**2014 S2**

**Q1** a) *TO: Cobra Life – Board of Directors*

*FROM: Appointed Actuary*

*RE: Recommendation for Future Risk Margins – Random and Future Risk*

The purpose of this note is to provide recommendations for future and random risk margins for Cobra Life’s Statutory Fund that contains individual lump sum and disability income business. **Under LPS115, both of these margins need to cover scenarios at a 99.5% level (i.e. a 1 in 200 year scenario).**

**Random Risk Margins**

* Random risk margins are determined at the 99.5th percentile level.
* Based on 2014 exposure, the Cobra Life 99.5th percentile for lump sum business is 5% above the experience for that year and 6% for disability income.
* Whilst these numbers appear low, the variability of Cobra Life’s experience **(stress margin) may be reduced somewhat by the surplus reinsurance** cover that the company has in place.
* Hence, a 5% margin is recommended for individual lump sum business and 6% for individual disability income business.

**Future Risk Margins**

*Individual Lump Sum*

* Individual lump sum experience for the market as a whole has been generally flat in the 2008 – 2014 period and as such there is no obvious sign of a trend in experience over that period. Over that same period since 2008, Cobra Life has grown at a significant rate (far higher than the market growth). This growth coupled with the actual to expected experience on Cobra Life’s portfolio leads me to believe there is a heightened level of risk on Cobra Life’s portfolio than may exist in the industry statistics. This may be due to Cobra Life looking to increase market share at the expense of underwriting rigor.
* The table below shows the average actual to expected experience for the periods 2009 – 2011 and 2012 – 2014.

|  |  |  |
| --- | --- | --- |
|  | **Cobra Life** | **Industry** |
| **2009 - 2011** | 96% | 100% |
| **2012 - 2014** | 104% | 100% |
| **% Change** | 8% | 0% |

* Based on this data, there appears to be a trend in the Cobra Life experience (which is not clearly evident in the industry experience).
* Other considerations for the future risk charge include trends in mortality experience (e.g. obesity), TPD experience (e.g. due to economic factors) and TPD (e.g. changes in definitions or increased involvement of lawyers). It is difficult to fully justify a 99.5th percentile estimate for these changes, and hence a high degree of judgement needs to be incorporated to overlay the impact of these elements of the future trends.
* Given the 8% deterioration in experience in recent years for Cobra Life, for a 1 in 200 year scenario, a margin above 8% would be appropriate. Given this, and considering the other trend considerations listed above, a future margin in the range of 20% - 40% would be appropriate. I recommend a margin of 30%.

*Individual Disability Income*

* Cobra Life’s current systems cannot easily determine the experience between the book of disabled lives that were purchased in 2012 and those that have been written since 2008. The table below shows the Cobra Life experience and industry experience (note that the Cobra Life experience uses years up to 2011 to exclude the experience of the purchased disability claims portfolio).

|  |  |  |  |
| --- | --- | --- | --- |
| **Cobra Life** | | **Industry** | |
| **2008 - 2009** | 90% | **2009 - 2011** | 103% |
| **2010 - 2011** | 103% | **2012 - 2014** | 112% |
| ***% Change*** | *14%* | ***% Change*** | *9%* |
| **2012 - 2014** | 94% |  |  |

* As for the lump sum experience, there seems to be a greater trend in the experience of the Cobra Life book than that in the industry experience. Cobra Life’s exposure to individual disability income also increased significantly over the period to 2011. Given the high levels of new business, this may imply that the business being written is showing more trend than that being seen in the industry as a whole. However, it is worth noting that the amount of business on which this assessment is based is much less than for individual lump sum so the data may not be credible.
* The majority of the Cobra Life’s exposure on the disability income business since 2012 comes from the book of claims that was purchased in 2012. For the 3 years since 2012, the actual to expected experience of the entire disability income portfolio has been 94%. This would tend to suggest that the trend risk of the purchased portfolio of claims is less than that of the remainder of the disability income business.
* As for lump sum business, there are additional factors that can lead to future trends in the data. This can include economic factors, changes in the prevalence of mental illness etc. It is worth noting that the purchased book of claims only has termination risk as compared to the remainder of the business that also has incidence risk. It is also worth noting that the volume of the data for this business is far less than individual lump sum (and hence, there is greater uncertainty relating to the underlying best estimate assumptions for this business compared to individual lump sum).
* Given, this I recommend that a future risk margin in the range of 25% - 50% for the individual disability income business sold by Cobra would be appropriate. I recommend 40%. For the book that was purchased from ASP Life, a range of 15% - 35% would be appropriate. I recommend 20%.

1b) **Insurance Risk Charge**

**Insurance Risk Charge (pre-tax) = Stressed Policy Liabilities – Adjusted Policy Liabilities**

*where*

Stressed Policy Liabilities = Stressed Active Lives Policy Liability

+ Stressed IBNR

+ Stressed DLR

**Adjusted Policy Liabilities** = max (RFBEL for all policies, minimum termination value)

= max (Active Lives RFBEL + IBNR + DLR, IBNR + DLR)

**Aggregation Benefit**

Paragraph 37 of LPS110 defines the aggregation benefit as:

*Aggregation Benefit = (A+I) – (A2+I2+2\*correlation\*A\*I)0.5*

*where:*

“A” is the Asset Risk Charge;

“I” is the Insurance Risk Charge;

“correlation” is 20%.

**Operational Risk Charge**

The operational risk charge is defined in LPS 118 as the following:

ORCR = A × { max(GP1, NL1) + max(0, |GP1 – GP0| – 0.2 x GP0) }

*where:*

(a) A is 2% for a statutory fund that is a specialist reinsurer and 3% for other funds;

(b) GP1 is premium income (gross of reinsurance) for the 12 months ending on the reporting date;

(c) NL1 is the adjusted policy liabilities (net of reinsurance) at the reporting date;

(d) GP0 is premium income (gross of reinsurance) for the 12 months ending on the date 12 months prior to the reporting date; and

(e) |GP1 – GP0| is the absolute value of the difference between GP1 and GP0.

**Capital Base**

Capital Base = Net Assets - Regulatory Adjustments to Capital Base

Regulatory Adjustments to Capital Base = Adjusted PL – PL (both values net of reinsurance)

+ Deferred Tax Assets

1c) *i. Regulatory Adjustment to Net Assets*

* For the statutory fund
  + This generally refers to the adjusted policy liabilities in excess of the reported policy liabilities. The adjustment acts to reverse out any of the negative policy liabilities in the company’s balance sheet – i.e. the capital calculation does not take into account future profits (or DAC)
  + It also relates to intangibles including goodwill or deferred tax assets.
* For the general (s/h) fund, the capital base should only include those capital instruments whose value will be available to the company at the point on “non-viability” (i.e. if the insurer is in trouble the capital from the instrument is available to the company at the company’s discretion).
  + Some preference shares and subordinated debt meet this definition if they meet the conditions described in LPS112.

For Cobra Life, if the only capital is ordinary shares then there will be no regulatory adjustments within the general fund, only the statutory fund.

*ii. Insurance Risk Charge of Zero*

* An insurance risk charge of zero can occur where the stressed policy liabilities (including stressed IBNR and stressed DLR) are less than zero.
* This would typically occur where there are large margins in the premiums charged by the insurer. This would typically be the case where
  + large up-front costs are incurred by the insurer and hence significant margins are built into the premium to recoup this cost; or
  + the insurer may be able to charge higher than normal premiums for their business (e.g. due to distribution methods).

*iii. Prudential Capital Requirement vs Prescribed Capital Amount*

* The Prudential Capital Requirement includes a regulatory adjustment which can be imposed by APRA on top of a company’s Prescribed Capital Amount
* The **Regulatory Adjustment** **and hence the Prescribed Capital Requirement** is not allowed to be disclosed. Therefore only the Prescribed Capital Amount appears in a company’s published accounts.
* If the PCR was published, the market or public may interpret it incorrectly and this could cause a loss of confidence in the insurer (e.g. resulting in higher lapses) and possibly for the industry as a whole if several insurers had regulatory adjustments imposed.

1d) **Random Risk**

* Likely lower volumes of business will result in greater levels of random risk as there will be less policies in the insurance pool (i.e. individual policy fluctuations may have a greater impact on the insurance result)

**Future Risk**

* May consider a higher future risk given less data is available to price
* In terms of other trends, not much information to suggest any other material deviations in the future risk margin

**Event Risk**

* Event risk is likely to be higher than Australia given the prevalence of natural disasters
* However, a decision would need to be made as to whether this increased level of event risk is greater than the specified LPS115 minimums.

**Lapse Risk**

* Given higher up-front advisor commissions there may be a greater level of lapse risk due to churning and an argument exists for a higher lapse margin than in Australia
* If the higher up-front commission rates come with longer responsibility periods (e.g. longer commission clawback periods) then lapse risk may be similar to Australia

**Expense Risk**

* Expense risk is fixed at 10% (specified by APRA) and so would be the same.

**Longevity Risk**

* Not applicable as no annuity business

**Q2** a) **Adjusted Net Worth:**

Assume that the adjusted net worth is calculated as the following:

ANW = Capital Base – (Prescribed Capital Amount + Target Surplus)

*i.e. Net Assets over required capital (Free Surplus in excess of Capital Requirements @ starting point of the reporting period)*

Capital Base = Total Assets – Total Liabilities – Adjustments = Net Assets – Adjustments\*

\*DAC is not counted in Capital Base (where adjustment is the net of reinsurance DAC)

**VIF:**

VIF = Present Value of Future Profits + Present Value of Capital Releases

2b) [IFRS4 Phase 2 standards came in]

FROM: Valuation Actuary

TO: Board

RE: Potential Impacts of Accounting Changes in Pi Life

I have reviewed the proposed changes to the accounting regime of Tau and its potential impact on Pi Life’s business. Please see further detail under the headings below.

**1) The likely impact on the publically available results of Pi Life at the time of the change**

* The current policy liability (net of reinsurance) is ($60m). This negative policy liability reflects the fact that the high initial acquisition expenses incurred for each sale are amortised over the life of the product (as long as they are supported by future premium margins).
* However, under the proposed changes the up-front costs of issuing a product can only be deferred until the end of the premium rate guarantee (which is after the first policy year). Under the proposed change (assuming no transitional relief) the policy liability would not be able to be negative after the first policy year. **This would result in a large increase in the policy liability** and a one-off reduction in profit.
* Consideration would also need to be given as to whether tax accounting will follow the proposed changes. If not, Pi Life may, at the time of the change, report a large accounting loss, but not have a tax loss if that basis does not change.

**2) The likely impact on the profitability of the business written going forward;**

* The overall profitability of the business **in real terms** will not change. However, the accounting treatment and in particular the pattern of the accounting profit release will change.
* If business continues to be written with high up-front costs (including commission), the profit signature of each policy will change from one that currently shows profits emerging over the lifetime of the policy to one that will show a large loss at the end of the first policy year with larger profits in following years.
* However, in the situation where the total business is neither growing nor shrinking, the overall profit may remain smooth (with losses in year 1 for new business being counteracted by larger profits in later years). However, in the situation that the company considers a large drive in new business growth, losses will result in those years as acquisition costs are written off over that first year (and vice versa for a business that is reducing new business volumes).

**3) The likely capital impacts of the proposed change**

* Given Pi Life has a capital regime consistent with that in Australia which treats any deferred acquisition cost as an inadmissible asset, there will be no impact on the capital base of Pi Life as a result of this change and hence no impact on the surplus asset position.

**\*there would be no impact on capital from a change in the accounting standards.**

2c) *List of Options for Board to Consider:*

**1) Consider writing business with lower up-front commissions**

***Pros:***

* Will reduce the amount of DAC written off each year for new policies under the new standards
* Removes the incentive for advisors to churn business – which may actually result in the underlying profitability improving

***Cons:***

* Advisors may stop writing business with Pi Life – reducing revenue base and may place pressure on expense margins

**2) Consider writing business with longer premium guarantees than one year (e.g. 10 years or in line with underlying mortgage)**

***Pros:***

* DAC can be released over a longer period of time not resulting in first year losses for new business

***Cons:***

* Capital requirements will be higher for these guarantees which would also likely result in an increase in the rates that need to be charged to the end customer
* Increased risks in offering guaranteed products – may not suit risk appetite of Pi Life as only being considered due to accounting profit treatment (not to fix underlying profitability issue)

**3) Consider reporting to shareholders’ on a more appropriate basis (possibly in line with the current accounting basis) as well as that required under the new accounting regime**

***Pros:***

* Results are comparable to past results (under a regime that shareholders’ are familiar in the case of the current accounting regime)
* Results may better allow for the nature of the up-front financing in the business

***Cons:***

* Shareholders’ will need to understand 2 sets of accounts – may lead to confusion among investors
* More work required in maintaining accounts on 2 bases

**4) Reduce new business volumes - reducing new business volumes will have the effect (after the initial loss) of having higher profits emerging in future periods without large new business strain on profits**

***Pros:***

* Improved profit results (after initial losses) when new business volumes are falling

***Cons:***

* Significant impact on the business due to accounting treatment (noting that underlying profitability is okay).

**5) Consider using reinsurance. Reinsurers operating in Tau but incorporated elsewhere do not need to follow local accounting standards. Therefore, some reinsurers may be willing to offset more of the upfront acquisition costs of the policy.**

***Pros***

* The existing product structure (from the view of the consumer) will not need to be changed in order to offset the new accounting standards
* It may reduce capital requirements, since a larger portion of upfront expenses are paid by reinsurers (again assuming no special capital adjustment is enforced due to the concentration and type of reinsurance being taken out)

***Cons***

* This arrangement may not be allowed under Pi Life regulations, as it is a form of financial reinsurance (it may need special approval, as in Australia)
* This will likely be costly; reinsurers would want a higher portion of future profits to effect the deal
* Reinsurers may not be willing to take on the risk

**Other acceptable options include:**

• Suggestions of ways to reduce acquisition expenses – e.g. introduce a new product with lower acquisition expenses

• Sell through different distribution channel with lower initial commissions (e.g. Direct business)

• Reinsurance options that are clearly not financial reinsurance

2d) **Approach 1**: Use an approach consistent with AIFRS approach

Under this approach, initial acquisition costs and expenses are amortised and profit is released over time in line with a profit carrier

*Advantages:*

* Initial expenses are deferred and profits emerge smoothly over the lifetime of a policy
* Consistent with current approach – will continue to make sense to shareholders if reporting on this basis continues to be provided to shareholders (as well as the proposed new basis)
* Processes will be in place currently to report on this basis

*Disadvantages:*

* Approach depends on long term projections which involve a high degree of uncertainty (to support that the business should not be in loss recognition)
* Having two sets of accounts (one as required and maintaining the old approach) will require more systems / processes in place and will be more costly to produce

**Approach 2**: Change to **Embedded Value Approach** – under this approach management, reporting will consider the change in the Embedded Value from period to period.

*Advantages:*

* Gets to the true profitability of the underlying business being written without having artificial accounting treatment impact on the results
* Changes in the value of the business from period to period are what management (and if publicised, investors) should be focused on

*Disadvantages:*

* Embedded Values are based on long-term projections. These projections include many assumptions and are hence based on highly uncertain future cashflows
* Even small changes in assumptions can impact the embedded value significantly and hence the management reporting may be subject to large amounts of noise and volatility.
* Embedded value calculations may not be completed as frequently as the accounting profits are currently reported to management. There may be significant costs (e.g. resources) required to increase reporting frequency to that required by the Board.

**Another acceptable approach would be to report new business following the change and inforce business separately**; given the different impact the change would have on the reported profit on each of these.