NON-BANK FINANCIAL INSTITUTIONS REGULATORY AUTHORITY

(NBFIRA)

NBFIRA

INSURANCE PRUDENTIAL RULES

In terms of Section 50 of the NBFIRA Act

IPR3G

Prescribed Capital Target
General Insurance

Effective March 1, 2012

Contents

NBFIRA

1. Introduction

1.1. Insurance Prudential Rules

1. NBFIRA's Insurance Prudential Rules (IPRs) set out the prudential requirements for regulated insurers operating in Botswana.

2. This note sets out in draft form material that may form the basis of IPR3G.

1.2. Valuation of Insurance Liabilities

3. General insurance liabilities should be valued in accordance with the requirements set out in IPR1G. The approach is to use best-estimate valuation assumptions. It aims to ensure that the general insurer should have sufficient assets to meet all its future liabilities in respect of its existing in-force business on a best estimate basis.

1.3. Valuation of Assets

4. Valuation of assets is set out in detail in IPR2G. In principle, assets must be valued at fair value, except where IPR2G indicates otherwise. The main exception to the use of fair value is in respect of the valuation of group undertakings. In addition, certain assets or a portion thereof must be disregarded for solvency purposes.

5. For the purposes of calculating the PCT, the value prescribed by IPR2G should be used. However, the maximum admissible percentages shown in section 3 of IPR2G should only be applied after the PCT calculation.

NBFIRA

2. Definitions

6. For these purposes, unless the context indicates otherwise:

7. "Act" means the Insurance Industry Act, Cap 46:01, and a word or expression to which a meaning has been given in the Act, has that meaning;

8. "best-estimate assumption" means an assumption that:

    a. Is realistic;
    b. Depends on the nature of the business concerned; and
    c. Is guided by immediate past experience, as modified by any knowledge or expectation of the future.

9. "PCT" means the prescribed capital target as set out in Insurance Prudential Rule IPR3G

10. "capital requirement", in relation to a regulated financial institution, means the capital or solvency margin, as the case may be, required for that institution by the regulatory authority concerned;

11. "fair value" means the fair value of an asset determined by reference to Botswana Statements of Generally Accepted Accounting Practice;

12. "gross basis" means before any allowance for any approved reinsurance as per section 6;

13. "IPR" means an Insurance Prudential Rule issued by the Regulatory Authority;

14. "net basis" means net of any approved reinsurance as per section 6;

15. "policy" means a general insurance policy;

NBFIRA

3. The Minimum Capital Target

16. The Minimum Capital Target (MCT) establishes in absolute currency terms the minimum amount of capital that a general insurer is required to have for licensing and ongoing operation.

17. The MCT is intended to establish a minimum size for players in the general insurance market.

18. The MCT aims to meet several aims. It is intended to establish a minimum size for players in the insurance market. A lower capital requirement is required for microinsurers so as not to prejudice small players in this segment of the market.

19. The MCT should be calculated as determined in the Regulations.

20. A general insurance company is required to hold the greater of the MCT and the PCT.

NBFIRA

4. The Prescribed Capital Target

4.1. The Need for the Prescribed Capital Target

21. The liabilities calculated in line with IPR 1G on a best-estimate basis, may not protect the insurer or its policyholders in the event of substantial adverse experience. To protect the solvency of a general insurer and the interests of the policyholders against larger experience shocks, the excess of assets over liabilities needs to be sufficient to meet liabilities even in extremely adverse times.

22. The minimum amount of assets that an insurer should hold in excess of its liabilities is referred to as its Prescribed Capital Target or PCT. Currently the exact sufficiency level of the PCT required for general insurers has not been determined with any accuracy, as a result general insurers would be expected to hold some capital margin in excess of the PCT.

4.2. Defining the PCT

23. The Prescribed Capital Target equals the result of the PCT formula, per section 5 below. In addition to the above, the Regulatory Authority sets a minimum capital target, the MCT.

24. At some point in the future, the Regulatory Authority may permit reliance on internal capital models, but these are not permitted under the current framework.

4.3. Purpose

25. The purpose of the PCT is to quantify the minimum level of assets in excess of liabilities that will provide a sufficient cushion against random negative fluctuations in experience which could result in premiums and technical reserves being insufficient to cover the losses suffered by the insurer. The quantum of this cushion is set in such a manner that in the majority of cases a negative experience variation will lead to a reduced cushion rather than to a deficit under the statutory valuation. The existence of a PCT cannot provide a guarantee against future financial difficulty – it can only help to make it less likely.

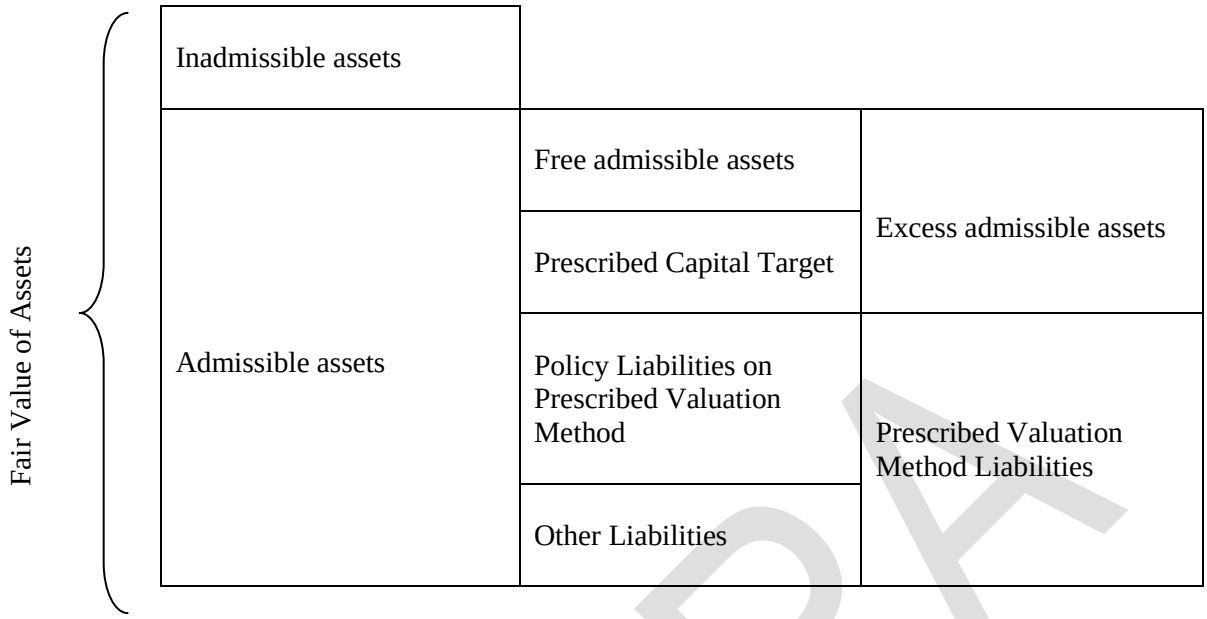
26. A secondary function of the PCT is to act as a regulatory warning system.

27. Inability to cover the PCT would mean that the general insurer would be subject to further investigation and regulatory intervention by the regulator as set out in the Insurance Prudential Rules.

4.4. Schematic Illustration

28. The place of the Prescribed Capital Target in the overall financial position of a general insurer can be illustrated schematically as follows:

NBFIRA



4.5. Principles underlying the Prescribed Capital Target

29. A balance is needed: in aggregate the Prescribed Capital Target should be large enough to provide a significant cushion against adverse experience, but not so large as to endanger the viability of the general insurance industry.

NBFIRA

5. The Prescribed Capital Target Calculation

30. The PCT calculation consists of three elements:

a. Insurance Risk Capital ("IRC")
b. Maximum Event Retention ("MER")
c. Market Risk Capital ("MRC")

5.1. Insurance Risk Capital

31. The IRC will be calculated using the estimated net written premium ("NWP") of the insurer for the following financial year. The NWP is defined as the gross written premium less approved reinsurance premiums (Please refer to section 6).

32. The IRC will be calculated as 25% of the NWP for each statutory class of business. The results of this calculation will then be adjusted by statutory class to allow for the underlying nature of the risk in each of these classes. The table below shows the loadings that need to be added for each of the statutory classes.

Line of business	Additional loading or discount
Property	15%
Transportation	30%
Guarantee	30%
Engineering	30%
Accident business	50%
Health business	50%
Motor	15%
Liability	70%
Miscellaneous	50%

33. The total IRC will then equal the sum of the capital required for each of the statutory lines respectively.

For example:

34. For a company that is expected to write P20 billion of net premium in the motor class and P100 billion in the engineering class in the following year, the IRC will equal

IRC (Motor) = P20 billion*25%*(1.15)

IRC(Engineering) = P100 billion*25%*(1.30)

IRC(Company) =IRC(Motor) + IRC(Engineering)

= P5.75 billion+P32.5 billion

= P38.25 billion

NBFIRA

35. This IRC percentage is intended to cover the following risks:

    1. The underwriting risk attached to the following financial year
    2. The fluctuation risk inherent in the insurer's technical reserves
    3. Credit risk of the reinsurers used on the insurer's reinsurance treaties
    4. Operational risk

36. However, one of the greatest risks faced by a typical general insurance company is catastrophe risk and the above basis does not take into account the extent of the catastrophe cover purchased by the insurer. The MER will allow for this element of the risk.

5.2. Maximum Event Retention

37. The basis for this calculation is not prescribed and each company will need to use its judgement to determine an appropriate basis to calculate their MER taking into account the nature of their underlying business. However, full details of the calculation methodology will need to be submitted to the Regulatory Authority as part of the company's financial condition report.

38. The MER is defined as the largest loss to which an insurer will be exposed to in 250 years, due to a concentration of policies, after netting out any approved reinsurance recoveries. The loss event is not limited to a natural catastrophe but should take into account the inherent risk in the business written by the specific insurer to calculate the largest potential loss accumulation with a 250-year return period.

39. The MER must include an allowance for the cost of one reinstatement premium for the insurer's catastrophe reinsurance. The MER is thus calculated as the net exposure of the company assuming a 250-year return period. (Where return period is defined as the expected average period within which a particular catastrophic event will re-occur)

NBFIRA

5.3. Market Risk Capital

40. The MRC will not replace the kind and spread regulations as per IPR2G. It is intended to cover the market risk associated with the assets used to support the insurer's technical reserves as well as the assets supporting the PCT. Each of the assets classes will then attract a specific capital factor as set out in the table below.

Investment Class	Capital Factor
Cash or near cash	0%
Unlisted equities	40%
Listed equities	35%
Property	32%
Fixed Interest (Outstanding Term = 1 Year)	7%
Fixed Interest (Outstanding Term = 2 Year)	11%
Fixed Interest (Outstanding Term = 5 Year)	20%
Fixed Interest (Outstanding Term = 7 Year)	24%
Fixed Interest (Outstanding Term = 10 Year)	27%
Other assets	35%

5.3.1. MRC for assets supporting technical reserves (MRCTR)

41. In order to calculate the MRC on the assets supporting the insurer's technical reserves, the insurer needs to allocate assets from its admissible assets to cover the total technical reserves as calculated under the Prescribed Valuation Method. The insurer should perform this allocation by starting with the least risky assets (as per the table above) and only using the more risky assets when all other assets classes have been depleted.

MRCTR= Total Technical Reserves * Weighted Capital Factor

For example:

42. If total technical reserves = P100 billion and the company has sufficient cash or near cash holdings to cover this 100%, the MRCTR = ZERO. However, if the technical reserves are covered by P50 billion of cash and P50 billion of fixed interest securities with a term of 1 year the

MRCTR = P100 billion * (50%*0%+50%*7%)

=P100 billion * 3.5%

=P3.5 billion

NBFIRA

5.4. The Prescribed Capital Target

43. The PCT will then be calculated by combining the IRC, the MER and the MRCTR allowing for the market risk associated with the insurer's assets supporting each of these three elements.

44. The PCT will now be calculated as

$$\text{PCT} = \sqrt{\left(\frac{IRC_{adjusted} + MER_{adjusted}}{g_{insurance}}\right)^2 + \left(\frac{MRCTR_{adjusted}}{g_{market}}\right)^2}$$

where $g_{insurance}$ is the grossing up factor allowing for the market risk on the assets supporting the insurance risk element of the PCT and the g_{market} is the grossing up factor allowing for the market risk of the assets supporting the market risk capital on technical reserves. The grossing-up factors are calculated via an intermediate calculation described below. This step involves the performance of an asset allocation (after the allocation of assets to current liabilities and reserves) to adjusted the values for the IRC, MER and MRCTR. These adjustments are given below and are performed so as not to penalise companies for the composition of elements of their shareholders' funds not being used to back their PCT.

45. Firstly, the intermediate capital requirement ("ICR)" will be calculated as:

$$\text{ICR} = \sqrt{(IRC + MER)^2 + (MRCTR)^2}$$

46. The adjusted values for IRC, MER and MRCTR will then be calculated as

$$IRC_{adjusted} = ICR * \left(\frac{IRC}{IRC + MER + MRCTR}\right)$$

$$MER_{adjusted} = ICR * \left(\frac{MER}{IRC + MER + MRCTR}\right)$$

$$MRCTR_{adjusted} = ICR * \left(\frac{MRCTR}{IRC + MER + MRCTR}\right)$$

47. Assets will then be allocated to each of the above three elements from the admissible assets remaining after the allocation to the technical reserves. Once assets have been allocated the insurer will need to calculate a weighted capital charge for each of the three elements using the capital factors as per section 5.3

$c_{insurance}$ = weighted capital factor for ($IRC_{adjusted}$ + $MER_{adjusted}$)

c_{market} = weighted capital factor for $MRCTR_{adjusted}$

NBFIRA

The grossing up factors are then calculated as:

$g_{insurance}$ = 1- 0.5* $c_{insurance}$

g_{market} = 1- c_{market}

48. The rationale for the above is that for the MRCTR, full grossing-up should be allowed since a grossed up asset charge is needed in precisely the situation that you need the asset charge itself. The grossing-up of the IRC and MER only takes half of the appropriate asset charge into account since a worst case insurance event will not always happen at the same time as a worst case asset event. The use of a factor of a half can be seen to be allowing for a 50% correlation between insurance catastrophes and investment market crashes. This is in line with the intended practice in European markets.

Example: Assume the following:

IRC = P38.25 billion

MER = P2 billion

MRCTR = P3.5 billion

NWP[1] =P120 billion

49. Then the intermediary capital requirement can be calculated as:

$$\sqrt{(IRC + MER)^2 + (MRCTR)^2} = \sqrt{(P38.25b + P2b)^2 + (P3.5b)^2} = \text{P40.402b}$$

The adjusted values for IRC, MER and MRCTR will then be calculated as

$$IRC_{adjusted} = P40.402b * \left(\frac{P38.25b}{P43.75b}\right) = \text{P35.32b}$$

$$MER_{adjusted} = P40.402b * \left(\frac{P2b}{P43.75b}\right) = \text{P1.85b}$$

$$MRCTR_{adjusted} = P40.402b * \left(\frac{P3.5b}{P43.75b}\right) = \text{P3.23b}$$

[1] NWP for the following year

50. Assume that the assets allocated to the $IRC_{adjusted}$ and the $MER_{adjusted}$ consist of 50% fixed interest investment with a term of 5 years and 50% listed equities. While the $MRCTR_{adjusted}$ has been allocated 100% listed equities.

Thus, $c_{insurance}$ = 0.5*20%+0.5*35% = 27.5%

c_{market} = 35%

And $g_{insurance}$ = 1-0.5*27.5% = 86.25%

g_{market} = 65%

Thus

$$\text{PCT} = \sqrt{\left(\frac{IRC_{adjusted} + MER_{adjusted}}{g_{insurance}}\right)^2 + \left(\frac{MRCTR_{adjusted}}{g_{market}}\right)^2}$$

$$= \sqrt{\left(\frac{P35.32b + P1.85b}{86.25\%}\right)^2 + \left(\frac{P3.23b}{65\%}\right)^2}$$

= P43.38b

51. The PCT expressed as a percentage of the net written premium for the following year for a company that is writing P100 billion of engineering and P20 billion of motor insurance with mostly cash supporting their technical reserves and equities supporting the PCT, would then be 36% (i.e. P43.38 billion/P120 billion).

NBFIRA

6. Treatment of Reinsurance

52. The calculation of the Prescribed Capital Target may take into account the impact of any allowable reinsurance contract entered into by the insurer. There should therefore be sufficient capital to cover the risks retained by the insurer, net of allowable reinsurance.

53. Allowable reinsurance is defined as reinsurance placed with a reinsurer with a credit rating of BBB or better. Credit ratings may be obtained from any acceptable credit rating agency, but the same credit rating agency must be used to provide ratings for all reinsurers. Where applicable the credit rating must be that applicable to the local office of the reinsurer.

54. In financial or other reinsurance arrangements, where some or all of the risk is transferred back to the insurer, the insurer must hold whatever is the appropriate amount of capital in the light of the risk that is effectively retained.

NBFIRA