



Terminations	3 to 24 months	>24 Months	Grand Total
< 35	153	146	299
35 – 40	109	128	237
40 – 45	150	150	300
45 – 50	133	183	316
50 – 55	138	168	306
> 55	87	85	172
Total	770	860	1 630
Exposure			
< 35	530	2 006	2 536
35 – 40	499	2 062	2 561
40 – 45	719	3 004	3 723
45 – 50	968	3 751	4 719
50 – 55	1 014	3 176	4 190
> 55	695	1 270	1 965
Total	4 425	15 269	19 694

From the preceding two graphs it can be seen that the shape of termination experience by age appears to be similar for males and females. GLTD seems to capture the age-termination relationship well for both males and females.

The above finding is helpful and makes benchmarking against GLTD more useful. We should note that here we are only comparing against the GLTD (Valuation) Males Table. GLTD also has a female termination table which is the same as the males table with adjustments by duration only (and not by age at disability or deferred period). The adjustments start at 102% (female / male) in month 4, peaking at 115% in month 11, falling to 97.5% in month 24 and then to 67% from year 6 onwards. The above comparisons suggest that the GLTD female table adjustments at the longer durations are reasonable.

3.4 *Deferred Period*

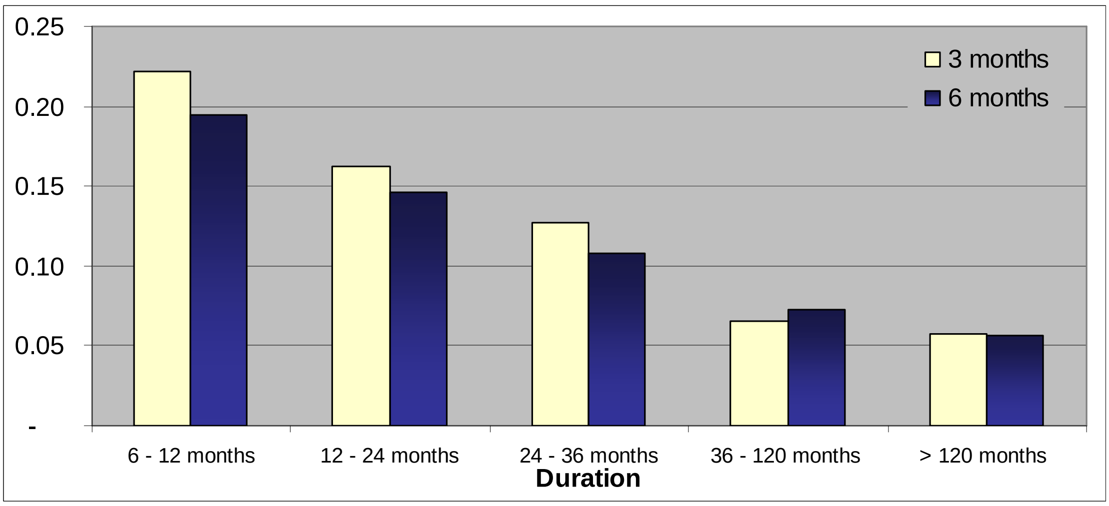
Table 4: Summary statistics by deferred period

Deferred Period	Average Duration	Average Real Annual Benefit	Average Real Claim Cost	Number of Claims	% of Total Claim Cost
3 months	7.3	69 226	400 966	10 484	51%
6 months	7.6	71 740	442 312	9 146	49%
Total	7.4	70 397	420 230	19 630	100%

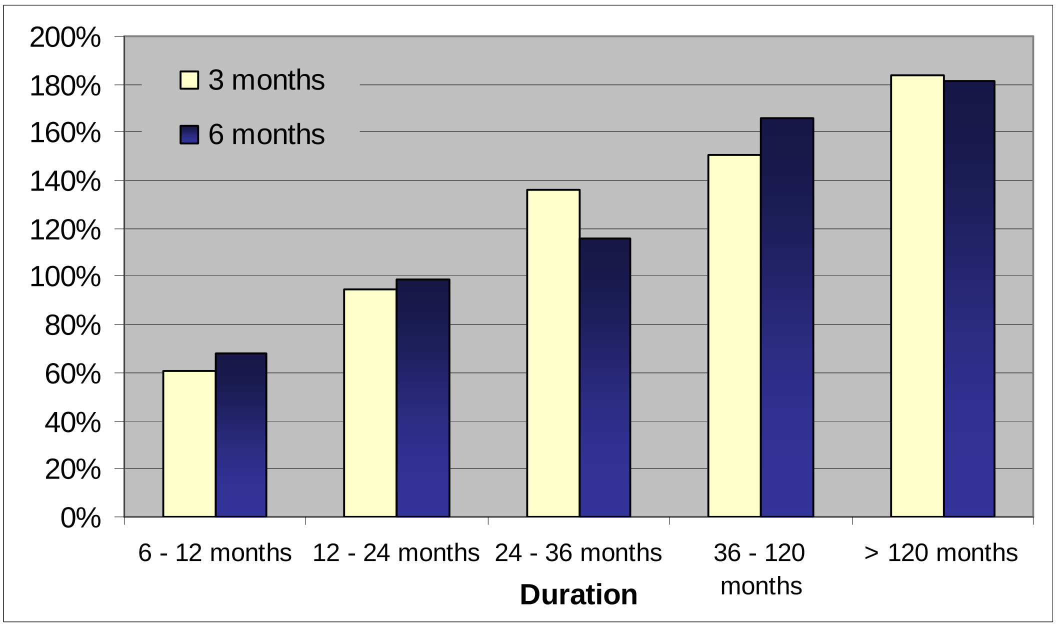
Graph 13 shows that, at all durations shorter than 36 months, the 3 months deferred period product experienced higher termination rates than the 6 months deferred period product. This relationship between deferred periods' experience is reflected within each salary band as well.

Relative to the 6 months deferred period product, there seems to be an increase in termination rates as a percentage of GLTD at durations 24 to 36 months on the 3 months deferred period product. This could be due to product differences, e.g. more of the 3 month deferred period schemes might have changing disability definitions at duration 24 months than is the case with 6 months deferred period schemes.

Graph 13: Annualised termination rate by deferred period



Graph 14: Terminations as a percentage of GLTD by deferred period



Terminations	3 - 6 months	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months	Grand Total
3 months	311	689	837	553	1 277	293	3 960
6 months	-	503	660	420	1 170	200	2 953
Total	311	1 192	1 497	973	2 447	493	6 913
Exposure							
3 months	1 520	2 807	4 819	4 155	19 112	5 022	37 435
6 months	-	2 369	4 258	3 743	15 719	3 510	29 600
Total	1 520	5 176	9 077	7 898	34 831	8 532	67 035

There are separate GLTD tables for 3 and 6 month DP products. The two sets of GLTD termination rates converge and are equal after duration 24 months.

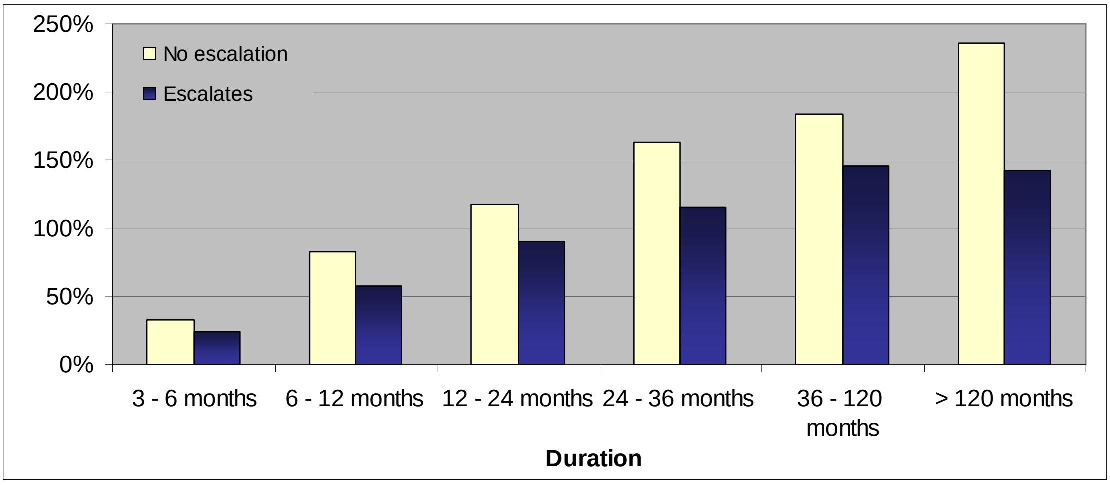
3.5 *Escalation Category*

Claims were grouped by benefit escalation rate into two categories: those with an escalation rate less than 3% per year and those with an escalation rate greater than or equal to 3% per year.

Table 5: Summary statistics by escalation category

Escalation category	Average Duration	Average Real Annual Benefit	Average Real Claim Cost	Number of Claims	% of Total Claim Cost
No escalation	6.4	77 580	343 473	6 237	26%
Escalates	7.9	67 052	455 975	13 393	74%
Total	7.4	70 397	420 230	19 630	100%

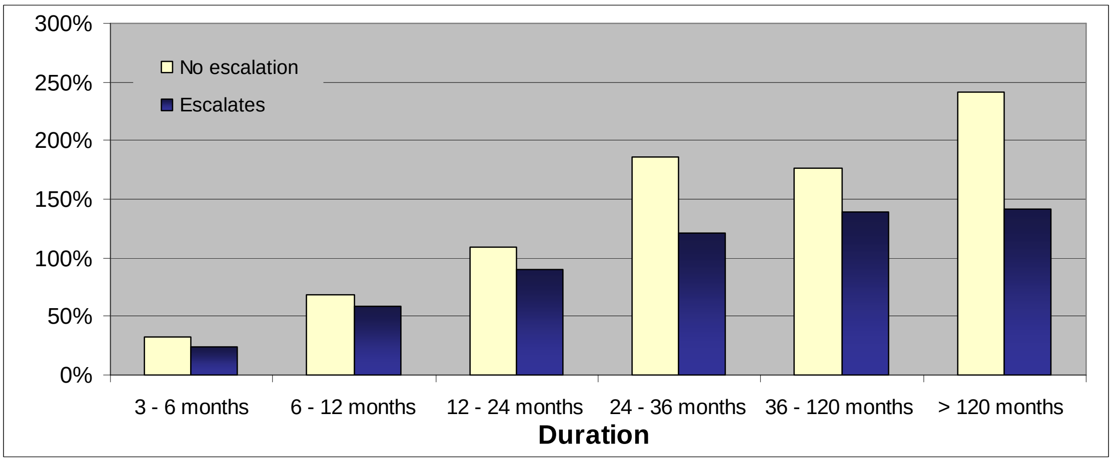
Graph 15: Termination rates as a percentage of GLTD by escalation category



Termination rates were significantly higher for policies without escalation than for policies with escalation at all durations. At durations exceeding 24 months, a similar difference in termination experience was seen within each salary band and for each of the largest three insurance companies.

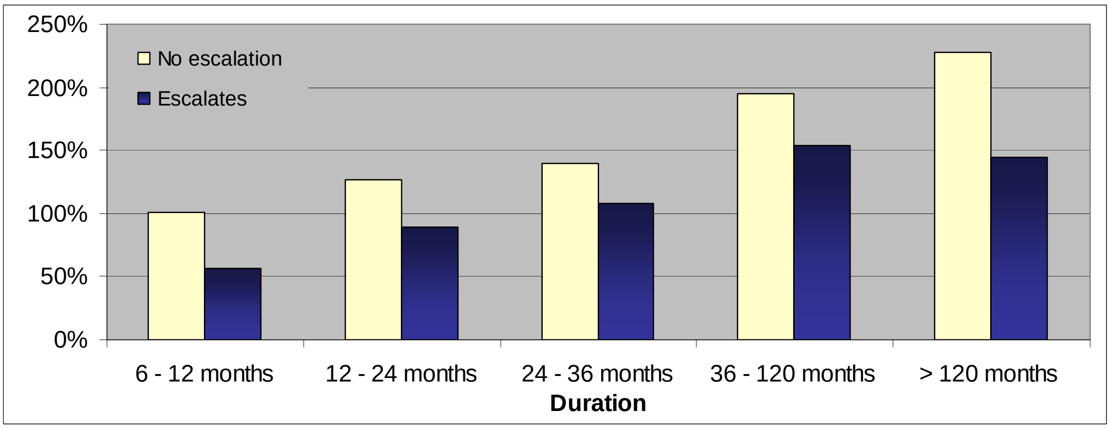
We would possibly expect higher terminations for non-escalating business as duration increases as a result of higher return-to-work termination rates for non-escalating claims relative to escalating claims. However the experience we are seeing shows higher terminations across all durations. This particular pattern is currently unexplained though is not unique to this experience study, a similar pattern was recently seen in the US individual disability market (see table VI.e of the 1990-99 IDEC report at http://www.soa.org/research/files/pdf/1990-99%20IDEC%20Report.pdf).

Graph 16: Termination rate as a % of GLTD by escalation category: 3 month DP



Terminations	3 - 6 months	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months	Grand Total
Escalates	223	519	617	374	812	128	2 673
No escalation	88	170	220	179	465	165	1 287
Total	311	689	837	553	1 277	293	3 960
Exposure							
Escalates	1 190	2 203	3 729	3 171	12 958	2 873	26 124
No escalation	331	604	1 090	984	6 154	2 149	11 312
Total	1 521	2 807	4 819	4 155	19 112	5 022	37 436

Graph 17: Termination rate as a % of GLTD by escalation category: 6 month DP



Terminations	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months	Grand Total
Escalates	307	446	291	747	90	1 881
No escalation	196	214	129	423	110	1 072
Total	503	660	420	1 170	200	2 953
Exposure						
Escalates	1 761	3 204	2 798	10 754	1 986	20 502
No escalation	608	1 054	945	4 966	1 525	9 097
Total	2 369	4 258	3 743	15 720	3 511	29 599

Mortality rates were very similar for escalating and non-escalating policies. This result is probably expected and also suggests that there are no material problems with the recording of escalation rates at the longer durations.

4 Analysis by Cause of Disability

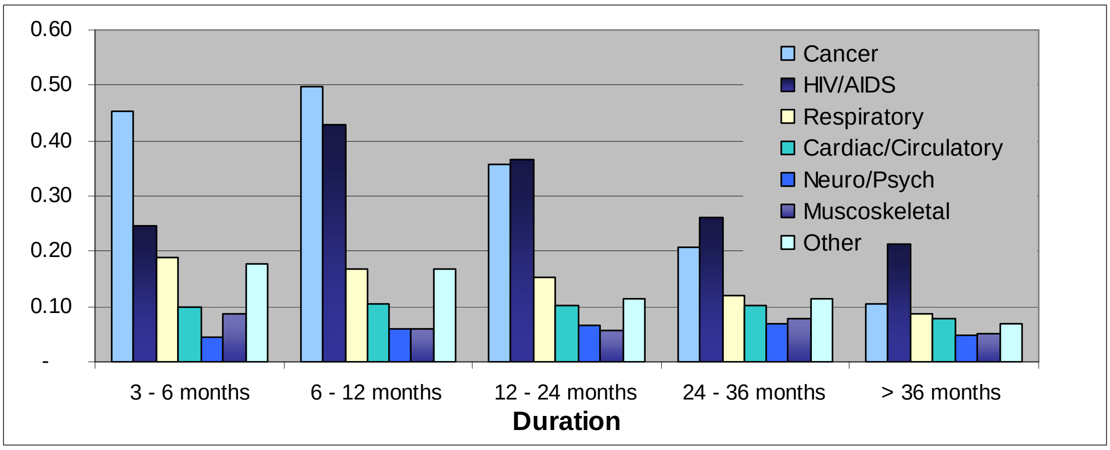
In this section we investigate

- termination rates by grouped causes of disability,
- numbers and amounts of claims by cause of disability and
- average claim durations by cause of disability.

The results shown are for all years.

4.1 Termination Rates

Graph 18: Annualised termination rates by cause of disability



Terminations	3 - 6 months	6 - 12 months	12 - 24 months	24 - 36 months	> 36 months	Grand Total
Cancer	117	395	314	109	159	1 094
HIV/AIDS	27	183	172	61	74	517
Respiratory	51	157	239	148	361	956
Cardiac/Circulatory	46	182	320	265	721	1 534
Neuro/Psych	19	96	203	188	528	1 034
Muscoskeletal	67	165	304	361	1 002	1 899
Other	120	388	449	374	1 048	2 379
Total	447	1 566	2 001	1 506	3 893	9 413
Exposure						
Cancer	199	589	753	481	1 478	3 500
HIV/AIDS	97	335	400	209	320	1 361
Respiratory	246	859	1 466	1 192	4 026	7 790
Cardiac/Circulatory	438	1 640	2 982	2 514	9 211	16 784
Neuro/Psych	421	1 582	2 955	2 607	11 119	18 683
Muscoskeletal	734	2 719	5 085	4 496	18 963	31 997
Other	617	2 134	3 745	3 157	15 145	24 798
Total	2 752	9 858	17 386	14 656	60 262	104 913

Table 6 below shows that there are credible numbers of claims across all the causes of disability. Neurological and psychiatric claims combined account for almost a quarter of the total claims cost. These claims have the longest durations as well as high average real benefits.

Table 6: Summary claims statistics by cause of disability

Cause of Disability	Average Duration in years	Average Real Annual Benefit	Average Real Claim Cost	Number of Claims	% of Total Claim Cost
Musculoskeletal / Back / Violence	9.4	67 922	501 439	4 813	29%
Neurological	10.8	79 674	657 533	1 536	12%
Psychiatric	11.4	86 559	703 624	1 426	12%
Cardiac/Circulatory	6.9	72 577	417 831	2 468	13%
Sensory	9.1	68 757	486 156	1 013	6%
Respiratory	6.1	54 793	279 772	1 461	5%
Cancer	3.5	86 582	253 242	1 215	4%
HIV/AIDS	3.7	47 813	149 691	763	1%
Endocrine	6.5	80 361	427 825	551	3%
GIT/Genito-urinary	7.2	78 156	433 868	480	3%
Infection	6.1	67 885	333 004	355	1%
Other	6.1	56 339	337 245	618	3%
Unknown	4.4	67 543	238 067	2 927	8%
Grand Total	7.4	70 398	420 286	19 626	100%

Table 7 shows that neurological claims were a greater percentage of all claims in the period 1998 to 2001 than in the other two periods. This suggests a link between these claims and economic conditions. Interest rates were hiked and there was a lot of uncertainty in South Africa following the 1998 emerging market crisis.

Numbers of HIV/AIDS claims have increased (as a percentage of all claims) significantly over the periods from 1994-98 (0.5%) to 2002-05 (7.8%).

Table 7: Number of claims by cause as a percentage of all claims per calendar period of disability

Cause of Disability	1994 to 1998	1998 to 2001	2002 to 2005
Musculoskeletal / Back / Violence	32.8%	28.3%	26.3%
Neurological	9.2%	12.1%	6.1%
Psychiatric	8.8%	8.9%	8.0%
Cardiac/Circulatory	15.6%	14.6%	14.4%
Sensory	6.6%	6.1%	5.6%
Respiratory	7.9%	8.7%	9.5%
Cancer	5.8%	6.9%	8.8%
HIV/AIDS	0.5%	4.5%	7.8%
Endocrine	3.3%	3.0%	3.7%
GIT/Genito-urinary	2.8%	2.9%	2.9%
Infection	4.6%	1.1%	1.3%
Other	2.2%	3.0%	5.6%
Total	100%	100%	100%

Table 8: Amounts of claims by cause as a percentage of all claims per calendar period of disability

Cause	1994 to 1998	1998 to 2001	2002 to 2005
Musculoskeletal / Back / Violence	36.0%	29.9%	30.0%
Neurological	13.3%	14.7%	11.6%
Psychiatric	11.4%	14.0%	14.4%
Cardiac/Circulatory	13.7%	14.0%	13.2%
Sensory	6.0%	6.9%	6.7%
Respiratory	5.3%	5.0%	6.1%
Cancer	2.4%	4.5%	5.4%
HIV/AIDS	0.5%	1.7%	2.5%
Endocrine	2.4%	3.5%	3.4%
GIT/Genito-urinary	2.9%	2.6%	2.8%
Infection	3.5%	0.7%	0.5%
Other	2.5%	2.5%	3.4%
Total	100%	100%	100%

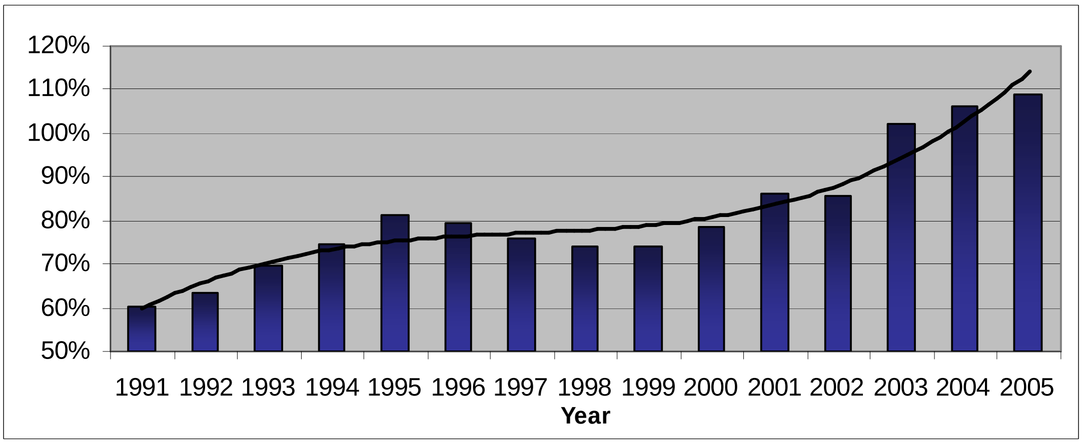
5 Analysis of Trends

This section shows that termination experience has been improving over time, that is, the termination rate is increasing.

The general trend in the terminations experience has been increasing since 1991, apart from a dip between 1995 and 1999, as evidenced in Graph 19 below. The annualised termination rate by calendar year is shown in Graph 20 below. The experience is volatile prior to 1991, with few terminations in each year, so these years have been excluded from this analysis.

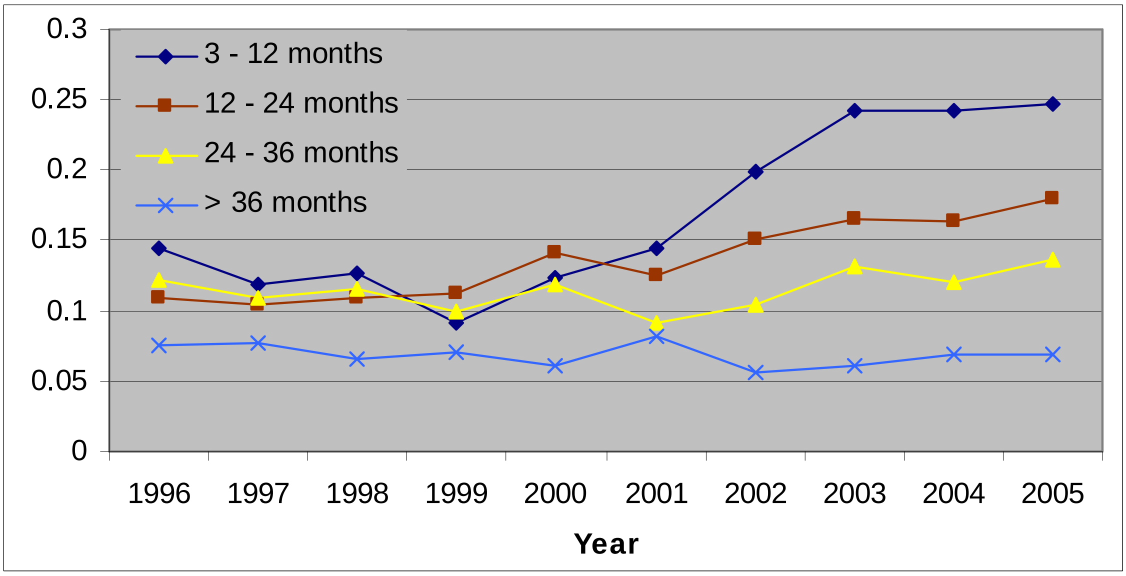
Although the trendline used appears to be increasing, it may be more appropriate to use a curve that results in a flatter trend in the later years.

Graph 19: Terminations as a percentage of GLTD by calendar year



Year	Terminations	Exposure
1991	167	1 810
1992	299	3 056
1993	375	3 581
1994	662	6 368
1995	726	6 817
1996	737	7 265
1997	742	7 815
1998	756	8 361
1999	763	8 861
2000	853	9 337
2001	991	9 864
2002	982	10 235
2003	1 107	10 398
2004	1 386	13 008
2005	1 594	14 193
Grand Total	12 140	120 969

Graph 20: Annualised termination rate by calendar year and duration



Terminations	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
3 – 6 mths	34	17	21	13	16	28	31	58	69	109
6 – 12 mths	114	106	114	80	122	150	201	201	240	278
12 – 24 mths	141	147	162	168	213	197	253	243	262	329
24 – 36 mths	140	126	143	126	155	116	140	182	182	198
36 – 120 mths	308	346	316	376	347	500	357	423	633	680
Total	737	742	756	763	853	991	982	1 107	1 386	1 594
Exposure										
3 – 6 mths	209	215	202	198	225	253	226	208	280	330
6 – 12 mths	742	761	802	773	826	897	822	737	848	1 046
12 – 24 mths	1 247	1 360	1 412	1 439	1 428	1 500	1 572	1 375	1 496	1 706
24 – 36 mths	1 088	1 101	1 180	1 221	1 237	1 226	1 292	1 315	1 451	1 376
36 – 120 mths	3 978	4 378	4 764	5 230	5 620	5 989	6 323	6 764	8 933	9 735
Total	7 264	7 815	8 360	8 861	9 336	9 865	10 235	10 399	13 008	14 193

Graph 20 above shows that much of the increase in termination rates over time is due to improvements at the shorter durations. The termination rate at duration 3 to 12 months has more than doubled between 1999 and 2005. Possible explanations for this change include:

- Product developments that could lead to more temporarily disabled lives being admitted during the initial “Own Occupation” period. These lives are then admitted for a limited period only or are managed back to work more actively than in the past.
- Claims management and assessment practices and philosophies may have changed.
- An increase in the number of AIDS-related claims in recent years. AIDS claims have experienced high termination rates at early durations.
- A change in data recording practices or standards with fewer shorter term claims recorded prior to 2003.

The increase in terminations at early durations has not been confined to the lowest salary band or to AIDS claims only. This suggests that an increase in the number of AIDS claims is not the only contributor. As discussed earlier, there has been a change in the mix of companies contributing by calendar year. This has also not caused the change we are seeing because the three largest insurers whose data were used for the entire period since 1996 experienced a similar pattern as seen in Graph 20 above.

It can be seen that there has not been a significant change in the termination experience at durations exceeding 24 months over the past 10 years.

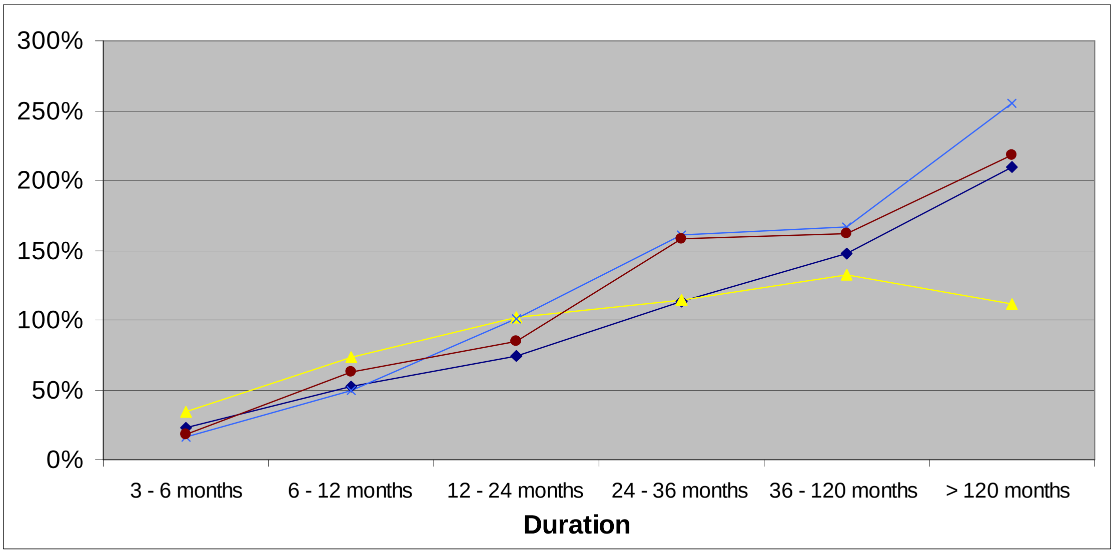
Termination experience is believed to be cyclical and linked to economic factors. Further time series analyses could be done to investigate this hypothesis.

6 Company Comparisons

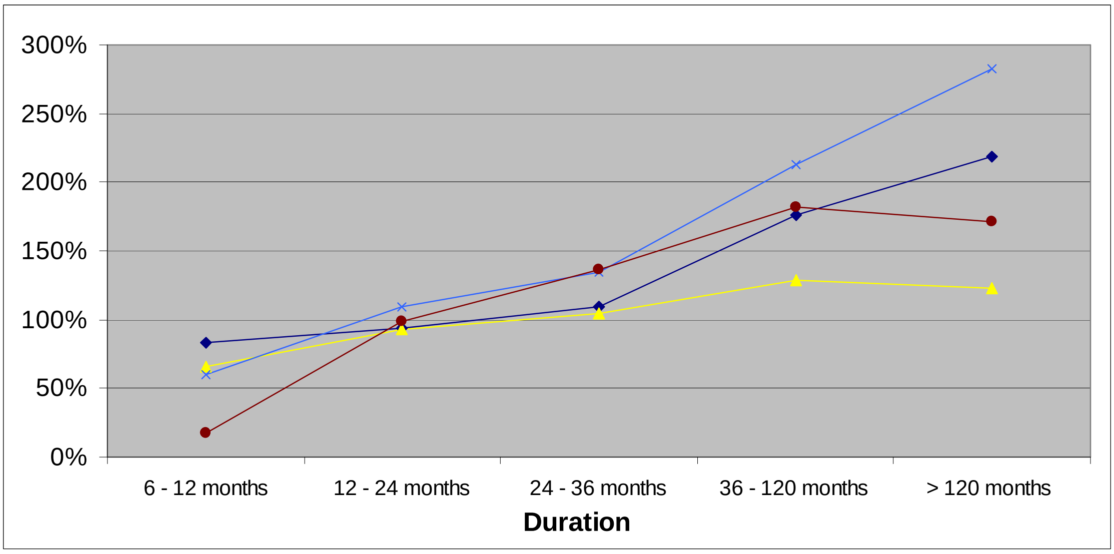
The termination rates from 2000 to 2005 by duration for the four largest disability income insurance companies are shown below. The two smaller insurance companies' experience is not shown due to the volatility resulting from much lower volumes than the largest four insurers.

There have been material differences in termination experience at durations exceeding 10 years between insurance companies. The number of terminations per insurance company at these durations is low and much of the difference could be due to random variation.

Graph 21: Terminations as a percentage of GLTD by insurance company and duration: 3 months DP



Graph 22: Terminations as a percentage of GLTD by insurance company and duration: 6 months DP



7 Further research and output

Each participating insurance company received a spreadsheet that enables it to analyse its own sanitised data in as much detail as required. Each insurance company is therefore able to compare its own results to the results presented in this report.

Due to the fact that only two insurance companies provided sufficient reliable data to perform a cause of termination analysis, no such analysis has been included in this report. Such an analysis would be valuable to the industry for pricing the mortality risk for disability claimants with cover to continue for their Group Life Assurance cover. We trust that more insurance companies will be able to provide this data in the future.

<u>A new GLTD table for the South African market?</u>

Given the volume of terminations data available, there is certainly scope for further modelling to be done with the aim of producing graduated termination rates. Statistical modelling of the termination rates by various rating factors could add value to the South African Group Life market.

Ideally, a new table should contain inception rates as well as termination rates. In the past it has proven difficult to get access to good quality exposure data and this is likely to be the biggest obstacle to anyone attempting an incidence investigation.

Ungraduated termination experience tables are shown in Appendix D.

<u>An explanation of trends in termination experience.</u>

Graph 19 in section 5 shows that there may be a cyclical trend in termination experience. It would be interesting to undertake a time-series analysis to investigate whether economic and other time-dependent factors have an impact on termination experience.

Regularity of this study

It is envisaged that this study be performed at least every five years. The availability and provision of good quality data from the South African insurers will enable additional comprehensive studies to be carried out in the future. The CSI committee and RGA would welcome such data.

8 Appendices

Appendix A: Group Disability Income Market Survey

Data Specification

Please supply the following data for current and terminated Disability Income (PHI) claimants who have become disabled between 1 January 1986 and 31 December 2005. In order to study termination experience at long durations and to assess the impact of economic cycles over time, it is important to include data from as far back as possible. Should you be able to provide recent data only (e.g. due to system changes or constraints), please do so.

Data Field	Example Entry	Required / Optional Field
Name / Unique Identification	J Smith	Required
Gender	Male	Required
Date of Birth	1970/12/03	Required
Annual Salary at Claim Date	150 000	Required
Date of Disability	2002/04/20	Required
Termination Date	2005/04/23	Required
Deferred Period	3 months	Required
Benefit Escalation Rate	5%	Required
Normal Retirement Age	65	Required
Claim Cause or Claim Cause Narratives -- Medical / case management history and info (*)	Depression	Important for analysis, but can be omitted if no data available. If omitted, no Cause of Claim analysis will be done for the participant.
Termination Reason	Death	Optional, but important (e.g. to assess cover to continue risk)
Scheme Name	XYZ Pension Fund	Optional
Annual Benefit Amount at Date of Disability	112 500	Optional
Date Reported	2002/07/19	Optional
Definition of disability	Own Occupation	Optional
Own Occupation Period	24 months	Optional
Claim Status	Terminated	Optional
Last Assessment Date	2004/04/23	Optional
Next Assessment Date	2006/04/23	Optional
*: Please provide as much information about the conditions leading to the claim as is readily available. RGA will work through this information for every claim to select a cause from a standard list. The more information given, the more accurate the selection and analysis.		

Please specify the dates between which all terminations are included. Please note that it is critical that all terminated claims be included for these dates. Do not include claims from temporary disability income (TTD) products.

RGA will analyse and benchmark all information provided. RGA will perform reasonability checks, standardisation and sanitation exercises on the data. Should any potential data problems be encountered, RGA will discuss this with the participant. Data will only be included once its dependability has been established. Please let us know about any aspects or periods of data where the accuracy might be compromised.

In principle, the more information contributed, the more analyses and benchmarking will be performed for the participant. If, for example, no Cause of Claim information is provided, the participant will unfortunately not share in the results of analyses by Causes of Claims.

Appendix B: Generic categories of causes of disability

Musculoskeletal

Neurological

Cardiac / Circulatory

Respiratory

Psychiatric

HIV / AIDS

Cancer

Sensory

Endocrine

GIT / Genito-urinary

Other

Appendix C: GLTD Valuation Tables Males

The Society of Actuaries in America produced tables in 1987 for group long term disability insurance products (GLTD). They produced both Valuations and Basic tables.

The 1987 GLTD Valuation Tables Males has been used as a benchmark for the experience results throughout this report and the equivalent continuance table is given here for completeness.

It should be noted that the termination rates for the GLTD Valuation Table are 10% lower than the GLTD Basic Table. Further details can be found on the SOA website: http://www.soa.org/library/research/transactions-of-society-of-actuaries/1987/january/tsa87v3913.pdf.

GLTD Valuation Table Males 3 month deferred period									
	Age at disability								
Months	22	27	32	37	42	47	52	57	62
1	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-
3	1.4800	1.5700	1.8000	2.3380	3.3270	5.3830	8.9710	15.0400	21.3330
4	1.3083	1.4050	1.6259	2.1348	3.0678	5.0148	8.4561	14.3918	20.8189
5	1.1409	1.2417	1.4523	1.9303	2.8080	4.6467	7.9436	13.7470	20.3026
6	1.0134	1.1168	1.3184	1.7701	2.5993	4.3433	7.5075	13.1765	19.8214
7	0.9183	1.0236	1.2192	1.6508	2.4436	4.1222	7.1997	12.7654	19.4151
8	0.8446	0.9513	1.1433	1.5610	2.3300	3.9643	6.9765	12.4680	19.1355
9	0.7857	0.8932	1.0823	1.4890	2.2382	3.8363	6.7909	12.2386	18.9078
10	0.7369	0.8449	1.0314	1.4280	2.1597	3.7227	6.6293	12.0342	18.7168
11	0.6951	0.8033	0.9873	1.3749	2.0916	3.6222	6.4868	11.8525	18.5540
12	0.6589	0.7668	0.9485	1.3280	2.0320	3.5338	6.3597	11.6877	18.4111
15	0.5766	0.6826	0.8567	1.2153	1.8871	3.3189	6.0408	11.2777	18.0726
18	0.5213	0.6240	0.7910	1.1317	1.7759	3.1541	5.7871	10.9582	17.8011
21	0.4829	0.5819	0.7427	1.0680	1.6886	3.0256	5.5858	10.6952	17.5671
24	0.4549	0.5509	0.7066	1.0194	1.6206	2.9254	5.4297	10.4711	17.3450
27	0.4348	0.5284	0.6807	0.9869	1.5764	2.8580	5.3251	10.3046	17.1295
30	0.4148	0.5059	0.6549	0.9543	1.5321	2.7906	5.2204	10.1381	16.9140
33	0.3947	0.4834	0.6290	0.9218	1.4879	2.7231	5.1158	9.9716	16.6984
36	0.3746	0.4609	0.6031	0.8892	1.4436	2.6557	5.0111	9.8051	16.4829
42	0.3516	0.4362	0.5760	0.8566	1.3999	2.5863	4.8901	9.5742	16.1079
48	0.3285	0.4114	0.5489	0.8239	1.3562	2.5168	4.7690	9.3433	15.7329
54	0.3129	0.3941	0.5295	0.8004	1.3239	2.4622	4.6648	9.1308	15.3876
60	0.2972	0.3767	0.5101	0.7768	1.2916	2.4075	4.5606	8.9182	15.0423
66	0.2866	0.3643	0.4957	0.7585	1.2650	2.3613	4.4710	8.7314	14.7324
72	0.2759	0.3519	0.4813	0.7401	1.2384	2.3151	4.3814	8.5445	14.4225
78	0.2684	0.3430	0.4703	0.7249	1.2146	2.2732	4.3015	8.3775	14.1269
84	0.2609	0.3340	0.4593	0.7097	1.1908	2.2313	4.2215	8.2104	13.8312
90	0.2556	0.3274	0.4507	0.6969	1.1691	2.1922	4.1466	8.0503	13.5297
96	0.2503	0.3208	0.4420	0.6840	1.1474	2.1530	4.0716	7.8902	13.2282
102	0.2465	0.3158	0.4350	0.6730	1.1275	2.1161	4.0006	7.7320	12.9140
108	0.2426	0.3107	0.4280	0.6619	1.1076	2.0791	3.9295	7.5738	12.5998
114	0.2396	0.3067	0.4222	0.6522	1.0894	2.0446	3.8635	7.4208	12.2754
120	0.2366	0.3027	0.4163	0.6425	1.0712	2.0101	3.7975	7.2678	11.9509
132	0.2314	0.2957	0.4060	0.6248	1.0375	1.9440	3.6657	6.9480	11.2159
144	0.2264	0.2889	0.3957	0.6071	1.0043	1.8794	3.5348	6.6222	10.4757
156	0.2213	0.2821	0.3856	0.5893	0.9720	1.8161	3.4030	6.2904	9.7340
168	0.2164	0.2753	0.3754	0.5716	0.9406	1.7545	3.2706	5.9532	8.9933
180	0.2115	0.2687	0.3653	0.5540	0.9098	1.6942	3.1352	5.6097	8.2576
192	0.2067	0.2620	0.3553	0.5365	0.8799	1.6354	2.9973	5.2647	7.5309
204	0.2019	0.2554	0.3452	0.5194	0.8507	1.5770	2.8567	4.9173	6.8178
216	0.1971	0.2488	0.3351	0.5027	0.8220	1.5182	2.7136	4.5691	6.1223
228	0.1924	0.2423	0.3250	0.4864	0.7941	1.4591	2.5681	4.2214	5.4495
240	0.1877	0.2358	0.3150	0.4705	0.7668	1.3987	2.4199	3.8761	4.8048

GLTD Valuation Table Males 6 month deferred period									
	Age at disability								
Months	**22**	**27**	**32**	**37**	**42**	**47**	**52**	**57**	**62**
1	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-
6	0.8000	0.8900	1.0500	1.3700	2.0200	3.5600	6.6200	11.8700	16.7100
7	0.7530	0.8426	1.0022	1.3156	1.9479	3.4525	6.4571	11.6457	16.4694
8	0.7072	0.7961	0.9551	1.2615	1.8752	3.3420	6.2886	11.4093	16.2437
9	0.6671	0.7559	0.9147	1.2155	1.8139	3.2478	6.1433	11.1993	16.0504
10	0.6326	0.7213	0.8796	1.1755	1.7609	3.1643	6.0162	11.0123	15.8883
11	0.6027	0.6911	0.8486	1.1404	1.7150	3.0899	5.9037	10.8460	15.7501
12	0.5765	0.6645	0.8211	1.1090	1.6743	3.0244	5.8033	10.6952	15.6288
15	0.5157	0.6026	0.7546	1.0327	1.5772	2.8687	5.5568	10.3200	15.3415
18	0.4731	0.5599	0.7062	0.9746	1.5024	2.7499	5.3618	10.0277	15.1110
21	0.4420	0.5281	0.6697	0.9282	1.4407	2.6534	5.2026	9.7870	14.9124
24	0.4175	0.5018	0.6405	0.8897	1.3882	2.5707	5.0659	9.5819	14.7238
27	0.3991	0.4813	0.6171	0.8613	1.3503	2.5115	4.9683	9.4296	14.5409
30	0.3807	0.4609	0.5936	0.8329	1.3124	2.4522	4.8706	9.2772	14.3579
33	0.3622	0.4404	0.5702	0.8045	1.2745	2.3930	4.7730	9.1249	14.1750
36	0.3438	0.4199	0.5467	0.7761	1.2366	2.3337	4.6753	8.9725	13.9920
42	0.3226	0.3974	0.5221	0.7476	1.1992	2.2727	4.5624	8.7612	13.6737
48	0.3014	0.3748	0.4975	0.7191	1.1617	2.2116	4.4495	8.5499	13.3554
54	0.2871	0.3590	0.4800	0.6986	1.1341	2.1636	4.3523	8.3554	13.0623
60	0.2727	0.3431	0.4624	0.6780	1.1064	2.1156	4.2551	8.1609	12.7691
66	0.2630	0.3319	0.4494	0.6620	1.0836	2.0750	4.1715	7.9899	12.5061
72	0.2532	0.3206	0.4363	0.6459	1.0608	2.0344	4.0878	7.8189	12.2430
78	0.2464	0.3125	0.4263	0.6327	1.0405	1.9976	4.0132	7.6661	11.9920
84	0.2395	0.3043	0.4163	0.6195	1.0201	1.9608	3.9386	7.5132	11.7410
90	0.2346	0.2983	0.4085	0.6083	1.0015	1.9264	3.8687	7.3667	11.4851
96	0.2297	0.2923	0.4007	0.5970	0.9828	1.8919	3.7988	7.2202	11.2291
102	0.2262	0.2877	0.3943	0.5874	0.9658	1.8595	3.7325	7.0755	10.9624
108	0.2226	0.2830	0.3879	0.5777	0.9487	1.8270	3.6662	6.9307	10.6957
114	0.2199	0.2794	0.3827	0.5693	0.9332	1.7967	3.6047	6.7907	10.4203
120	0.2171	0.2757	0.3774	0.5608	0.9176	1.7664	3.5431	6.6507	10.1449
132	0.2124	0.2694	0.3680	0.5453	0.8887	1.7083	3.4201	6.3580	9.5210
144	0.2077	0.2632	0.3587	0.5299	0.8603	1.6516	3.2980	6.0598	8.8926
156	0.2031	0.2570	0.3495	0.5144	0.8326	1.5959	3.1750	5.7562	8.2630
168	0.1986	0.2508	0.3403	0.4989	0.8057	1.5418	3.0515	5.4477	7.6342
180	0.1941	0.2447	0.3312	0.4835	0.7793	1.4888	2.9252	5.1334	7.0097
192	0.1897	0.2387	0.3221	0.4683	0.7537	1.4371	2.7964	4.8177	6.3929
204	0.1853	0.2327	0.3129	0.4533	0.7287	1.3858	2.6653	4.4997	5.7875
216	0.1809	0.2267	0.3038	0.4388	0.7041	1.3341	2.5318	4.1811	5.1971
228	0.1766	0.2207	0.2946	0.4245	0.6802	1.2822	2.3961	3.8629	4.6260
240	0.1723	0.2148	0.2856	0.4107	0.6568	1.2291	2.2578	3.5470	4.0787

Appendix D: Experience Tables

The experience termination rates by gender, age, duration and deferred period are presented in this appendix. The termination rate shown is in respect of that duration, so for example, 0.0119 below is the 3-month termination rate (between durations 12 and 15 months) for a female aged between 22 and 25 with a 3 months deferred period. Therefore, the termination rate up to duration 12 months is a monthly rate, between 12 and 36 months it is a quarterly rate, between 36 and 120 months it is a half-yearly rate and for durations greater than 120 months an annual rate is shown.

Tables showing the numbers of terminations used to calculate the termination rates are also presented.

Experience Termination Rates Females 3 month deferred period										
	Age at disability									
Months	**22 - 25**	**25 - 30**	**30 - 35**	**35 - 40**	**40 - 45**	**45 - 50**	**50 - 55**	**55 - 59**	**60 - 62**	**Grand Total**
3 to 4	0.0000	0.0476	0.0062	0.0091	0.0174	0.0067	0.0147	0.0085	0.0074	0.0123
4 to 5	0.0278	0.0189	0.0158	0.0211	0.0160	0.0148	0.0100	0.0069	0.0149	0.0138
5 to 6	0.0000	0.0192	0.0191	0.0194	0.0126	0.0222	0.0189	0.0053	0.0304	0.0168
6 to 7	0.0571	0.0329	0.0358	0.0172	0.0201	0.0171	0.0130	0.0107	0.0078	0.0180
7 to 8	0.0305	0.0349	0.0406	0.0150	0.0188	0.0189	0.0093	0.0091	0.0079	0.0170
8 to 9	0.0000	0.0298	0.0393	0.0128	0.0249	0.0118	0.0080	0.0129	0.0000	0.0157
9 to 10	0.0000	0.0233	0.0037	0.0130	0.0216	0.0208	0.0095	0.0075	0.0000	0.0133
10 to 11	0.0000	0.0239	0.0150	0.0186	0.0121	0.0076	0.0123	0.0075	0.0000	0.0114
11 to 12	0.0968	0.0246	0.0228	0.0192	0.0143	0.0123	0.0167	0.0058	0.0084	0.0152
12 to 15	0.0119	0.0280	0.0249	0.0151	0.0132	0.0083	0.0076	0.0093	0.0056	0.0118
15 to 18	0.0127	0.0123	0.0216	0.0138	0.0103	0.0097	0.0068	0.0084	0.0060	0.0103
18 to 21	0.0381	0.0193	0.0108	0.0143	0.0094	0.0102	0.0045	0.0125	0.0091	0.0102
21 to 24	0.0266	0.0139	0.0141	0.0118	0.0081	0.0095	0.0067	0.0095	0.0095	0.0096
24 to 27	0.0278	0.0070	0.0179	0.0077	0.0108	0.0080	0.0043	0.0066	0.0035	0.0080
27 to 30	0.0292	0.0036	0.0139	0.0115	0.0069	0.0057	0.0044	0.0060	0.0038	0.0069
30 to 33	0.0159	0.0221	0.0252	0.0049	0.0080	0.0084	0.0062	0.0062	0.0000	0.0086
33 to 36	0.0500	0.0080	0.0099	0.0050	0.0073	0.0034	0.0076	0.0065	0.0000	0.0065
36 to 42	0.0000	0.0107	0.0063	0.0072	0.0043	0.0035	0.0034	0.0076	0.0000	0.0049
42 to 48	0.0104	0.0133	0.0078	0.0084	0.0041	0.0033	0.0065	0.0070	0.0117	0.0062
48 to 54	0.0123	0.0070	0.0037	0.0069	0.0043	0.0035	0.0042	0.0043	0.0060	0.0045
54 to 60	0.0139	0.0050	0.0054	0.0056	0.0045	0.0044	0.0030	0.0113	0.0000	0.0052
60 to 66	0.0000	0.0025	0.0058	0.0067	0.0018	0.0026	0.0072	0.0028	0.0000	0.0043
66 to 72	0.0000	0.0054	0.0046	0.0035	0.0024	0.0027	0.0074	0.0042	0.0000	0.0042
72 to 78	0.0000	0.0058	0.0035	0.0063	0.0039	0.0044	0.0072	0.0012	0.0000	0.0048
78 to 84	0.0153	0.0031	0.0077	0.0058	0.0068	0.0048	0.0044	0.0084	0.0000	0.0058
84 to 90	0.0000	0.0036	0.0061	0.0042	0.0030	0.0042	0.0063	0.0037	0.0000	0.0044
90 to 96	0.0370	0.0040	0.0084	0.0058	0.0058	0.0046	0.0041	0.0024	0.0000	0.0053
96 to 102	0.0000	0.0127	0.0023	0.0026	0.0009	0.0079	0.0048	0.0000	0.0000	0.0044
102 to 108	0.0000	0.0094	0.0026	0.0085	0.0041	0.0058	0.0103	0.0000	0.0000	0.0063
108 to 114	0.0000	0.0053	0.0062	0.0062	0.0034	0.0028	0.0096	0.0000	0.0000	0.0050
114 to 120	0.0278	0.0000	0.0102	0.0000	0.0037	0.0043	0.0048	0.0259	0.0000	0.0043
120 to 132	0.0000	0.0029	0.0083	0.0019	0.0021	0.0083	0.0031	0.0000	0.0000	0.0044
132 to 144	0.0000	0.0000	0.0029	0.0065	0.0018	0.0046	0.0000	0.0000	0.0000	0.0030
144 to 156	0.0000	0.0052	0.0000	0.0036	0.0034	0.0053	0.0000	0.0000	0.0000	0.0032
156 to 168	0.0000	0.0117	0.0000	0.0071	0.0034	0.0039	0.0000	0.0000	0.0000	0.0043
168 to 180	0.0000	0.0000	0.0000	0.0106	0.0043	0.0062	0.0000	0.0000	0.0000	0.0053
180 to 192	0.0000	0.0000	0.0000	0.0055	0.0064	0.0000	0.0000	0.0000	0.0000	0.0035
192 to 204	0.0000	0.0208	0.0000	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0050
204 to 216	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
216 to 228	0.0000	0.0000	0.0000	0.0155	0.0000	0.0000	0.0000	0.0000	0.0000	0.0043
228 to 240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Number of Terminations Females 3 month deferred period										
	Age at disability									
Months	22 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 59	60 - 62	Grand Total
3 to 4	-	8	2	4	10	5	12	5	1	47
4 to 5	1	3	5	9	9	11	8	4	2	52
5 to 6	-	3	6	8	7	16	15	3	4	62
6 to 7	2	5	11	7	11	12	10	6	1	65
7 to 8	1	5	12	6	10	13	7	5	1	60
8 to 9	-	4	11	5	13	8	6	7	-	54
9 to 10	-	3	1	5	11	14	7	4	-	45
10 to 11	-	3	4	7	6	5	9	4	-	38
11 to 12	3	3	6	7	7	8	12	3	1	50
12 to 15	1	10	19	16	19	16	16	14	2	113
15 to 18	1	4	15	14	14	18	14	12	2	94
18 to 21	3	6	7	14	12	18	9	17	3	89
21 to 24	2	4	9	11	10	16	13	12	3	80
24 to 27	2	2	11	7	13	13	8	8	1	65
27 to 30	2	1	8	10	8	9	8	7	1	54
30 to 33	1	6	14	4	9	13	11	7	-	65
33 to 36	3	2	5	4	8	5	13	7	-	47
36 to 42	-	5	6	11	9	10	11	15	-	67
42 to 48	1	6	7	12	8	9	20	12	3	78
48 to 54	1	3	3	9	8	9	12	6	1	52
54 to 60	1	2	4	7	8	11	8	14	-	55
60 to 66	-	1	4	8	3	6	18	3	-	43
66 to 72	-	2	3	4	4	6	16	4	-	39
72 to 78	-	2	2	7	6	9	13	1	-	40
78 to 84	1	1	4	6	10	9	7	6	-	44
84 to 90	-	1	3	4	4	7	9	2	-	30
90 to 96	2	1	4	5	7	7	5	1	-	32
96 to 102	-	3	1	2	1	11	5	-	-	23
102 to 108	-	2	1	6	4	7	9	-	-	29
108 to 114	-	1	2	4	3	3	7	-	-	20
114 to 120	1	-	3	-	3	4	3	1	-	15
120 to 132	-	1	4	2	3	13	3	-	-	26
132 to 144	-	-	1	5	2	5	-	-	-	13
144 to 156	-	1	-	2	3	4	-	-	-	10
156 to 168	-	2	-	3	2	2	-	-	-	9
168 to 180	-	-	-	3	2	2	-	-	-	7
180 to 192	-	-	-	1	2	-	-	-	-	3
192 to 204	-	1	-	-	2	-	-	-	-	3
204 to 216	-	-	-	-	-	-	-	-	-	-
216 to 228	-	-	-	1	-	-	-	-	-	1
228 to 240	-	-	-	-	-	-	-	-	-	-
Grand Total	29	107	198	240	271	334	324	190	26	1 719

Experience Termination Rates Males 3 month deferred period										
	Age at disability									
Months	**22 - 25**	**25 - 30**	**30 - 35**	**35 - 40**	**40 - 45**	**45 - 50**	**50 - 55**	**55 - 59**	**60 - 62**	**Grand Total**
3 to 4	0.0405	0.0123	0.0116	0.0074	0.0151	0.0154	0.0073	0.0074	0.0100	0.0108
4 to 5	0.0207	0.0124	0.0280	0.0139	0.0161	0.0151	0.0156	0.0069	0.0083	0.0141
5 to 6	0.0214	0.0438	0.0213	0.0216	0.0227	0.0147	0.0163	0.0080	0.0132	0.0169
6 to 7	0.0220	0.0328	0.0294	0.0175	0.0161	0.0154	0.0119	0.0107	0.0050	0.0149
7 to 8	0.0113	0.0203	0.0334	0.0235	0.0255	0.0261	0.0139	0.0103	0.0168	0.0195
8 to 9	0.0573	0.0277	0.0165	0.0194	0.0160	0.0196	0.0185	0.0121	0.0153	0.0175
9 to 10	0.0244	0.0322	0.0302	0.0186	0.0111	0.0188	0.0168	0.0100	0.0103	0.0163
10 to 11	0.0248	0.0291	0.0172	0.0166	0.0241	0.0180	0.0141	0.0112	0.0104	0.0163
11 to 12	0.0249	0.0299	0.0121	0.0278	0.0178	0.0159	0.0144	0.0096	0.0157	0.0159
12 to 15	0.0042	0.0179	0.0180	0.0157	0.0191	0.0171	0.0112	0.0121	0.0155	0.0147
15 to 18	0.0216	0.0258	0.0164	0.0130	0.0100	0.0099	0.0148	0.0106	0.0076	0.0123
18 to 21	0.0000	0.0131	0.0148	0.0149	0.0101	0.0099	0.0100	0.0093	0.0073	0.0105
21 to 24	0.0047	0.0183	0.0183	0.0085	0.0083	0.0092	0.0104	0.0103	0.0094	0.0103
24 to 27	0.0142	0.0293	0.0250	0.0170	0.0175	0.0142	0.0130	0.0084	0.0064	0.0141
27 to 30	0.0151	0.0142	0.0147	0.0134	0.0114	0.0110	0.0120	0.0120	0.0093	0.0120
30 to 33	0.0212	0.0129	0.0139	0.0147	0.0130	0.0098	0.0112	0.0098	0.0103	0.0115
33 to 36	0.0332	0.0117	0.0103	0.0119	0.0066	0.0084	0.0109	0.0079	0.0070	0.0093
36 to 42	0.0125	0.0082	0.0114	0.0106	0.0082	0.0081	0.0078	0.0080	0.0072	0.0085
42 to 48	0.0068	0.0127	0.0127	0.0057	0.0082	0.0076	0.0073	0.0064	0.0034	0.0075
48 to 54	0.0104	0.0105	0.0080	0.0068	0.0068	0.0050	0.0074	0.0091	0.0014	0.0072
54 to 60	0.0037	0.0090	0.0104	0.0059	0.0061	0.0078	0.0055	0.0057	0.0043	0.0065
60 to 66	0.0039	0.0069	0.0050	0.0075	0.0042	0.0059	0.0051	0.0062	0.0000	0.0056
66 to 72	0.0080	0.0015	0.0063	0.0104	0.0056	0.0040	0.0044	0.0049	0.0000	0.0053
72 to 78	0.0044	0.0047	0.0068	0.0067	0.0062	0.0054	0.0066	0.0076	0.0000	0.0064
78 to 84	0.0089	0.0101	0.0058	0.0041	0.0020	0.0046	0.0068	0.0052	0.0000	0.0051
84 to 90	0.0045	0.0000	0.0069	0.0068	0.0048	0.0023	0.0057	0.0039	0.0000	0.0046
90 to 96	0.0091	0.0097	0.0041	0.0055	0.0068	0.0063	0.0062	0.0083	0.0000	0.0065
96 to 102	0.0000	0.0108	0.0061	0.0068	0.0057	0.0059	0.0044	0.0044	0.0000	0.0056
102 to 108	0.0105	0.0024	0.0075	0.0068	0.0058	0.0052	0.0077	0.0048	0.0000	0.0063
108 to 114	0.0062	0.0025	0.0021	0.0016	0.0057	0.0078	0.0038	0.0092	0.0000	0.0050
114 to 120	0.0256	0.0106	0.0034	0.0079	0.0034	0.0040	0.0064	0.0000	0.0000	0.0055
120 to 132	0.0127	0.0106	0.0052	0.0041	0.0051	0.0048	0.0047	0.0000	0.0000	0.0051
132 to 144	0.0000	0.0092	0.0024	0.0033	0.0071	0.0049	0.0061	0.0000	0.0000	0.0053
144 to 156	0.0109	0.0113	0.0032	0.0047	0.0081	0.0048	0.0038	0.0000	0.0000	0.0056
156 to 168	0.0000	0.0030	0.0077	0.0066	0.0016	0.0065	0.0091	0.0000	0.0000	0.0054
168 to 180	0.0093	0.0045	0.0061	0.0046	0.0033	0.0103	0.0000	0.0000	0.0000	0.0060
180 to 192	0.0000	0.0075	0.0078	0.0072	0.0068	0.0035	0.0000	0.0000	0.0000	0.0060
192 to 204	0.0000	0.0000	0.0000	0.0041	0.0028	0.0157	0.0000	0.0000	0.0000	0.0051
204 to 216	0.0000	0.0000	0.0042	0.0057	0.0049	0.0000	0.0000	0.0000	0.0000	0.0035
216 to 228	0.0000	0.0000	0.0074	0.0106	0.0060	0.0000	0.0000	0.0000	0.0000	0.0058
228 to 240	0.0000	0.0000	0.0000	0.0000	0.0226	0.0000	0.0000	0.0000	0.0000	0.0102

Number of Terminations Males 3 month deferred period										
	Age at disability									
Months	22 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 59	60 - 62	Grand Total
3 to 4	4	4	8	7	20	28	16	14	6	107
4 to 5	2	4	19	13	21	27	34	13	5	138
5 to 6	2	14	14	20	29	26	35	15	8	163
6 to 7	2	10	19	16	20	27	25	20	3	142
7 to 8	1	6	21	21	31	45	29	19	10	183
8 to 9	5	8	10	17	19	33	38	22	9	161
9 to 10	2	9	18	16	13	31	34	18	6	147
10 to 11	2	8	10	14	28	29	28	20	6	145
11 to 12	2	8	7	23	20	25	28	17	9	139
12 to 15	1	14	31	38	63	79	64	63	26	379
15 to 18	5	19	27	30	31	43	81	52	12	300
18 to 21	-	9	23	33	30	42	52	44	11	244
21 to 24	1	12	27	18	24	38	52	47	14	233
24 to 27	3	18	35	35	49	57	63	37	9	306
27 to 30	3	8	19	26	30	42	56	51	12	247
30 to 33	4	7	17	27	33	36	50	40	12	226
33 to 36	6	6	12	21	16	30	47	31	7	176
36 to 42	4	8	26	36	38	56	65	60	12	305
42 to 48	2	12	26	18	35	49	58	44	4	248
48 to 54	3	9	15	20	27	30	55	57	1	217
54 to 60	1	7	18	16	23	43	38	32	1	179
60 to 66	1	5	8	19	15	30	33	30	-	141
66 to 72	2	1	10	24	19	19	26	20	-	121
72 to 78	1	3	10	14	20	24	36	25	-	133
78 to 84	2	6	8	8	6	19	34	13	-	96
84 to 90	1	-	9	12	13	9	26	8	-	78
90 to 96	2	5	5	9	17	23	25	13	-	99
96 to 102	-	5	7	10	13	20	16	5	-	76
102 to 108	2	1	8	9	12	16	25	4	-	77
108 to 114	1	1	2	2	11	22	11	5	-	55
114 to 120	4	4	3	9	6	10	17	-	-	53
120 to 132	3	7	8	8	16	20	20	-	-	82
132 to 144	-	5	3	5	18	16	16	-	-	63
144 to 156	2	5	3	6	14	12	5	-	-	47
156 to 168	-	1	5	6	2	11	5	-	-	30
168 to 180	1	1	3	3	3	10	-	-	-	21
180 to 192	-	1	3	3	4	2	-	-	-	13
192 to 204	-	-	-	1	1	5	-	-	-	7
204 to 216	-	-	1	1	1	-	-	-	-	3
216 to 228	-	-	1	1	1	-	-	-	-	3
228 to 240	-	-	-	-	2	-	-	-	-	2
Grand Total	77	251	499	615	794	1 084	1 243	839	183	5 585

Experience Termination Rates Females 6 month deferred period										
	Age at disability									
Months	22 – 25	25 – 30	30 – 35	35 – 40	40 – 45	45 – 50	50 – 55	55 – 59	60 – 62	Grand Total
6 to 7	0.0000	0.0116	0.0207	0.0031	0.0175	0.0078	0.0014	0.0077	0.0183	0.0086
7 to 8	0.0000	0.0118	0.0213	0.0031	0.0111	0.0080	0.0102	0.0156	0.0094	0.0107
8 to 9	0.0000	0.0365	0.0000	0.0127	0.0045	0.0193	0.0147	0.0100	0.0280	0.0132
9 to 10	0.0000	0.0000	0.0165	0.0129	0.0114	0.0115	0.0090	0.0102	0.0097	0.0107
10 to 11	0.0000	0.0500	0.0278	0.0296	0.0093	0.0083	0.0121	0.0083	0.0196	0.0143
11 to 12	0.0000	0.0129	0.0286	0.0068	0.0189	0.0135	0.0200	0.0148	0.0000	0.0157
12 to 15	0.0000	0.0133	0.0118	0.0115	0.0113	0.0040	0.0064	0.0051	0.0068	0.0074
15 to 18	0.0278	0.0047	0.0167	0.0084	0.0160	0.0084	0.0071	0.0082	0.0036	0.0096
18 to 21	0.0152	0.0194	0.0137	0.0162	0.0081	0.0082	0.0069	0.0062	0.0000	0.0088
21 to 24	0.0159	0.0052	0.0192	0.0105	0.0129	0.0066	0.0085	0.0057	0.0000	0.0088
24 to 27	0.0000	0.0106	0.0051	0.0081	0.0067	0.0082	0.0069	0.0101	0.0087	0.0078
27 to 30	0.0185	0.0109	0.0130	0.0126	0.0029	0.0092	0.0091	0.0126	0.0000	0.0092
30 to 33	0.0000	0.0000	0.0080	0.0133	0.0092	0.0059	0.0034	0.0049	0.0128	0.0065
33 to 36	0.0000	0.0055	0.0028	0.0078	0.0043	0.0069	0.0048	0.0032	0.0076	0.0052
36 to 42	0.0000	0.0028	0.0130	0.0050	0.0063	0.0062	0.0062	0.0051	0.0000	0.0061
42 to 48	0.0000	0.0058	0.0113	0.0052	0.0056	0.0058	0.0032	0.0045	0.0060	0.0052
48 to 54	0.0000	0.0000	0.0071	0.0028	0.0040	0.0031	0.0038	0.0043	0.0000	0.0036
54 to 60	0.0128	0.0031	0.0057	0.0059	0.0056	0.0038	0.0027	0.0025	0.0329	0.0041
60 to 66	0.0000	0.0065	0.0041	0.0044	0.0015	0.0035	0.0049	0.0050	0.0000	0.0039
66 to 72	0.0000	0.0068	0.0044	0.0037	0.0033	0.0055	0.0043	0.0047	0.0000	0.0045
72 to 78	0.0128	0.0037	0.0024	0.0026	0.0027	0.0024	0.0055	0.0028	0.0000	0.0035
78 to 84	0.0000	0.0040	0.0050	0.0028	0.0029	0.0027	0.0036	0.0067	0.0000	0.0035
84 to 90	0.0000	0.0044	0.0028	0.0061	0.0011	0.0045	0.0041	0.0061	0.0000	0.0040
90 to 96	0.0000	0.0093	0.0031	0.0017	0.0080	0.0049	0.0049	0.0053	0.0000	0.0051
96 to 102	0.0000	0.0050	0.0068	0.0020	0.0079	0.0047	0.0044	0.0076	0.0000	0.0052
102 to 108	0.0000	0.0000	0.0120	0.0047	0.0031	0.0011	0.0076	0.0062	0.0000	0.0044
108 to 114	0.0000	0.0000	0.0048	0.0026	0.0017	0.0035	0.0033	0.0000	0.0000	0.0027
114 to 120	0.0000	0.0000	0.0052	0.0057	0.0039	0.0013	0.0095	0.0285	0.0000	0.0046
120 to 132	0.0000	0.0075	0.0000	0.0049	0.0022	0.0062	0.0026	0.0000	0.0000	0.0040
132 to 144	0.0000	0.0102	0.0000	0.0043	0.0029	0.0022	0.0000	0.0000	0.0000	0.0026
144 to 156	0.0000	0.0066	0.0000	0.0083	0.0053	0.0042	0.0037	0.0000	0.0000	0.0046
156 to 168	0.0000	0.0000	0.0000	0.0042	0.0071	0.0084	0.0000	0.0000	0.0000	0.0051
168 to 180	0.0000	0.0000	0.0000	0.0000	0.0073	0.0000	0.0000	0.0000	0.0000	0.0021
180 to 192	0.0000	0.0000	0.0264	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0031
192 to 204	0.0000	0.0000	0.0278	0.0228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0077
204 to 216	0.0000	0.0000	0.0000	0.0000	0.0000	0.0600	0.0000	0.0000	0.0000	0.0064
216 to 228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
228 to 240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Number of Terminations Females 6 month deferred period										
	Age at disability									
Months	**22 – 25**	**25 – 30**	**30 – 35**	**35 – 40**	**40 – 45**	**45 – 50**	**50 – 55**	**55 – 59**	**60 – 62**	**Grand Total**
6 to 7	-	1	4	1	8	5	1	4	2	26
7 to 8	-	1	4	1	5	5	7	8	1	32
8 to 9	-	3	-	4	2	12	10	5	3	39
9 to 10	-	-	3	4	5	7	6	5	1	31
10 to 11	-	4	5	9	4	5	8	4	2	41
11 to 12	-	1	5	2	8	8	13	7	-	44
12 to 15	-	3	6	10	14	7	12	7	2	61
15 to 18	2	1	8	7	19	14	13	11	1	76
18 to 21	1	4	6	13	9	13	12	8	-	66
21 to 24	1	1	8	8	14	10	14	7	-	63
24 to 27	-	2	2	6	7	12	11	12	2	54
27 to 30	1	2	5	9	3	13	14	14	-	61
30 to 33	-	-	3	9	9	8	5	5	2	41
33 to 36	-	1	1	5	4	9	7	3	1	31
36 to 42	-	1	9	6	11	16	17	9	-	69
42 to 48	-	2	7	6	9	14	8	7	1	54
48 to 54	-	-	4	3	6	7	9	6	-	35
54 to 60	1	1	3	6	8	8	6	3	1	37
60 to 66	-	2	2	4	2	7	10	5	-	32
66 to 72	-	2	2	3	4	10	8	4	-	33
72 to 78	1	1	1	2	3	4	9	2	-	23
78 to 84	-	1	2	2	3	4	5	4	-	21
84 to 90	-	1	1	4	1	6	5	3	-	21
90 to 96	-	2	1	1	7	6	5	2	-	24
96 to 102	-	1	2	1	6	5	4	2	-	21
102 to 108	-	-	3	2	2	1	6	1	-	15
108 to 114	-	-	1	1	1	3	2	-	-	8
114 to 120	-	-	1	2	2	1	5	1	-	12
120 to 132	-	2	-	3	2	8	2	-	-	17
132 to 144	-	2	-	2	2	2	-	-	-	8
144 to 156	-	1	-	3	3	3	1	-	-	11
156 to 168	-	-	-	1	3	4	-	-	-	8
168 to 180	-	-	-	-	2	-	-	-	-	2
180 to 192	-	-	2	-	-	-	-	-	-	2
192 to 204	-	-	1	2	-	-	-	-	-	3
204 to 216	-	-	-	-	-	1	-	-	-	1
216 to 228	-	-	-	-	-	-	-	-	-	-
228 to 240	-	-	-	-	-	-	-	-	-	-
Grand Total	7	43	102	142	188	238	235	149	19	1 123

Experience Termination Rates Males 6 month deferred period										
	Age at disability									
Months	22 – 25	25 – 30	30 – 35	35 – 40	40 – 45	45 – 50	50 – 55	55 - 59	60 - 62	Grand Total
6 to 7	0.0000	0.0118	0.0178	0.0152	0.0137	0.0131	0.0103	0.0062	0.0055	0.0111
7 to 8	0.0326	0.0080	0.0240	0.0168	0.0176	0.0161	0.0170	0.0093	0.0164	0.0156
8 to 9	0.0000	0.0201	0.0204	0.0220	0.0066	0.0157	0.0173	0.0094	0.0092	0.0141
9 to 10	0.0345	0.0123	0.0168	0.0163	0.0114	0.0116	0.0125	0.0102	0.0093	0.0123
10 to 11	0.0178	0.0207	0.0234	0.0166	0.0165	0.0162	0.0109	0.0103	0.0056	0.0138
11 to 12	0.0175	0.0248	0.0152	0.0260	0.0099	0.0119	0.0157	0.0091	0.0151	0.0142
12 to 15	0.0179	0.0113	0.0169	0.0183	0.0117	0.0111	0.0097	0.0098	0.0097	0.0116
15 to 18	0.0126	0.0192	0.0147	0.0123	0.0134	0.0094	0.0119	0.0102	0.0094	0.0116
18 to 21	0.0063	0.0094	0.0193	0.0144	0.0093	0.0098	0.0062	0.0085	0.0098	0.0096
21 to 24	0.0132	0.0049	0.0112	0.0153	0.0136	0.0073	0.0096	0.0091	0.0079	0.0100
24 to 27	0.0069	0.0150	0.0125	0.0102	0.0058	0.0104	0.0072	0.0076	0.0030	0.0082
27 to 30	0.0213	0.0106	0.0121	0.0095	0.0106	0.0093	0.0097	0.0074	0.0092	0.0095
30 to 33	0.0000	0.0129	0.0195	0.0159	0.0094	0.0100	0.0102	0.0089	0.0087	0.0108
33 to 36	0.0231	0.0134	0.0083	0.0149	0.0064	0.0091	0.0096	0.0104	0.0098	0.0099
36 to 42	0.0123	0.0163	0.0113	0.0105	0.0107	0.0088	0.0078	0.0076	0.0073	0.0091
42 to 48	0.0000	0.0170	0.0114	0.0081	0.0059	0.0078	0.0076	0.0068	0.0038	0.0076
48 to 54	0.0133	0.0026	0.0080	0.0108	0.0062	0.0068	0.0066	0.0058	0.0078	0.0069
54 to 60	0.0146	0.0040	0.0109	0.0083	0.0069	0.0073	0.0049	0.0046	0.0000	0.0063
60 to 66	0.0164	0.0042	0.0080	0.0067	0.0057	0.0053	0.0048	0.0061	0.0000	0.0057
66 to 72	0.0183	0.0057	0.0044	0.0078	0.0044	0.0056	0.0059	0.0072	0.0000	0.0061
72 to 78	0.0000	0.0120	0.0037	0.0064	0.0084	0.0052	0.0069	0.0083	0.0000	0.0069
78 to 84	0.0000	0.0017	0.0070	0.0032	0.0073	0.0064	0.0065	0.0057	0.0000	0.0059
84 to 90	0.0142	0.0106	0.0021	0.0062	0.0095	0.0074	0.0092	0.0078	0.0000	0.0080
90 to 96	0.0000	0.0101	0.0057	0.0030	0.0088	0.0066	0.0098	0.0058	0.0000	0.0074
96 to 102	0.0089	0.0067	0.0051	0.0032	0.0034	0.0061	0.0084	0.0041	0.0000	0.0058
102 to 108	0.0000	0.0050	0.0072	0.0078	0.0063	0.0070	0.0078	0.0102	0.0000	0.0073
108 to 114	0.0111	0.0058	0.0016	0.0039	0.0062	0.0042	0.0074	0.0058	0.0000	0.0054
114 to 120	0.0000	0.0129	0.0051	0.0052	0.0061	0.0058	0.0070	0.0000	0.0000	0.0062
120 to 132	0.0068	0.0072	0.0047	0.0043	0.0045	0.0042	0.0074	0.0000	0.0000	0.0053
132 to 144	0.0000	0.0044	0.0047	0.0064	0.0052	0.0092	0.0097	0.0000	0.0000	0.0072
144 to 156	0.0000	0.0000	0.0048	0.0045	0.0044	0.0040	0.0069	0.0000	0.0000	0.0044
156 to 168	0.0100	0.0089	0.0061	0.0032	0.0087	0.0037	0.0087	0.0000	0.0000	0.0062
168 to 180	0.0000	0.0041	0.0073	0.0021	0.0014	0.0085	0.0000	0.0000	0.0000	0.0044
180 to 192	0.0000	0.0000	0.0036	0.0000	0.0062	0.0023	0.0000	0.0000	0.0000	0.0028
192 to 204	0.0000	0.0000	0.0042	0.0074	0.0029	0.0093	0.0000	0.0000	0.0000	0.0049
204 to 216	0.0000	0.0000	0.0000	0.0073	0.0000	0.0000	0.0000	0.0000	0.0000	0.0014
216 to 228	0.0000	0.0316	0.0117	0.0000	0.0176	0.0000	0.0000	0.0000	0.0000	0.0121
228 to 240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Number of Terminations Males 6 month deferred period										
	Age at disability									
Months	22 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 59	60 - 62	Grand Total
6 to 7	-	3	9	13	15	19	19	10	3	91
7 to 8	2	2	12	14	19	23	31	15	9	127
8 to 9	-	5	10	18	7	22	31	15	5	113
9 to 10	2	3	8	13	12	16	22	16	5	97
10 to 11	1	5	11	13	17	22	19	16	3	107
11 to 12	1	6	7	20	10	16	27	14	8	109
12 to 15	3	8	23	41	35	44	49	44	15	262
15 to 18	2	13	19	26	38	36	58	44	14	250
18 to 21	1	6	24	29	25	36	29	35	14	199
21 to 24	2	3	13	29	35	26	44	36	11	199
24 to 27	1	9	14	18	14	36	32	29	4	157
27 to 30	3	6	13	16	25	31	42	27	11	174
30 to 33	-	7	20	26	21	32	42	31	9	188
33 to 36	3	7	8	23	14	28	38	35	9	165
36 to 42	3	16	21	31	45	52	59	48	11	286
42 to 48	-	15	19	22	23	42	53	39	4	217
48 to 54	3	2	12	27	23	34	43	30	5	179
54 to 60	3	3	15	19	24	34	30	22	-	150
60 to 66	3	3	10	14	18	22	27	26	-	123
66 to 72	3	4	5	15	13	22	31	26	-	119
72 to 78	-	8	4	11	23	19	33	25	-	123
78 to 84	-	1	7	5	18	22	28	14	-	95
84 to 90	2	6	2	9	21	23	36	15	-	114
90 to 96	-	5	5	4	17	18	34	8	-	91
96 to 102	1	3	4	4	6	15	26	4	-	63
102 to 108	-	2	5	9	10	15	21	7	-	69
108 to 114	1	2	1	4	9	8	17	2	-	44
114 to 120	-	4	3	5	8	10	14	-	-	44
120 to 132	1	4	5	7	10	12	22	-	-	61
132 to 144	-	2	4	8	9	19	16	-	-	58
144 to 156	-	-	3	4	6	6	6	-	-	25
156 to 168	1	3	3	2	9	4	3	-	-	25
168 to 180	-	1	3	1	1	6	-	-	-	12
180 to 192	-	-	1	-	3	1	-	-	-	5
192 to 204	-	-	1	2	1	2	-	-	-	6
204 to 216	-	-	-	1	-	-	-	-	-	1
216 to 228	-	1	1	-	2	-	-	-	-	4
228 to 240	-	-	-	-	-	-	-	-	-	-
Grand Total	42	168	325	503	586	773	982	633	140	4 152

Appendix E: Tables for each graph

Graph 1: Distribution of exposure and terminations by calendar year

Year	Terminations	Exposure (years)
1986	13	203
1987	66	492
1988	75	810
1989	115	1 182
1990	170	1 494
1991	167	1 810
1992	299	3 056
1993	375	3 581
1994	662	6 368
1995	726	6 817
1996	737	7 265
1997	742	7 815
1998	756	8 361
1999	763	8 861
2000	853	9 337
2001	991	9 864
2002	982	10 235
2003	1 107	10 398
2004	1 386	13 008
2005	1 594	14 193

Graph 2: Annualised termination rate by salary band

Salary Band	3 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
Less than R60 000	0.210	0.176	0.123	0.075	0.068
R60 000 to R120 000	0.208	0.146	0.129	0.074	0.055
More than R120 000	0.180	0.124	0.092	0.054	0.043

Graph 3: Terminations as a percentage of GLTD by salary band: 3 month DP

Salary Band	3 – 6 months	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
Less than R60 000	23%	64%	112%	138%	172%	221%
R60 000 to R120 000	26%	58%	81%	160%	152%	170%
More than R120 000	29%	58%	79%	100%	115%	135%

Graph 4: Terminations as a percentage of GLTD by salary band: 6 month DP

Salary Band	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
Less than R60 000	73%	106%	127%	168%	208%
R60 000 to R120 000	71%	98%	109%	185%	182%
More than R120 000	50%	82%	106%	140%	130%

Graph 5: Annualised termination rate by age at disability

Age Band	3 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
<35	0.314	0.231	0.185	0.080	0.053
35-40	0.240	0.203	0.138	0.072	0.052
40-45	0.234	0.168	0.112	0.064	0.059
45-50	0.197	0.131	0.102	0.061	0.060
50-55	0.180	0.130	0.108	0.071	0.064
>55	0.125	0.131	0.103	0.074	-

Graph 6: Terminations as a % of GLTD by age at disability: 3 month DP

Age Band	3 - 6 months	6 -12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
<35	22%	61%	86%	145%	141%	233%
35-40	21%	54%	84%	103%	155%	177%
40-45	28%	63%	81%	125%	137%	188%
45-50	26%	61%	89%	118%	145%	180%
50-55	31%	60%	93%	156%	167%	151%
>55	24%	67%	154%	175%	158%	0%

Graph 7: Terminations as a % of GLTD by age at disability: 6 month DP

Age Band	6 -12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
<35	78%	99%	97%	139%	176%
35-40	64%	108%	118%	145%	171%
40-45	60%	101%	83%	162%	177%
45-50	61%	71%	109%	161%	173%
50-55	77%	100%	132%	189%	215%
>55	67%	123%	167%	191%	-

Graph 8: Annualised termination rate by gender

Gender	3 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
Male	0.189	0.139	0.086	0.051	0.044
Female	0.208	0.162	0.131	0.077	0.063

Graph 9: Terminations as a % of GLTD by gender: 3 month DP

Gender	3 – 6 months	6 – 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
Male	23%	58%	89%	84%	119%	141%
Female	26%	62%	97%	159%	165%	201%

Graph 10: Terminations as a % of GLTD by gender: 6 month DP

Gender	6 – 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
Male	56%	78%	95%	111%	140%
Female	73%	108%	126%	190%	197%

Graph 11: Termination rates for males by age group relative to GLTD

Age Band	3 - 24 months	>24 months
<35	64%	157%
35-40	64%	154%
40-45	63%	161%
45-50	64%	164%
50-55	71%	190%
>55	76%	184%

Graph 12: Termination rates for females by age relative to GLTD

Age Band	3 - 24 months	>24 months
<35	57%	112%
35-40	54%	113%
40-45	60%	100%
45-50	48%	104%
50-55	58%	112%
>55	68%	135%

Graph 13: Annualised termination rate by deferred period

DP	6- 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
3	0.220	0.163	0.127	0.066	0.058
6	0.193	0.146	0.108	0.073	0.057

Graph 14: Terminations as a percentage of GLTD by deferred period

DP	6- 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
3	61%	95%	136%	151%	184%
6	68%	98%	116%	166%	181%

Graph 15: Termination rates as a percentage of GLTD by escalation category

Escalates	3 - 6 months	6 - 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
No	33%	83%	117%	163%	184%	236%
Yes	23%	58%	90%	115%	146%	143%

Graph 16: Termination rate as a % of GLTD by escalation category: 3 month DP

Escalates	3 – 6 months	6- 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
No	33%	69%	110%	186%	176%	241%
Yes	23%	59%	90%	121%	139%	141%

Graph 17: Termination rate as a % of GLTD by escalation category: 6 month DP

Escalates	6- 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
No	100%	127%	139%	194%	228%
Yes	56%	89%	108%	153%	145%

Graph 18: Annualised termination rates by cause of disability

Cause	3 – 6 months	6- 12 months	12 - 24 months	24 - 36 months	>36 months
Cancer	0.452	0.498	0.356	0.208	0.105
HIV/AIDS	0.245	0.429	0.365	0.261	0.218
Respiratory	0.189	0.168	0.153	0.119	0.088
Cardiac/Circulatory	0.100	0.106	0.103	0.101	0.077
Neuro/Psych	0.044	0.059	0.067	0.070	0.047
Muscoskeletal	0.088	0.059	0.058	0.078	0.052
Other	0.178	0.167	0.115	0.113	0.068

Graph 19: Terminations as a percentage of GLTD by calendar year

Year	Termination rate
1991	60%
1992	63%
1993	70%
1994	74%
1995	81%
1996	79%
1997	76%
1998	74%
1999	74%
2000	79%
2001	86%
2002	86%
2003	102%
2004	106%
2005	109%

Graph 20: Annualised termination rate by calendar year and duration

Year	3 – 12 months	12 – 24 months	24 – 36 months	>36 months
1996	0.145	0.108	0.123	0.076
1997	0.119	0.104	0.110	0.078
1998	0.126	0.110	0.116	0.065
1999	0.092	0.112	0.099	0.071
2000	0.123	0.141	0.120	0.061
2001	0.144	0.125	0.091	0.082
2002	0.200	0.151	0.104	0.056
2003	0.242	0.165	0.131	0.062
2004	0.242	0.164	0.120	0.070
2005	0.247	0.179	0.136	0.069

Graph 21: Terminations as a percentage of GLTD by insurance company and duration: 3 months DP

Insurer	3 – 6 months	6- 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
1	23%	52%	75%	113%	148%	210%
2	34%	74%	102%	114%	132%	111%
3	16%	50%	101%	161%	167%	255%
4	18%	63%	85%	158%	162%	218%

Graph 22: Terminations as a percentage of GLTD by insurance company and duration: 6 months DP

Insurer	6- 12 months	12 - 24 months	24 - 36 months	36 - 120 months	> 120 months
1	84%	94%	110%	176%	218%
2	66%	93%	104%	129%	123%
3	60%	110%	135%	213%	283%
4	17%	98%	136%	182%	172%