

TRUE SOUTH ACTUARIES & CONSULTANTS

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# DISABILTY COVER

Assessing the efficiency of the South African  
insurance market in its provision of disability cover

March 2013





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### **An Allegory**

*A disability event is like your ship disappearing below the surface of the ocean. At that point you need a lifeboat (temporary disability cover) to get you to your island (permanent disability cover) in order for life to go on.*

*Unfortunately the current situation in the South African market is similar to that of the Titanic – if the ship should sink (i.e. a disability event occurs), there simply aren't enough life boats (temporary disability cover) on board. Most passengers will have to brave the icy waters by themselves...*

*In addition, most of the shipwrecked will be faced with the stark reality that there is no island (permanent disability cover) in sight. They will have very little choice but to try and remain afloat for as long as they can...*

*For those who are fortunate enough to make it to their island (permanent disability cover) too many have opted for a large container full of food on day one, from which they must now live for many years (i.e. they chose a lump sum disability benefit). Only a select few made the wise choice of pre-ordering regular delivery of fresh food (i.e. an income replacement disability benefit).*

*"Risk comes from not knowing what you're doing" - Warren Buffett*



## **1 Terms of reference**

FMI retained True South Actuaries and Consultants to investigate the market for disability cover in South Africa and report on such efficiencies and inefficiencies as are found. This report contains our findings and is addressed to the management of FMI.

## **2 Sources of information**

In order to assess the efficiency of the market in providing disability cover to South African earners, we obtained information and data from FMI and also included the following main items in our investigation:

- The composition of new insurance business being sold to South African consumers (*Swiss Re Individual Risk Market New Business Volume Survey*);
- The extent to which South African earners have adequate levels of insurance according to the 2010 True South Insurance Gap Study (hereafter referred to as the *2010 Gap Study*); and
- The Momentum/Unisa Household Financial Wellness Index for 2011.

## **3 Approach**

We define our point of departure in relation to our understanding of why a consumer would need disability cover (section 6 below).

Thereafter we assess the extent to which South African consumers already have adequate levels of permanent disability cover (section 7 below) and temporary disability cover (section 8 below).

Lastly we consider the make-up of new business sold in the retail insurance market (section 9) in order to comment on implied efficiencies and inefficiencies (sections 10 to 13).

## **4 Acknowledgements**

We would like to acknowledge the team at Swiss Re who assisted us with information from their 2011 new business volume survey. Specific thanks in this regard to Mr Ian Etheridge (Executive Head of Swiss Re Life & Health Africa Ltd), who got involved personally and Ms Nadine van Niekerk, who responded so promptly to our requests.



## 5 Summary of results

### 5.1 The market offers a sensible product suite, but not enough cover is sold

- Considering the consumer's financial exposure in the event of disability, we conclude that the market is efficient insofar as it offers a product suite that can sensibly be used to protect against the financial risk of disability.
- However, not enough cover has been sold historically to ensure appropriate levels of cover being in place:
  - Permanent disability: The extent of underinsurance for permanent disability has been a known fact since the 2007 Gap Study. Despite the availability of appropriate insurance products, the 2010 update showed that still only 38% of the true need for permanent disability cover in South Africa is actually covered (i.e. with the underinsurance gap accounting for the balance 62% of the real need). The retail insurance industry must increase its current provision of permanent disability cover more than six-fold in order to close this gap.
  - Temporary disability: This study for FMI now also quantifies the extent of underinsurance for temporary disability. The results show that temporary disability is even more underinsured, with potentially only between 7% and 25% of the true need for temporary disability cover actually being covered (i.e. with the underinsurance gap accounting for the balance 75% to 93% of the need). The retail insurance industry would have to increase its provision of temporary disability cover by a factor of between twenty-nine and seventy-nine times in order to close this gap.
- Given the extent of underinsurance of disability cover, we conclude that there must be market inefficiencies and/or constraints, preventing market participants from solving this imbalance. In addition, the proportionally larger degree of underinsurance for temporary disability than for permanent disability, points to the fact that there might well be additional inefficiencies that result in sales being skewed towards permanent disability cover (away from temporary cover).



## 5.2 At a macro level the mix between life, disability and critical illness is wrong

### 5.2.1 Relative to life cover, too little disability is sold

- From the Swiss Re info, we see a relatively stable picture over recent years, with around 60% of sold cover being life cover, 30% disability cover and 10% critical illness cover.
- It is surprising that life cover is sold at double the level of disability cover, since theoretical reasons exist why we would have expected the relativity to be the other way round.
- We conclude that there is evidence of market inefficiency that overly skews the sale of new insurance cover towards life cover (away from disability cover).

### 5.2.2 Relative to critical illness, too little disability is sold

- In relation to the levels of life cover and disability cover that are sold, the level of critical illness cover is surprisingly high. There is a possibility that this might point to some consumers perhaps incorrectly buying critical illness cover as a proxy for disability cover.
- We conclude that there is evidence of inefficiencies that result in an inappropriate balance between the levels of critical illness cover and disability cover being sold.

## 5.3 The internal mix of disability cover being sold is not always appropriate

The previous sub-section considered the big picture sales mix, i.e. sales of disability cover against the other main cover types. In this section we consider the internal make-up of disability sales.

### 5.3.1 Sales are overly skewed to permanent cover away from temporary

- Information on new sales in recent years show that temporary cover is probably undersold in lieu of permanent cover by a factor of around four.
- We conclude that there is evidence of market inefficiency that overly skews the sale of new disability cover towards permanent cover (away from temporary cover).



### 5.3.2 Sales are overly skewed to lump sum cover away from income cover

- New sales of permanent disability cover show a heavy skew in favour of lump sum benefits, which could point to some consumers buying lump sum benefits for use as income replacement. This would expose the consumer (perhaps unknowingly) to a number of material, additional risks. E.g. just protecting against the market risk element could require the consumer to buy between 32% and 41% additional lump sum benefits (or have access to such a level of reserve assets otherwise).
- It is questionable whether the average consumer has sufficient understanding of the extent to which he/she is exposing himself/herself to risk in the process. Even if the consumer did understand these risks, it might still not be entirely fair for the market to offload these risks onto the individual. A resource rich insurer would be far better equipped to carry these risks.
- We conclude that there might well be proof of market inefficiency insofar as the sale of permanent disability cover is skewed towards lump sum benefits (away from income benefits).

### 5.3.3 About half of permanent cover is sold on an accelerated basis

- In recent years roughly half of all permanent disability cover is provided on a stand-alone basis, with the other half being accelerated.
- We theoretically expect the average consumer to buy around 43% more disability cover than life cover. If disability cover is bought on an accelerated basis, it would thus be important to ratio-up the amount of life cover appropriately. If this is not done, it might imply that the consumer is potentially underinsured for permanent disability (even though he/she might be under the impression that an adequate level of cover is in place).
- In addition the sales process must allow for the fact that an accelerated disability pay-out would reduce the amount of remaining life cover. E.g. if the life cover is intended to provide for estate duties, accelerating it in the event of disability will eventually leave the estate financially exposed.
- While we don't have proof of market inefficiency in this regard, there are some questions as to whether the average consumer has sufficient understanding of his/her needs and the available products, to ensure correct usage of accelerated cover.



## 6 Background: Needs, products and sensible buying behaviour

### 6.1 Consumer needs

Disability cover protects the individual against the financial impact of a disability event. For our purposes we define a disability event as one which materially impairs the individual's ability to continue earning an income (or stated differently, to continue with her/his occupation).

In essence the financial impact could theoretically have the following two components:

- Once-off expenditures required, e.g. to effect the lifestyle changes that might be required due to the disability and to settle outstanding debt.
- Replacing the individual's income up to retirement age (beyond which normal retirement provision must provide an income).

### 6.2 Products available in the insurance market

The insurance market provides two distinct products that consumers can use to protect themselves against the financial impact of a disability event, being temporary disability cover and permanent disability cover.

These can be explained allegorically as follows: *A disability event is like your ship disappearing below the surface of the ocean. At that point you need a lifeboat (temporary disability cover) to get you to your island (permanent disability cover) in order for life to go on.*

The two sub-sections below provide more detail on these two cover types.

#### 6.2.1 Temporary disability cover

- This cover generally comes with short waiting periods and thus provides an income benefit from shortly after the disability event.
- The benefit is not conditional on the disability condition being permanent.
- The benefit is paid until the earlier of full recovery or the expiry of a pre-selected period (say 24 months).
- The consumer can use this cover to replace income from shortly after the disability event, but it only pays a benefit for a short period of time (hence "temporary").



### 6.2.2 Permanent disability cover

- Permanent disability cover is paid out after a waiting period, or once the permanence of the condition is clinically certified (i.e. with no or very slim chance of recovery). In some instances the waiting periods can be fairly long, up to 24 months.
- The cover is available in two distinct benefit formats, being either lump sum cover (which pays out a once-off, lump sum benefit) or an income benefit (which pays a monthly benefit until retirement age or earlier rehabilitation).

### 6.3 Sensible buying behaviour in an unconstrained scenario

We would theoretically expect a well-informed consumer to buy the following basket of disability protection (in the absence of any constraints):

#### 6.3.1 Temporary disability cover

To provide an income from the date of the disability event until the start of benefits from his/her permanent disability cover. The benefit amount should closely mimic the income that will fall away due to the disability, after allowance for any other protection or provision that might be in place (e.g. an employer scheme).

#### 6.3.2 Permanent disability lump sum cover

To provide for once-off expenses that might be required. The benefit amount would depend on the specific circumstances of the individual, e.g. outstanding debts that have to be settled, business assurance needs and such preparations as may be required for the major lifestyle changes as a result of the disability.

#### 6.3.3 Permanent disability income cover

To provide an income until retirement age, starting from the date that benefits under his/her temporary disability cover terminates. As in the case of the temporary cover, the benefit amount should closely mimic the income that has fallen. Again, the cover should be after allowance for other protection or provision that might be in place.

### 6.4 Conclusion: The market offers an appropriate product range

Against the background of the consumer's financial exposure in the event of disability, we conclude that the market is efficient insofar as it offers products that can effectively be used to protect against these risks.



## 7 Existing levels of permanent disability insurance

Sections 7.1, 7.2 and 7.3 below are clipped from the 2010 Gap Study, which followed on the 2007 study and showed an increase in the extent of underinsurance in the South African market. While the rest of the discussion focusses on the disability insurance gap, information on the death insurance gap is also reproduced in order to provide some additional context for the analysis<sup>1</sup>.

### 7.1 2010 Death Insurance Gap

If South African households would want to maintain their standards of living after the death of an *Earners*<sup>2</sup>, the *Insurance Need* for a death event for all employed South African *Earners* is probably in the region of R11.7 trillion (1 trillion = 1000 billion = 10<sup>12</sup>). The actual extent of death cover in force in the economy only amounts to R4.4 trillion. This leaves a death *Insurance Gap* of around R7.3 trillion.

### 7.2 2010 Disability Insurance Gap

Similarly the *Insurance Need* for *Disability* cover is likely to be in the region of R18.7 trillion. Actual *Disability* cover, however, only amounts to about R7.6 trillion. This leaves a *Disability Insurance Gap* of around R11.1 trillion.

### 7.3 Detail of the 2010 gap calculation

The table below provides more detail to illustrate how the *Insurance Gap* is derived as the difference between the *Insurance Need* and the *Actual Cover*.

R-billion	Death	Disability
<b>Insurance Need</b>	11 683	18 714
<b>Total income at risk</b>	<i>1 119</i>	<i>1 204</i>
<b>* Replacement ratio</b>	<i>68%</i>	<i>97%</i>
<b>* Capitalisation factor</b>	<i>15.4</i>	<i>15.9</i>
<b>Actual Cover</b>	-4 426	-7 577
<b>Insurance: Retail</b>	-2 495	-1 780
<b>Insurance: Group</b>	-1 930	-3 783
<b>Government grants</b>	-	-2 014
<b>Insurance Gap</b>	7 257	11 137
<b>Gap as % of cover needed</b>	62%	60%

<sup>1</sup> Subsequent sections of this report focus on retail provision of cover and should thus be read in the context of the existing levels of retail cover shown in this section

<sup>2</sup> In these three sub-sections, capitalised terms in italics are as defined in the 2010 Gap Study



## 7.4 Comments and conclusions

### 7.4.1 South Africa is faced with a big permanent disability gap

Insurance provides the consumer with the ability to avoid the financial impact of a potentially catastrophic risk (which has a small, uncertain likelihood of occurring) for a much smaller, but guaranteed, financial consideration (being the premiums that must be paid under an insurance policy).

As can be seen above, irrespective of the availability of appropriate insurance products in South Africa (refer to section 6 above), only 38% of the true underlying need for permanent disability cover is actually covered (i.e. with the gap accounting for the balance 62% of the need).

### 7.4.2 The permanent disability gap has potentially serious implications

The very large Rand-value of the permanent disability gap (at R11 137 billion), provides a clear clue about the extent to which South African earners are financially exposed to the risk of permanent disability. Without adequate cover, those who become disabled may be forced to drop their living standards or could even face total financial ruin.

*Continuing with the shipwreck allegory introduced in section 6.2 above, we conclude that if the ship should sink (i.e. a disability event occurs), most passengers will be faced with the stark reality that there is no island (permanent disability cover) nearby. I.e. they will have very little choice but to try and remain afloat for as long as they can...*

### 7.4.3 The retail insurance industry can play a role to correct this imbalance

It is unlikely that Government will increase its provision of cover in the permanent disability market, given that the social grant system already provides quite well for those in the lower income segments.

Similarly, increases in group provision will probably rely mainly on increased levels of employment. This leaves the retail insurance industry as the source of cover for any individual earner who is concerned about his/her risk in this regard and who wishes to be covered against the financial impact thereof.



In a perfect market, without any constraints, the retail insurance industry would have the opportunity to increase its provision of permanent disability cover more than six-fold in order to close the gap (i.e. closing the R11 137 billion 2010-gap, by moving from its 2010-base of R1 780 billion active cover).

#### 7.4.4 Conclusion: Too little permanent disability cover is in place

Given the large gap for permanent disability cover, we conclude that there are market inefficiencies and/or constraints, preventing it from solving the clear imbalance that is present.



## **8 Existing levels of temporary disability insurance**

This section considers (in 2010 terms) the theoretical need for temporary disability cover for earners in the South African market. The estimated level of actual cover that was in place in 2010 is contrasted against the theoretical need in order to quantify the level of adequacy of temporary disability cover in the market. This was done using the assumptions detailed below.

### **8.1 Assumptions made**

#### **8.1.1 Average duration for which you need temporary disability cover**

For this section we assume that temporary disability spans the first six months after the disability incident (e.g. that permanence is established after six months in order for permanent disability benefits to become payable).

#### **8.1.2 The reduction in need due to the availability of sick & other leave**

Earners in formal employment will have sick leave and normal leave as a first buffer after the disability event. To quantify the extent to which this reduces the gross need, we used estimates of the number of active members of all pension schemes in 2010 as a proxy for the number of earners in employment (after adjusting information from the Registrar of Pension Schemes for assumed levels of duplicate membership).

#### **8.1.3 The extent of temporary disability cover that is in place in the market**

The likely range, within which retail provision of temporary disability cover was in 2010, was estimated using public domain industry information as well as further information and estimates provided by FMI.

In the case of group provision of temporary disability cover, the likely range of existing cover was estimated by reference to the total level of permanent disability cover in the 2010 Gap Study and assumptions about the extent to which these arrangements has proportionally similar cover in place for temporary disability.

Given our choice of a six month term above, Government is not a provider for temporary disability cover, since the temporary disability grant is only available once disability exceeds six month duration.



## 8.2 The temporary disability cover gap

Against the background and assumptions set out above, the temporary disability cover gap is calculated in the table below (R-billion, 2010 terms)<sup>3</sup>.

R-billion	High gap estimate	Low gap estimate
<b>Gross need</b>	602	602
<b>Total income at risk</b>	1 204	1 204
<b>* Replacement ratio<sup>4</sup></b>	100%	100%
<b>* Time factor (portion of year)</b>	0.5	0.5
<b>- Allowance for all paid leave</b>	37	86
<b>Net need</b>	565	516
<b>Actual Cover</b>	40	131
<b>Insurance: Retail</b>	6	13
<b>Insurance: Group</b>	33	119
<b>Government grants</b>	-	-
<b>Insurance gap</b>	525	385
<b>Gap as % of the net need</b>	93%	75%

## 8.3 Comments and conclusions

### 8.3.1 South Africa is faced with a big temporary disability gap

As can be seen above, potentially only between 7% and 25% of the true underlying need for temporary disability cover is actually covered in South Africa (i.e. with the gap accounting for the balance 75% to 93% of the need).

*Continuing with the shipwreck allegory introduced in section 6.2 above, we can compare our current situation with that of the Titanic – if the ship should sink (i.e. a disability event occurs), there simply aren't enough life boats (temporary disability cover) on board to ensure that everyone will reach the island (permanent disability cover). Most passengers will have to brave the icy waters by themselves...*

### 8.3.2 The temporary gap is proportionally worse than the permanent gap

At best the temporary disability gap accounts for 75% of the need (but it could be as high as 93%). This is a materially worse position than for permanent disability, where around 38% of the need is covered (i.e. the gap accounts for 62% of the need).

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<sup>3</sup> Obtained by varying the uncertain items in sections 8.1.2 and 8.1.3 between sensible lower and upper levels

<sup>4</sup> We assume one would initially want to replace one's entire income during the period of temporary disability



### 8.3.3 The temporary gap has potentially serious implications

While the Rand-value of the temporary disability gap (varying between R385 billion and R525 billion) is small in comparison to the Rand-value of the permanent disability gap (which stands at R11 137 billion), the effect can well be very serious, given the relatively precarious economic conditions in which we currently find ourselves as a South African society.

- The Momentum/Unisa Household Financial Wellness Index for 2011 showed the average South African household to be in the drifting unwell category. As such we are on average particularly vulnerable to detrimental changes in financial circumstances that can easily push you into the anchored unwell category. Quoting from the actual report: *“Once in that [anchored unwell] category, it will be difficult to improve the situation”*.
- According to data held by registered credit bureaus in terms of the National Credit Act, only 38.6% of South Africa’s 19.6 million credit active consumers were current with their repayments as at mid-2012<sup>5</sup>.

Against this economic background, it is easy to understand the potentially catastrophic results (in a financial sense) for the average household if the earner should be without income for the initial months after becoming disabled. Unfortunately this risk remains even where that earner has adequate permanent disability cover.

### 8.3.4 The retail insurance industry can play a role to correct this imbalance

As in the case of permanent disability cover (per section 7.4.3 above), we are again probably left with the retail insurance industry as the main source of additional cover for any individual earner who is concerned about his/her temporary disability risk and who wishes to be protected against the financial impact thereof.

In a perfect market, without any constraints, the retail insurance market would thus have the potential to increase its provision of temporary disability cover by between twenty-nine and seventy-nine times (i.e. to close the gap of between

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<sup>5</sup> Source: The NCR’s Credit Bureau Monitor (June 2012)



R385 billion and R525 billion from its 2010-base of between R6 billion and R13 billion of active cover).

#### 8.3.5 Conclusion: Too little temporary disability cover is in place

- Given the gap for temporary disability cover, we conclude that there are market inefficiencies and/or constraints, preventing it from solving the imbalance in this regard.
- In addition, given the proportionally larger degree of underinsurance for temporary disability than for permanent disability, we conclude that there might well be additional inefficiencies that result in sales being skewed towards permanent cover (away from temporary cover).



## 9 An analysis of new cover being sold in the retail insurance market<sup>6</sup>

### 9.1 Introduction

In the previous two sections we established [a] that the market is not providing enough disability cover (in 2010 and relating to both permanent and temporary) and [b] that the retail insurance market is the most likely player who can address these imbalances. The focus now moves to considering the make-up of new cover that has been sold in the retail insurance market in recent years.

This section serves as an introduction and provides a high level view of new retail insurance business sold from 2007 to 2011. The subsequent sections provide more detailed discussion in order to comment on implied efficiencies and inefficiencies of the market.

The analysis is by reference to summary information obtained from Swiss Re from their 2011 annual new business study (*Swiss Re Individual Risk Market New Business Volume Survey*) which covers the five years from 2007 to 2011 and which is appended hereto.

### 9.2 The sales mix at a macro level: Life versus disability versus critical illness

The table below provides a macro view on how overall new sales are split between the core long-term insurance cover types (being life cover, disability cover and critical illness cover).

	2007	2008	2009	2010	2011
<b>Life cover</b>	60%	58%	59%	60%	61%
<b>Disability cover</b>	31%	33%	31%	31%	30%
<b>Critical illness cover</b>	9%	9%	10%	9%	9%

The mix of sales between the three core cover types is discussed in more detail in section 10 below. As set out in that section, disability cover for the average consumer might well have to be at a level of between 140% and 150% of the correct life cover level (and not 50% thereof as is the case currently).

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<sup>6</sup> From this section forward, only retail sales are considered. As such references to the 2010 Gap Study are in the context of the level of retail cover shown therein (i.e. excluding group and Government cover)



### 9.3 Disability cover: Permanent versus temporary

Having already established that there is a worse extent of underinsurance for temporary disability cover than for permanent disability cover (in sections 7 and 8 above), the table below shows how new sales of disability cover were split between permanent and temporary cover<sup>7</sup>. This is discussed in section 11 below and sets out the theoretic expectation for temporary cover to be around 3% of the level of permanent cover (and not 0.8% as currently as shown below).

	2007	2008	2009	2010	2011
<b>Permanent cover</b>	99.4%	99.7%	99.5%	99.3%	99.2%
<b>Temporary cover</b>	0.6%	0.3%	0.5%	0.7%	0.8%

### 9.4 Permanent disability cover: Lump sum versus income

Of the permanent disability cover that was sold in the industry since 2007, the biggest portion was lump sum cover as shown in the table below (which shows how sales were split between lump sum and income benefits).

	2007	2008	2009	2010	2011
<b>Lump sum benefits</b>	91%	87%	86%	85%	83%
<b>Income benefits</b>	9%	13%	14%	15%	17%

This is discussed in section 12 below and sets out that the vast majority of cover should probably be income benefits if consumers made perfectly informed choices to avoid undue risk (compared to only 17% of current sales being income cover).

### 9.5 Permanent disability cover: Standalone versus accelerated

Similar to the previous sub-section, the table below provides information on the make-up of permanent disability cover that was sold between 2007 and 2011. This time the cross-section considers standalone cover against accelerated cover, with further discussion in section 13 below.

	2007	2008	2009	2010	2011
<b>Standalone cover</b>	43%	39%	43%	46%	49%
<b>Accelerated cover</b>	57%	61%	57%	54%	51%

<sup>7</sup> Our figures here are after adjustment; the Swiss Re cover levels for temporary disability are derived by multiplying the annual temporary benefit by 2; our adjustment was to achieve consistency with our use of a six month temporary definition for the illustration done in the previous section



## 10 Retail sales mix at a macro level

### 10.1 Macro relativities

From the Swiss Re info, we see a relatively stable picture over time, with around 60% of sold cover being life cover, 30% disability cover and 10% critical illness cover.

	2007	2008	2009	2010	2011
<b>Life cover</b>	60%	58%	59%	60%	61%
<b>Disability cover</b>	31%	33%	31%	31%	30%
<b>Critical illness cover</b>	9%	9%	10%	9%	9%

### 10.2 Comments and conclusions

#### 10.2.1 Disability cover is probably undersold relative to life cover

It is surprising that life cover is sold at double the level of disability cover, since theoretical reasons exist why we would have expected the relativity to be the other way round. As set out below disability cover for the average consumer might well have to be at a level of between 140% and 150% of the correct life cover level (and not 50% thereof as is the case currently):

#### Disability requires more of your income to be replaced than death

- An earner who buys cover to provide for his family should on average be calculating the required level of cover to replace 68% of his/her income after death (replacement factor per the 2010 Gap Study).
- By contrast the required level of disability cover should be calculated to replace 97% of income (replacement factor per the 2010 Gap Study).
- The reason why the required replacement is higher in the case of disability is mainly because the earner would still be present in the household after becoming disabled.
- By reference to these replacement ratios, we would thus expect earners with households to buy on average 43% more disability cover than life cover.
- In the case of an earner without a household, the differential is obviously expected to be much bigger (to the point where there might even be no need whatsoever for life cover).



### The starting position is that of a disability gap that far exceeds the death gap

- As shown in the 2010 Gap Study, the absolute value of disability underinsurance (R11 137 billion) far exceeds the value of life cover underinsurance (R7 257 billion).
- To the extent that existing insured lives are correcting their insurance portfolios, we would thus expect their buying of additional cover (to close the gap) to be made up of extra disability cover amounts that exceed the extra life cover by a factor in the order of 50%.

#### 10.2.2 By relation to the other cover types, critical illness might be oversold

In relation to the levels of life cover and disability cover that are sold, the level of critical illness cover is surprisingly high.

- For example, if we hypothetically assume that the amount of life cover is intended to replace 68% of income using a capitalisation factor of 15.4 (i.e. parameters from the 2010 Gap Study in order to perfectly cover the theoretical need), it means that consumers are buying critical illness cover amounting on average to 1.7 times their annual income.
- If so, it could either be that consumers are buying excessive amounts of critical illness insurance or that they perhaps misunderstand this type of cover (e.g. being bought as a proxy for disability cover).
- However, it could also be that the correct level of critical illness is bought, with the other two cover types being at totally incorrect levels (for whatever reasons).

#### 10.2.3 Conclusion: New sales are potentially skewed away from disability cover

- We conclude that there is evidence of market inefficiency that overly skews the sale of new insurance cover towards life cover (away from disability cover).
- In addition there is evidence of inefficiencies that result in an inappropriate balance between the levels of critical illness cover and disability cover being sold.



## 11 Retail sales of disability cover: Permanent versus temporary

### 11.1 Macro relativities

After adjustment of the Swiss Re data as mentioned in section 9 above, the data shows new sales of disability cover to be heavily skewed towards permanent disability cover, with the extent of this skew being fairly stable over the period from 2007 to 2011.

	2007	2008	2009	2010	2011
<b>Permanent disability</b>	99.4%	99.7%	99.5%	99.3%	99.2%
<b>Temporary disability</b>	0.6%	0.3%	0.5%	0.7%	0.8%

### 11.2 Comments and conclusions

#### 11.2.1 We expect more permanent cover to be sold

We naturally expect first time buyers of insurance to buy more permanent cover than temporary cover (given that temporary cover is intended for a much shorter period of time). However the relativity exhibited in new sales seems to be overly skewed towards permanent disability cover.

- By reference to the average capitalisation factor for permanent disability in the 2010 Gap Study (15.9) and the six month period required for temporary disability in the previous section, we theoretically expect temporary cover to be around 3% of the level of permanent cover.
- I.e. recent sales of temporary cover were probably undersold in lieu of permanent cover by a factor of around four.
- In the assumption that this under-emphasis of temporary cover has also been present historically, it may well be a factor that [part] explains why temporary disability cover is relatively more underinsured compared to permanent disability cover (refer sections 7 and 8 above).

#### 11.2.2 Conclusion: Disability sales are potentially skewed towards permanent cover

We conclude that there is evidence of market inefficiency that overly skews the sale of new disability cover towards permanent cover (away from temporary cover).



## 12 Retail sales of permanent cover: Lump sum versus income

### 12.1 Macro relativities

From the Swiss Re data, it is evident that lump sum benefits are strongly outselling income benefits. However, the relativity seems to be changing, roughly from an initial 90/10 ratio, to a ratio that seems to be approaching 80/20 more recently.

	2007	2008	2009	2010	2011
<b>Lump sum benefits</b>	91%	87%	86%	85%	83%
<b>Income benefits</b>	9%	13%	14%	15%	17%

### 12.2 Comments and conclusions

#### 12.2.1 Lump sum benefits are probably oversold

- As discussed in section 6.3 above, we expect the average consumer to buy a mix of lump sum and income benefits. However, we would expect him/her to buy more income benefits than lump sum, given that the income benefit should be used to replace income up to retirement age, whereas the lump sum benefit should only be used to cover once-off expenditures at the time of becoming disabled.
- As such the skew towards lump sum benefits in new sales, could probably point to consumers who buy lump sum benefits for use as income replacement. While this might be a feasible approach in theory, it exposes the consumer to some risk as is discussed in the next section below.

#### 12.2.2 Relying on lump sum cover for income replacement might be risky

As noted above, there might well be consumers who rely on a lump sum amount to provide them with an income after the disability date. In doing so the consumer effectively exposes himself/herself to a number of material risks (perhaps unknowingly), some of which are briefly noted below:

- From a behavioural economics perspective it is a potentially risky position to suddenly have access to a very large amount of cash (if the purpose of that cash is to provide an income for many years to come). In this regard one only needs to consider the many anecdotal examples of lottery winners who end up financially destitute within just a few years of winning the jackpot prize.



- From a theoretical perspective a lump sum benefit introduces a large element of risk due to the fundamental mismatch between the available asset (essentially a pile of cash) and the liability it is intended to cover (essentially a broadly inflation linked, monthly income requirement over a potentially long future period).
- Some practical examples of mismatching risk in this context could include<sup>8</sup>:
  - Interest and inflation risk – e.g. the investor invests in fixed interest assets and thereafter inflation spikes upward;
  - Equity risk – e.g. the investor invests in a diversified way on the stock market which then subsequently experiences a crash;
  - Concentration risk – e.g. the investor invests a large portion in a single asset that subsequently loses its value; or
  - Currency risk – e.g. the investor invests offshore in a currency that subsequently depreciates against the Rand.
- Protecting against mismatching risk is one of the major tasks of a financial planner when discussing investments. However, even if the consumer invests the proceeds responsibly (say in a balanced portfolio), a very large degree of market risk remains.
- To illustrate the extent hereof:
  - We assume for a moment that a hypothetical life insurer is faced with exactly the same scenario; i.e. it receives a lump sum from which it then has to provide a future income stream that is broadly inflation linked.
  - If this hypothetical insurer were to invest the lump sum in a balanced portfolio, the insurance regulator would require the insurer to hold extra assets to the value of between 32% and 41% of the value of the lump sum (depending on the future term over which the income has to be provided), to cover itself against a one-in-two hundred year interest and equity risk scenario<sup>9</sup>.

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<sup>8</sup> Longevity is not included in this list as we are only considering income replacement up to normal retirement age; beyond retirement the choice between annuitisation or not would have to consider longevity risk

<sup>9</sup> Additional capital would be required by the Regulator to provide protection against other risks, e.g. operational risk, but for our purposes here, we limit ourselves to interest risk and equity risk in the QIS2 market risk module



- Taking the parallel back to the consumer, it thus implies that a consumer choosing a lump sum benefit to provide for the post-disability income need, might well need to buy a much larger benefit to cover against the market risk introduced by this mismatching between the asset (the benefit pay-out) and the liability (the future income stream that must be provided).
- While it may be argued that the average consumer would not want to protect himself/herself against such an extreme risk scenario as the Regulator requires from insurers (a one-in-two-hundred years event), the example does provide insight into the level of risk that the consumer is exposed to, when using lump cover incorrectly (as opposed to the correct course of action, which would be to buy income benefit in order to achieve income replacement).
- *Again continuing with the shipwreck allegory introduced in section 6.2 above, the choice between a lump sum benefit and an income benefit can be likened with your choice of future food provision as you set foot upon the island after your ship has sunk (i.e. you experienced a disability event). You can either have a very large container full of food on day one, from which you must now live for many years (lump sum benefit), or you can get regular delivery of fresh food (income benefit). When seen like this, the more appropriate choice seems fairly obvious...*

### 12.2.3 The skew does not seem to be driven by cost-considerations

It is appropriate to consider whether the above skew towards lump sum cover might perhaps be driven by cost considerations (i.e. if income cover were to be more expensive than lump sum cover it might explain the market's bias towards the latter).

However quotes sourced by FMI (from more than one provider, to ensure a proper view of the market) showed that income cover may even be the cheaper option in many instances. In the light of this information it is very difficult to understand why the retail sales figures for permanent disability are so heavily skewed towards lump sum solutions.



#### 12.2.4 Conclusion: Disability sales are overly skewed towards lump sum cover<sup>10</sup>

- To the extent that the observed trend points to consumer behaviour whereby incorrect reliance is placed on lump sum cover, it is questionable whether the average consumer would have sufficient understanding of the extent to which he/she is exposing himself/herself to risk in the process.
- Even if the consumer did understand the risks associated with this choice, it might still not be entirely fair for the market to offload these risks onto the individual. A resource rich insurer would be far better equipped to carry these risks (i.e. the counter-scenario where the consumer buys an income benefit and it is up to the insurer to achieve a matched investment position at the point where the disability claim is awarded).
- As such we conclude that there might well be proof of market inefficiency insofar the sale of permanent disability cover is skewed towards lump sum benefits (away from income benefits). As a positive however, since 2007 the mix is gradually changing in the right direction.

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<sup>10</sup> Exactly the same conclusions hold for the provision of life cover (in instances where the purpose of such cover is to provide for the future needs of the beneficiaries), where the skew towards lump sum benefits provided in the retail insurance environment is even more pronounced



## 13 Retail sales of permanent cover: Standalone versus accelerated

### 13.1 The macro relativities

The Swiss Re data shows that roughly half of all permanent disability cover is provided on a stand-alone basis, with the other half being accelerated. There seems to be evidence of a slight reduction over time in the relative extent to which cover is bought on an accelerated basis.

	2007	2008	2009	2010	2011
<b>Standalone cover</b>	43%	39%	43%	46%	49%
<b>Accelerated cover</b>	57%	61%	57%	54%	51%

### 13.2 Comments and conclusions

#### 13.2.1 On average consumers need more disability cover than life cover

- As discussed in detail in section 10.2.1 above consumers should theoretically be buying around 43% more disability cover than life cover.
- I.e. if disability cover is bought on an accelerated basis, it would be important to ensure that the amount of life cover is ratio-ed up appropriately from the level that would otherwise be required.
- To the extent that no ratio-up is applied to the level of life cover, when adding disability on an accelerated basis, it might imply that the consumer is potentially underinsured for permanent disability (even though he/she might be under the impression that an adequate level of cover is in place).

#### 13.2.2 Acceleration reduces the remaining level of life cover

While this point goes without saying, it is important to state. E.g. if the life cover was actually intended to provide for estate duties, accelerating it in the event of disability will eventually leave the estate financially exposed<sup>11</sup>.

#### 13.2.3 Conclusion: A proper understanding of accelerated cover is crucial<sup>12</sup>

While we don't have proof of market inefficiency in this regard, there are at least some questions as to whether the average consumer has sufficient understanding of his/her needs and the available products, to ensure correct usage of accelerated cover.

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<sup>11</sup> If this reality is systemically ignored by consumers, it could mean that the extent of life cover underinsurance is actually worse than the position shown by the 2010 Gap Study

<sup>12</sup> To a degree the same conclusions may hold for the broadly similar extent to which critical illness cover is also provided on an accelerated basis, but this is outside the scope of our analysis



## 14 Appendix: New insurance business

This appendix shows the sum insured information obtained from Swiss Re from their annual new business study (the *Swiss Re Individual Risk Market New Business Volume Survey; 2011*).

Amounts are in R-billion throughout, with income benefits being capitalised. Please note that the number of participants changed in 2008 and again in 2009, thus invalidating direct comparison between the different years.

### 14.1 New business written in 2011

	Stand-alone	Accelerated	Total
<b>Mortality</b>	789.29	2.85 <sup>13</sup>	792.14
<b>Occupational Disability Lump Sum</b>	101.29	187.36	288.65
<b>Ordinary disability income</b>	54.15	-	54.15
<b>Temporary disability income</b>	11.70	-	11.70
<b>Critical Illness (CI)</b>	63.14	59.70	122.84
<b>Non-Occupational Disability Lump Sum</b>	24.50	15.31	39.81

### 14.2 New business written in 2010

	Stand-alone	Accelerated	Total
<b>Mortality</b>	753.14	3.00	756.14
<b>Occupational Disability Lump Sum</b>	94.75	189.62	284.37
<b>Ordinary disability income</b>	47.36	-	47.36
<b>Temporary disability income</b>	9.89	-	9.89
<b>Critical Illness (CI)</b>	56.50	62.20	118.69
<b>Non-Occupational Disability Lump Sum</b>	24.65	18.63	43.27

### 14.3 New business written in 2009

	Stand-alone	Accelerated	Total
<b>Mortality</b>	750.73	2.52	753.25
<b>Occupational Disability Lump Sum</b>	87.59	201.20	288.79
<b>Ordinary disability income</b>	46.23	-	46.23
<b>Temporary disability income</b>	8.38	-	8.38
<b>Critical Illness (CI)</b>	54.46	68.72	123.18
<b>Non-Occupational Disability Lump Sum</b>	28.03	21.93	49.97

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<sup>13</sup> Refers to accelerated funeral cover



#### 14.4 New business written in 2008

	Stand-alone	Accelerated	Total
<b>Mortality</b>	573.49	0.16	573.65
<b>Occupational Disability Lump Sum</b>	63.57	169.20	232.77
<b>Ordinary disability income</b>	37.33	-	37.33
<b>Temporary disability income</b>	4.41	-	4.41
<b>Critical Illness (CI)</b>	44.45	49.60	94.05
<b>Non-Occupational Disability Lump Sum</b>	19.24	28.57	47.81

#### 14.5 New business written in 2007

	Stand-alone	Accelerated	Total
<b>Mortality</b>	406.96	0.09	407.05
<b>Occupational Disability Lump Sum</b>	51.71	104.15	155.86
<b>Ordinary disability income</b>	13.16	-	13.16
<b>Temporary disability income</b>	5.13	-	5.13
<b>Critical Illness (CI)</b>	32.76	30.63	63.39
<b>Non-Occupational Disability Lump Sum</b>	21.55	16.77	38.31