Basic Capital Requirements for

Global Systemically Important Insurers

23 October 2014

About the IAIS

The International Association of Insurance Supervisors (IAIS) is a voluntary membership organisation of insurance supervisors and regulators from more than 200 jurisdictions in nearly 140 countries. The mission of the IAIS is to promote effective and globally consistent supervision of the insurance industry in order to develop and maintain fair, safe and stable insurance markets for the benefit and protection of policyholders and to contribute to global financial stability.

Established in 1994, the IAIS is the international standard setting body responsible for developing principles, standards and other supporting material for the supervision of the insurance sector and assisting in their implementation. The IAIS also provides a forum for Members to share their experiences and understanding of insurance supervision and insurance markets. In addition to active participation of its Members, the IAIS benefits from input in select IAIS activities from Observers representing international institutions, professional associations and insurance and reinsurance companies, as well as consultants and other professionals.

The IAIS coordinates its work with other international financial policymakers and associations of supervisors or regulators, and assists in shaping financial systems globally. In particular, the IAIS is a member of the Financial Stability Board (FSB), founding member and co-parent of the Joint Forum, along with the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO), member of the Standards Advisory Council of the International Accounting Standards Board (IASB), and partner in the Access to Insurance Initiative (A2ii). In recognition of its collective expertise, the IAIS also is routinely called upon by the G20 leaders and other international standard setting bodies for input on insurance issues as well as on issues related to the regulation and supervision of the global financial sector.

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Contents

1 Overview

1.1 Purpose

1. The purpose of this document is to describe Basic Capital Requirements (BCR) for Global Systemically Important Insurers (G-SIIs). The BCR will be privately reported by G-SIIs to group-wide supervisors from 2015.

2. The development of the BCR is the first step of the International Association of Insurance Supervisors' (IAIS) project to develop group-wide global capital standards. The second step is the development of Higher Loss Absorbency (HLA) requirements to apply to G-SIIs, due to be completed by the end of 2015. The HLA will build on the BCR and address additional capital requirements for G-SIIs reflecting their systemic importance in the international financial system. The third step is the development of a risk based group-wide global Insurance Capital Standard (ICS), due to be completed by the end of 2016, and to be applied to Internationally Active Insurance Groups (IAIGs) from 2019 after refinement and final calibration in 2017 and 2018. The development of the ICS will be informed by the work on the BCR.

3. The BCR is the comparable foundation for HLA, and together they will provide a consolidated group-wide capital requirement that will apply to G-SIIs only. When finalised, the ICS will replace the BCR in its role as the foundation for HLA. In the longer term, the key principle is that G-SIIs should be required by their group-wide supervisors to hold higher levels of regulatory capital than would be the case if they were not designated as G-SIIs.

4. The initial BCR calibration level has been determined, after analysis of information collected from field testing volunteers. Because of the interlinkage of BCR and HLA, the calibration may be modified depending on the HLA requirements. From 2019, G-SIIs will be required to hold capital no lower than the BCR plus HLA.

5. From 2019, HLA will commence to apply to G-SIIs – HLA will initially be based on BCR as a foundation, but later will be based on ICS as a foundation. The exact timing of the transition of the foundation from BCR to ICS will depend upon the adoption date of the ICS by the IAIS and upon the time required for jurisdictions to develop and implement the necessary frameworks for implementation of the ICS. The scheduled ICS adoption date is October 2018. Calibration of HLA may need to be revised once the ICS has been adopted.

6. Comments on the two public Consultation Documents on the BCR, issued on 16 December 2013 and 9 July 2014, were received, considered and included in the BCR development process.[1]

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[1] The comments received on the BCR Consultation Documents are available at http://www.iaisweb.org/Supervisory-Material/Financial-Stability-Macroprudential-Policy-Surveillance-988

7. The field testing exercise to collect data to inform BCR development commenced on 21 March 2014. Thirty four volunteer insurance groups (including all 9 G-SIIs), covering a wide range of products and geographical markets, participated in the exercise. The data collected were used to inform the BCR design, specific factors and calibration level.

2 Executive summary

2.1 Background & Mandate

8. The BCR is the foundation[2] for HLA and together they will provide a consolidated group-wide capital requirement that will apply to G-SIIs only. The BCR serves as a comparable basis for the application of proposed HLA requirements. Initially, the BCR will be reported on a confidential basis to group-wide supervisors, subject to access by the IAIS for refinement of the BCR, if necessary.

9. The development and field testing of the BCR will inform development of the ICS. It is intended that ultimately the ICS will become the foundation for the HLA, at which point the role of the BCR will be reassessed.

10. Consistent with the principles in Annex A, the BCR reflects major categories of risks impacting the businesses of G-SIIs and accounts for on- and off-balance-sheet exposures.

11. Material liability and asset risks are covered by the BCR. The distinctions between long and short term liabilities are recognised. The focus of the design of the BCR is on the risks directly associated with the contingencies insured and other sources of risk for the G-SIIs. It is expected that a more comprehensive approach will be adopted for ICS development. Capital requirements are one of many elements of a full supervisory assessment of the financial condition of G-SIIs and will need to be combined with an evaluation of Qualifying Capital Resources with proper adjustments reflecting specific characteristics of insurance liabilities, as well as other quantitative and qualitative supervisory tools.

2.2 BCR Design

2.2.1 BCR Ratio

12. The BCR status of an insurance group is captured by its BCR Ratio:

BCR Ratio = Total Qualifying Capital Resources (for BCR) / Required Capital (for BCR)

Capital composition limit: For the purposes of the BCR Ratio, Qualifying Additional Capital cannot exceed 50% of Required Capital (for BCR).[3]

2.2.2 Factor-Based Approach for BCR Required Capital

13. BCR Required Capital is calculated on a consolidated group-wide basis for all activities. All holding companies, insurance legal entities, banking legal entities and any other

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[2] On 18 July 2013, the IAIS and the Financial Stability Board (FSB) made the following joint commitment:

   "As a foundation for HLA requirements for G-SIIs, the IAIS will as a first step develop straightforward, backstop capital requirements to apply to all group activities, including non-insurance subsidiaries, to be finalised by the end of 2014."

[3] This limit will be reexamined once HLA is developed.

companies in the group will be included in the consolidation. Individual non-financial entities within the group may be excluded from the scope of the BCR if the risks of/from those entities are negligible. Any entities excluded from the scope of supervision should be regularly reconsidered for inclusion.

14. The BCR required capital will be constructed in three basic components: an insurance component (including Non-Traditional activities); a banking component that applies the Basel III Leverage Ratio; and a component for other non-insurance financial activities not currently subject to regulatory capital requirements.[4]

15. The BCR is determined using a "factor-based" approach with 15 factors applying to defined segments within the main categories of insurance activity, namely Traditional Life (TL) insurance, Traditional Non-Life (TNL) insurance, Non-Traditional (NT) insurance, Assets (A) and Non-Insurance (NI). Consistent with Principle 1 (see Annex A), major risk categories are reflected.

16. As a formula, the BCR Required Capital is:

$$BCR\ Required\ Capital = \alpha \left[\sum_{i=1}^{4} a_i\, TL_i + \sum_{i=1}^{4} b_i\, TNL_i + \sum_{i=1}^{4} c_i\, NT_i + \sum_{i=1}^{3} d_i\, A_i \right] + \sum_{i=1}^{n} NI_i$$

where:

- α (alpha) is the scalar (initially set at 100%) to determine the overall BCR level[5]
- a_i, b_i c_i and d_i represent the factors applied to the exposures.
- TL_i, TNL_i, NT_i, and A_i represent the exposures (as per section 3.3)
- NI reflects the charges provided by sectoral rules for non-insurance activities – for example, Basel Accord requirements, established by the Basel Committee on Banking Supervision (BCBS).

17. For the most part, Current Estimates[6] are the proxy measure for risk exposures for insurance liabilities (excluding any prudential margins). For asset valuations, generally accepted accounting principles (GAAP) in each relevant jurisdiction will be used, with various adjustments to enhance comparability (for example, for invested assets fair value

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[4] A fourth component for material non-financial activities will be added based on further field testing analysis work. See paragraph 41.

[5] The BCR calibration level may be modified depending on the HLA requirements as well as refinement work during the period of confidential reporting.

[6] ICP 14.8, states: "The current estimate reflects the expected present value of all relevant future cash flows that arise in fulfilling insurance obligations, using unbiased, current assumptions." In other contexts a "current estimate" may be called a "best estimate." A "best estimate" of a quantity is, in principle, an estimate of the quantity that is neither deliberately overstated nor deliberately understated. The determination of a best estimate needs to be made within the context of its use. That is, the purpose for which it will be used needs to be clear and properly reflected.

measurement is used as the basis for valuation). Field testing informed the level of granularity required. Non-traditional and non-insurance (NTNI) risks are also addressed to ensure that risks from all group activities are considered.

18. A Market Adjusted Valuation Approach is the valuation approach to be initially adopted for the BCR.[7] This will be reviewed as the IAIS develops the valuation approach for ICS purposes. Under this approach, the G-SII starts with the amounts as reported on its audited, consolidated, general-purpose balance sheet, whether that be on an IFRS or GAAP basis.

2.2.3   Capital Resources

19. Capital resources are determined on a consolidated basis for all financial activities.[8] BCR Qualifying Capital Resources are classified as either core or additional capital.

2.2.4   Treatment of Diversification

20. The treatment of diversification in the BCR, especially in the context of composite G-SIIs where their life and non-life business may be of similar sizes, has been explored. While it would be appropriate to reflect the effect of diversification between major risk drivers in the ICS, the technical complexity of doing so explicitly in the BCR formula is inconsistent with its simple design.[9] As a straightforward approach, the calibration level of the BCR implicitly accounts for some degree of diversification.[10]

2.2.5   Asset-Liability Matching (ALM)

21. While Asset-Liability Matching (ALM) is a major risk category, particularly for life insurance, practical difficulties within the given timeframe for the development of the BCR posed particular challenges for addressing this risk category. Following analysis of field testing data, the IAIS determined that explicitly including such a factor in the BCR formula is not appropriate given the simple design of the formula. As a straightforward approach, the calibration level of the BCR implicitly accounts for the absence of an ALM factor.[11]

2.3   Calibration Level

22. The primary focus of BCR field testing has been to examine the potential impact of the BCR on G-SIIs. However, additional IAIGs participated in field testing and provided meaningful information that contributed to the development of BCR. By targeting the BCR between the upper and lower thresholds for supervisory intervention (e.g. typically

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[7] See section 5 for details of this approach.

[8] See section 3.4 for details of the treatment of non-financial activities.

[9] The explicit treatment of diversification will be further explored in the development of the ICS.

[10] The factors that have been listed in section 3.3 have been determined on a post-diversified basis. This gives an implicit allowance for the diversification benefit that would be expected for the G-SII group of companies. Due to the simplistic nature of the BCR, the implicit diversification allowance within the BCR does not allow for the differentiation between the G-SIIs where they have different levels of diversification.

[11] The explicit treatment of ALM will be further explored in the development of the ICS.

between the Prescribed Capital Requirement (PCR) and the Minimum Capital Requirement (MCR)), frequent breaches are not expected assuming normal business conditions. Field testing has analysed the level of the BCR compared to the reported PCR of volunteers. For the G-SIIs, the average level of the BCR is 75% of their reported PCR when the alpha scalar of 100% is applied. For all volunteers considered, the average level of the BCR is 67% of the reported PCR when the alpha scalar of 100% is applied.

23. Field testing has also analysed the level of the BCR compared to the reported total capital resources of volunteers.

24. For G-SII volunteers, the reported total Qualifying Capital Resources represent 380% of the BCR and the core Qualifying Capital Resources are 332% of the BCR.[12] For all volunteers, the reported total Qualifying Capital Resources represent 427% of the BCR and the core Qualifying Capital Resources are 384% of the BCR.

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[12] These coverage ratios are based on the BCR alone. As indicated in paragraph 3, G-SIIs will be subject to a consolidated capital requirement of BCR + HLA.

2.4 Next steps

25. Key milestones for the implementation of the BCR and the development of related global standards HLA and ICS are:

Expected timing	Key milestone
November 2014	G20 Leaders expected to endorse the BCR proposal
December 2014	Initial consultation document on ICS released
From 2015	Confidential reporting of BCR to group-wide supervisors with access by the IAIS for the purpose of reviewing and refining the BCR (to be provided in conjunction with the IAIS field testing process)
February 2015	Deadline for responses to the ICS consultation document
March to September 2015	Field testing of HLA and ComFrame, including ICS
November 2015	HLA proposal to be finalised & endorsed by G20
March to September 2016	Further field testing of ComFrame, including ICS
December 2016	ICS to be agreed, subject to further refinement via field testing
2017 and 2018	Further refinement of ComFrame, including ICS, via field testing
Late 2018	ComFrame, including ICS, to be adopted by IAIS
From 2019	Implementation of ComFrame, including ICS, to commence
From 2019	HLA commences to apply to G-SIIs, initially based on BCR as a foundation, later to be based on ICS as a foundation

3   BCR Approach

26. The BCR is a consolidated group-wide capital requirement and is the comparable foundation for HLA. The BCR covers major categories of risks, both direct and indirect that impact G-SIIs. The BCR accounts for on- and off-balance-sheet traditional and non-traditional insurance exposures as well as non-insurance business including banking, non-insurance financial and other non-financial business.

27. Material liability and asset risks are covered by the BCR. The distinctions between long and short term liabilities are recognised. The focus of the design of the BCR is on the risks directly associated with the contingencies insured and other sources of risk for the G-SIIs. While necessary in a comprehensive framework (like the ICS), some business risks are not explicitly considered. The explicit integration of other risk areas, such as operational and liquidity risk, will require future consideration in the development of the ICS, but that work is generally beyond the scope of the BCR development, except for selected NI activities which are explained in section 3.4 and Annex E. The insurance components are described in detail in section 3.3. The non-insurance activities are addressed in section 3.4.

3.1   Application of BCR

28. The BCR will apply to G-SIIs only and serves as a comparable basis for the application of proposed HLA requirements. The IAIS has determined that the BCR will not apply to Internationally Active Insurance Groups (IAIGs) that are not G-SIIs.

29. Initially the BCR will be reported on a confidential basis to group-wide supervisors, subject to access by the IAIS for refinement of the BCR, if necessary.

30. Consistent with the FSB mandate, the IAIS has also committed to developing a more risk-sensitive global risk-based ICS by 2016, to be included as part of ComFrame and applied to all IAIGs. Once developed and implemented, the ICS will be the foundation for calculation of HLA for G-SIIs. The potential role of the BCR will be reassessed following the development and refinement of the ICS.

3.2 Required Capital

31. The BCR Required Capital is:

$$BCR\ Required\ Capital = \alpha\left[\sum_{i=1}^{4} a_i\,TL_i + \sum_{i=1}^{4} b_i\,TNL_i + \sum_{i=1}^{4} c_i\,NT_i + \sum_{i=1}^{3} d_i\,A_i\right] + \sum_{i=1}^{n} NI_i$$

where:

- α (alpha) is the scalar (initially set at 100%) to determine the overall BCR level[13]

- a_i, b_i c_i and d_i represent the factors applied to the exposures.

- TL_i, TNL_i, NT_i, and A_i represent the exposures (as per section 3.3)

- NI reflects the charges provided by sectoral rules for non-insurance activities, for example, Basel Accord requirements, established by the BCBS.

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[13] The BCR calibration level may be modified depending on the HLA requirements as well as refinement work during the period of confidential reporting.

3.3 Insurance

32. The IAIS has determined segments, factors and proxy measures for risk exposures based on a combination of supervisory judgment informed by existing regulatory requirements and derivation from field testing data. Further information about this derivation is provided in Annex E.

BCR segment	Proxy measure for risk exposure	Factor	Factor value
Traditional Life (TL)			
Protection life	Net Amount At Risk	a_1	0.06%
Participating products[14]	Net Current Estimate	a_2	0.6%
Annuities	Net Current Estimate	a_3	1.2%
Other life	Net Current Estimate	a_4	0.6%
Traditional Non-life (TNL)			
Property	Premium Measure	b_1	6.3%
Motor	Net Current Estimate	b_2	6.3%
Casualty	Net Current Estimate	b_3	11.3%
Other non-life	Net Current Estimate	b_4	7.5%
Non-Traditional (NT)			
Variable annuities	Notional Value	c_1	1.2%
Mortgage insurance	Risk in Force	c_2	4.0%
GICS & Synthetic GICS	Notional Value	c_3	1.1%
Other non-traditional[15]	Net Current Estimate	c_4	1.3%
Assets (A)			
Credit - investment grade	Fair Value	d_1	0.7%
Credit - non investment grade	Fair Value	d_2	1.8%
Equity, real estate & non-credit investment assets	Fair Value	d_3	8.4%

33. All references to 'Net Current Estimate' in the table above are net of reinsurance ceded.

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[14] The IAIS recognises that some participating contracts have a risk profile lower than that of non-participating business. This could be considered in a lower factor. However, a number of products with different risk profiles were included in the participating products segment. The IAIS will assess whether improvements can be made to the granularity of the definition of participating products during the confidential reporting period from 2015 to 2018, in order to better evaluate the relative risk profiles.

[15] The IAIS recognises that the "Other non-traditional" factor, when applied to the net current estimate proxy for non-life risks, generates a lower charge than the factor for "Other traditional non–life insurance" which also uses net current estimate as a proxy. This is due to the dominance of life insurance data in the other non-traditional category and the limited amount of non-life insurance data in the other non-traditional category. A majority of current G-SIIs are engaged predominantly in life insurance business. Furthermore, the factors in the BCR alone do not account for systemic risks. Further analysis as part of the HLA development, might lead to a refinement of the proxy measure for risk exposure; the types of business that should be subject to an HLA uplift; and/or the risk factor values.

34. Premium measure is a function of net premium in respect of property damage, non-proportional property and catastrophe reinsurance. Further details are provided in Annex E.

35. It is important to monitor the regulatory arbitrage opportunities between the banking and insurance sectors, particularly as the BCBS requirements have been incorporated into the BCR for banking activities. However, the analysis of the differences needs to remain at a high level. The BCR includes capital charges for both assets and insurance liabilities, consistent with their relative contributions to risk. The Basel framework is primarily based on capital charges for assets and not liabilities. Therefore, a direct comparison between the two asset charges is not meaningful. However, the IAIS will monitor whether the overall impact is comparable, during the period of confidential reporting from 2015 to 2018.

3.4 Non-insurance

36. Non-insurance activities are addressed according to their nature and having regard to any relevant global capital standard.

37. The NI component of BCR Required Capital will be:

$$NI\ Capital\ Component$$
$$= \sum_{i=1}^{n} \text{Regulated Banking requirement}_i$$
$$+ \sum_{i=1}^{n} \text{x} * \text{Non} - \text{Regulated Banking requirement}_i$$
$$+ \sum_{i=1}^{n} \text{Securities and other requirements}_i$$

where the summations are taken over the appropriate number of entities.

38. For regulated banking activities, the Basel III Leverage Ratio will be applied.

39. For non-regulated banking activities, the Basel III Leverage Ratio will also be applied in order to maintain a consistent treatment with that of regulated banking activities. That capital requirement can be scaled up depending on the overall calibration level of the insurance related BCR (by adjusting the scalar x in the above formula). Initially, the scalar x is set at 100%.

40. Financial activities which are subjected to neither banking nor insurance regulation, such as some securities operations,[16] are incorporated in the BCR by aggregating existing

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[16] Some securities operations fall in the scope of either banking or insurance regulation. These are not intended to be included in this paragraph. The IAIS assumes that such operations are already covered by the consideration of the respective sectoral requirements of the insurance-related BCR. Additional consideration may be given in subsequent BCR analysis and calibration to the optimal way to incorporate off-balance sheet securities activities.

global capital requirements for such non-bank, non-insurance (NBNI) financial activities. In particular, third party asset management is a material activity for a number of G-SIIs. Such activities generate risk including operational risk and the IAIS is committed to including a capital charge for these activities in the BCR. The FSB, in cooperation with IOSCO and other standard-setting bodies where relevant, will begin work to develop within the SIFI policy framework the incremental policy measures needed to address the systemic risks posed by NBNI SIFIs, once the identification methodologies have been finalised and published. In the interim, the IAIS will apply the standard indicator method for addressing operational risk of asset management activities in Basel II.[17] Currently this is 12% of gross income from such activities, but this is expected to be reviewed by the BCBS.

41. Non-financial activities are activities conducted by non-financial entities that do not engage in insurance, regulated banking, unregulated banking or securities activities. Activities conducted by non-financial entities will be considered as non-financial activities unless they qualify as shadow banking as defined by the FSB.[18] Material non-financial activities will be subject to appropriate capital requirements which will be developed during the period of confidential reporting. Non-material, non-financial activities will not receive a risk charge under the BCR and will be excluded from capital resources. This approach is consistent with the simple straightforward approach of BCR. The possibility of using a more risk sensitive treatment of non-financial activities will be revisited during ICS development.

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[17] Paragraph 654 of the Basel II Comprehensive Version (http://www.bis.org/publ/bcbs128.pdf).

[18] For example, an entity that manufactures motor vehicles that has a derivative portfolio would consider that activity as a non-financial activity.

3.5 Indicative capital allocation

42. From the data provided by the G-SIIs, the factors above result in the following allocation of capital to the components of the BCR.

Legend: ■ Traditional Life ■ Traditional Non-Life ■ Assets ■ NTNI
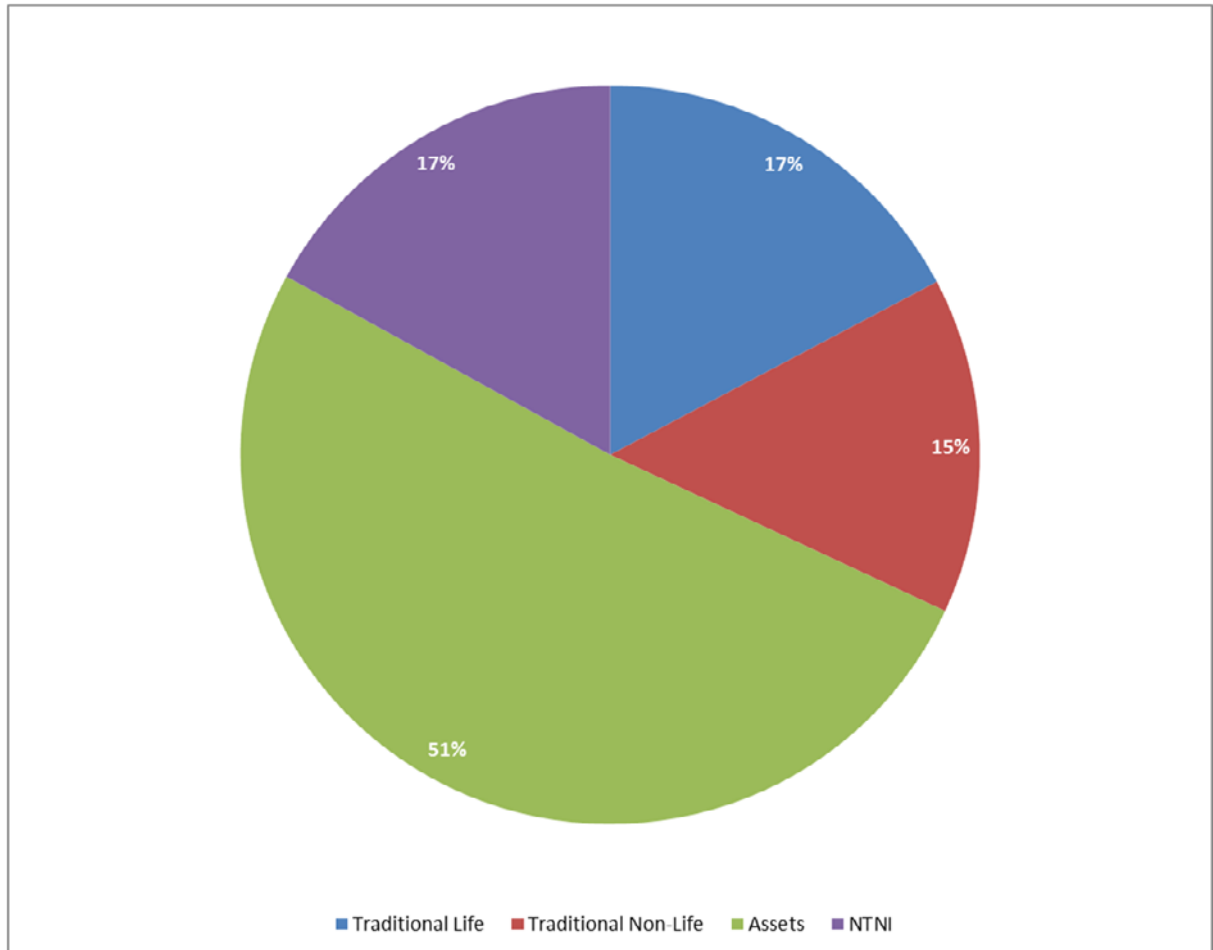
3.6 BCR principles

43. The BCR has been developed to reflect the principles that were published in December 2013 and are restated in Annex A. For example:

- Major risk categories have been reflected through both the selection of high level risk exposures and the selection of related segments.

- Options for adequate comparability have been investigated through the field testing exercise and the use of Current Estimates of liabilities and adjustments to GAAP balance sheets have been selected to provide adequate comparability.

- Resilience to stress has been difficult to assess at this stage, as only static information is available from the field testing exercise. Further investigations are to be conducted using information from confidential reporting of the BCR as well as 2015 field testing.

- The BCR design is relatively simple, compared to the complexity of the risks that are being assessed.

- The BCR structure and its applicability appear consistent for the target universe of insurance groups, the G-SIIs.

- Transparency of the BCR is affected by differences in what data is currently public in different jurisdictions, so transparency would be improved if all G-SIIs were required to publish the specified components of the BCR calculation, after the period of confidential reporting ends.

4   Qualifying Capital Resources

44. Capital resources are determined on a consolidated basis for all financial activities as defined in Annex D.[19]

45. The BCR defines Qualifying Capital Resources as either Core or Additional.

46. The G-SII's core capital is comprised of qualifying financial instruments and capital elements other than financial instruments that contribute to financial strength, absorb losses both on a going-concern and winding-up basis and otherwise contribute to survival through periods when the G-SII is under stress.

47. The G-SII's additional capital is comprised of qualifying financial instruments and capital elements, other than financial instruments, that protect policyholders in winding-up. The key characteristics of capital instruments that qualify as additional capital are subordination and availability to absorb losses in winding-up.

4.1   BCR Ratio

48. The BCR status of an insurance group is captured by its BCR Ratio:

BCR Ratio = Total Qualifying Capital Resources (for BCR) / Required Capital (for BCR)

Capital composition limit: For the purposes of the BCR Ratio, Qualifying Additional Capital cannot exceed 50% of Required Capital (for BCR).[20]

4.2   G-SII capital resources

49. The data collected from G-SIIs during field testing shows that the majority of capital resources is classified as core rather than additional capital. On average, approximately 83% of G-SII GAAP capital resources are classified as core.

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[19] See section 3.4 for details of the treatment of non-financial activities.

[20] This limit will be reexamined once HLA is developed.

5   Market Adjusted Valuation Approach

50. In order to satisfy BCR Principle 2, comparability of outcomes across jurisdictions, the inputs into the BCR formula need to be comparable. The balance sheet of a G-SII will provide the underlying exposures for many of the factors in the BCR formula. In addition, the balance sheet provides the foundation for determining capital resources. Both the capital requirement and the capital resources need to be comparable. Therefore, it is imperative that the starting point is comparable valuation.

5.1   Valuation principles

51. A Market Adjusted Valuation Approach is the valuation approach to be initially adopted for the BCR. This will be reviewed, as the IAIS develops the valuation approach for ICS purposes. Under this approach, the G-SII starts with the amounts as reported on its audited, consolidated, general-purpose balance sheet, whether reported on an IFRS or GAAP basis.

52. G-SIIs are not required to revalue every balance sheet item to a market based methodology. G-SIIs are required to make adjustments to major balance sheet items, more specifically:

    a. Insurance liabilities and reinsurance balances are to be adjusted based on the specification in Annex C.

    b. Financial instruments, both assets and liabilities, including derivatives and mortgages/ loans made,[21] are to be adjusted to fair value as determined under the G-SII's applicable IFRS or GAAP standards for reporting or disclosure purposes.

53. The valuation of assets and liabilities other than insurance liabilities and financial instruments are based on IFRS or GAAP valuations, as applicable for consolidated audited general-purpose financial statements.

54. From the data collected in field testing, it is apparent that the key difference in the IFRS or GAAP valuation and the market adjusted valuation of insurance liabilities is due to the recognition of the Margin Over Current Estimate (MOCE) in capital resources. The exclusion of margins from liabilities increased core and total Qualifying Capital Resources significantly. This treatment of MOCE will be applied in order to achieve the BCR's objective of serving as a comparable basis for HLA amongst G-SIIs. The treatment will be further investigated during the development of the ICS.

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[21] In this context, mortgages/loans made means mortgages/loans that the G-SII has invested in or itself written as the originator.

6 Impact on G-SIIs

6.1 Calibration Level and Capital Resources

55. The primary focus of BCR field testing has been to examine the potential impact of the BCR on G-SIIs. However, additional IAIGs participated in field testing and provided meaningful information that contributed to the development of BCR. By targeting the BCR between the upper and lower thresholds for supervisory intervention (e.g. typically between the PCR and the MCR), frequent breaches are not expected assuming normal business conditions. Field testing has analysed the level of the BCR compared to the reported PCR of volunteers. For the G-SIIs, the average level of the BCR is 75% of their reported PCR when the alpha scalar of 100% is applied. For all volunteers considered, the average level of the BCR is 67% of the reported PCR when the alpha scalar of 100% is applied.

56. Field testing has also analysed the level of the BCR compared to the reported total capital resources of volunteers.

57. For G-SII volunteers, the reported total Qualifying Capital Resources represent 380% of the BCR and the core Qualifying Capital Resources are 332% of the BCR. For all volunteers, the reported total Qualifying Capital Resources represent 427% of the BCR and the core Qualifying Capital Resources are 384% of the BCR.

6.2 Reporting and Applicability

58. Initially, the BCR will be reported on a confidential basis to group-wide supervisors, subject to access by the IAIS for refinement of the BCR, if necessary. The IAIS will maintain appropriate governance and security protocols to protect the confidentiality of the information collected. The IAIS will review the suitability of the BCR factors over time to ensure that the BCR remains fit for purpose.

6.3 Implementation of the BCR

59. Once the BCR has been approved by the FSB and endorsed by the G20 Leaders Summit, responsibility for implementation of the BCR will be held by the relevant authorities in each jurisdiction.

7 Communication plans and next steps

60. This BCR document will be published following endorsement by the FSB in October 2014.

61. The IAIS intends to publish the documents used for 2015 field testing data collection in order to enhance transparency to the public. Additional aggregate summary results from 2014 field testing will also be published to enhance transparency but in a manner such that individual volunteers cannot be identified. A consultation paper on HLA is scheduled for publication in 2015. This paper will address the proposed linkages between the BCR and HLA and how the combination of BCR plus HLA will meet the policy objectives outlined in the G-SII policy measures paper published in July 2013.

62. Key milestones for the implementation of the BCR and the development of related global standards HLA and ICS are:

Expected timing	Key milestone
November 2014	G20 Leaders expected to endorse the BCR proposal
December 2014	Initial consultation document on ICS released
From 2015	Confidential reporting of BCR to group-wide supervisors with access by the IAIS for the purpose of reviewing and refining the BCR (to be provided in conjunction with the IAIS field testing process)
February 2015	Deadline for responses to the ICS consultation document
March to September 2015	Field testing of HLA and ComFrame, including ICS
November 2015	HLA proposal to be finalised & endorsed by G20
March to September 2016	Further field testing of ComFrame, including ICS
December 2016	ICS to be agreed, subject to further refinement via field testing
2017 and 2018	Further refinement of ComFrame, including ICS, via field testing
Late 2018	ComFrame, including ICS, to be adopted by IAIS
From 2019	Implementation of ComFrame, including ICS, to commence
From 2019	HLA commences to apply to G-SIIs, initially based on BCR as a foundation, later to be based on ICS as a foundation

Annex A – BCR Principles

1.   The development of the BCR has been guided by 6 main principles which were detailed in the first BCR consultation document.   These principles provide a high level framework against which approaches and proposals may be reviewed. The principles are:

Substantive principles:

2.   BCR Principle 1 - Major risk categories should be reflected. The BCR must reflect major insurance risks including risks from both assets and liabilities, and non-insurance risks.

3.   BCR Principle 2 - Comparability of outcomes across jurisdictions. Outcomes should be comparable across jurisdictions. This implies the need to minimise distortions, including those arising from differing levels of conservatism included in valuation processes. The level of discretions that may be applied or introduced should be minimised across jurisdictions and over time.

4.   BCR Principle 3 - Resilience to stress. The BCR should be able to function in a wide variety of circumstances (including a stressed macro environment) and remain valid. Approaches adopted should be testable against historic data and circumstances to reflect the impact of major drivers of experience that are appropriate for basic capital requirements.

Construction principles:

5.   BCR Principle 4 - Simple design and presentation. The design of the BCR needs to be pragmatic and practical. The form of presentation of the BCR, focusing on meaningful communication to external parties, should be "simple" and "intuitive" at a high level, yet sufficiently granular for the results to be fit for purpose. The BCR should utilise the minimum number of parameter and data requirements while attaining valid and robust outcomes with a focus on material issues.

6.   BCR Principle 5 - Internal consistency. The structure of the BCR needs to be consistent and should be applicable over the range of insurance and non-insurance entities it will need to cover and over time.

7.   BCR Principle 6 - Optimise transparency and use of public data. The level of transparency, particularly with regard to the final results provided, and the use of public data should be optimised.

Annex B – Glossary

Abbreviation	Meaning
ALM	Asset Liability Matching
BCBS	Basel Committee on Banking Supervision (also Basel Committee)
BCR	Basic Capital Requirements
BCR Ratio	Ratio of Qualifying Capital Resources divided by the Required Capital.
ComFrame	Common Framework for the Supervision of Internationally Active Insurance Groups
DTAs	Deferred Tax Assets
DTLs	Deferred Tax Liabilities
FSB	Financial Stability Board
GAAP	Generally Accepted Accounting Principles
GICs	Guaranteed investment contracts
G-SIIs	Global Systemically Important Insurers
G20	Group of Twenty Countries
HLA	Higher Loss Absorbency
IAIGs	Internationally Active Insurance Groups
IAIS	International Association of Insurance Supervisors
IASB	International Accounting Standards Board
ICP	IAIS Insurance Core Principle
ICS	Risk–based global Insurance Capital Standard
IFRS	International Financial Reporting Standards
IOSCO	International Organization of Securities Commissions
MCR	Minimum Capital Requirement
MOCE	Margin Over Current Estimate (for BCR purposes)
NAAR	Net Amount at Risk
NTNI	Non-traditional Insurance and Non-insurance (activities)
PCR	Prescribed Capital Requirement
Other important terms	
Qualifying Capital Resources	The amount of qualifying capital resources available for BCR purposes
Required Capital	The amount of capital required to satisfy the BCR

Annex C – Insurance Liabilities and Reinsurance Recoverables

Segmentation

1. The allocation of insurance liabilities to the lines of business should follow the principle of substance over form. This means insurance liabilities should be allocated to the lines of business which best reflect the nature of the underlying risks. Segmentation should be based on the nature of the risks underlying the contract (substance) rather than the legal form of the contract (form).

2. The application of this principle implies that the legal classification of insurance contracts, for authorisation or accounting purposes, is not the determining criteria for segmentation.

3. The segments to be used for valuation and BCR reporting are shown in Annex F.

Market Adjusted Valuation Approach – Methodology for calculation of Current Estimate

Basis for calculation

4. The Current Estimate should correspond to the probability-weighted average of the present values of the future cash flows associated with insurance liabilities discounted using the relevant interest rate term structure to derive a present value. This applies equally to the calculation of reinsurance recoverables. Reinsurance recoverables need to be calculated so that they are consistent with the Current Estimates of insurance liabilities. Therefore the same assumptions and inputs should be used.

5. The calculation of the Current Estimate is based upon up-to-date and credible information and realistic assumptions. Implicit or explicit margins are not part of the Current Estimate. The determination of Current Estimate has to be comprehensive, and objectivity is required in terms of observable input data.

6. Uncertainty in the future cash-flows should be captured in the Current Estimate. Uncertainty in cash flows can arise from a number of sources, namely: (1) the timing, frequency and severity of claim events; (2) claims amounts and the period needed to settle claims; (3) the amount of expenses; (4) the value of an index/market values used to determine claim amounts; (5) policyholder behaviour; and (6) path dependency. The calculation should consider the variability of the cash flows in order to ensure that the Current Estimate represents the mean of the distribution of cash flow values.

7. By definition, the Current Estimate is the average of the outcomes of all possible scenarios, weighted according to their respective probabilities. However, it may not be necessary or even possible to explicitly incorporate all possible scenarios in the valuation of insurance liabilities, or to develop explicit probability distributions in all

cases. This depends mainly on the type of risks affecting the scenarios and the expected materiality of their financial impact in the overall calculation.

8. When valuing insurance liabilities no adjustment to take account of the own credit standing of the G-SII should be made.

Cash-flow projection

9. Cash flow projections should reflect expected realistic future demographic, legal, medical, technological, social or economic developments. Appropriate inflation assumptions should also be incorporated in the cash flow projections, appropriately recognizing the different types of inflation to which the entity can be exposed (e.g. consumer price index, medical inflation and salary inflation). Premium adjustment clauses, where relevant, may also need to be considered.

10. The Current Estimate should be calculated gross of recoverables from reinsurance and special purpose vehicles. Recoverables from reinsurance or special purpose vehicles should be separately calculated and recognized as an asset.

11. The cash-flows to be included in the calculation of Current Estimate should, at least, include:

    - benefit and claim payments
    - direct and indirect expenses to be incurred (a non-exhaustive list of examples could include: administrative expenses; investment management expenses; future acquisition expenses; claims management expenses; and, handling expenses)
    - premiums to be received, provided they are included within the contract boundaries
    - subrogation payments and recoveries other than reinsurance and special purpose vehicle
    - other payments to be made which are necessary in order to settle the claims.

12. In determining the Current Estimate, G-SIIs should take into account taxation payments which are charged to policyholders.

Recognition / Derecognition of insurance liabilities

13. Without prejudice to the specifications set in the "contract boundaries" section, a liability should be recognised and valued as soon as the G-SII becomes party to a contract, without any possibility to amend or cancel it, even though the insurance coverage has not started yet.

14. A contract should be derecognised when all possible claims linked to this contract have been completely settled, and all future cash-flows are certainly nil.

> **Example**
>
> Consider a contract providing a health coverage starting on 1 March 2014. The contract has been underwritten on 20 December 2013, with no possibility to change the terms of the contracts before the coverage starts. On 31 December 2013, this contract should be recognised in the balance sheet.

Contract Boundaries

15. Only contracts existing at the valuation date, and recognised in line with previous section, should be taken into account. This provision implies that no future business should be taken into account for the calculation of insurance liabilities.

16. Any obligations, including future premiums, relating to the contract shall belong to the contract. However, future premiums (and associated claims and expenses) relating to an existing and recognised contract beyond the following dates should not be considered in insurance liabilities, unless the G-SII can demonstrate that they are able and willing to compel the policyholder to pay the premiums:

    - The future date where the G-SII has a unilateral right to terminate the contract or reject the premiums payable under the contract;
    - The future date where the insurance or reinsurance undertaking has a unilateral right to amend the premiums or the benefits payable under the contract in such a way that the premiums fully reflect the risks.

17. For group policies, similar rules apply. If premiums can be amended unilaterally for the entire portfolio in a way that fully reflects the risks of the portfolio, the second condition above will be fulfilled for group policies.

> **Example**
>
> Consider a whole life policy, with a level premium. According to the terms of the insurance contract, the G-SII cannot reject any premium, and the premium is constant throughout the life of the contract. Therefore, all (probability-weighted) future premiums of this contract should be taken into account in the insurance liabilities, along with the related claims and expenses.

> **Example**
>
> Consider a health policy (medical expenses), starting on 1 July 2013, with a premium paid monthly. Premium indexation is possible at each anniversary date, and the policyholder has no right to cancel the policy during the first 12 months. On 31 December 2013, insurance liabilities should include 6 months of future premiums (January to June 2014), along with the related claims and expenses.

> **Example**
>
> Consider an annually renewable life protection policy sold on a group basis. The G-SII does not manage this portfolio on a contract-by-contract basis, but can freely adjust the premiums for the entire portfolio at the policy anniversary date, to fully reflect the risks stemming from that portfolio. In this case, the conditions defined in paragraph 16 above are deemed applicable. The calculation of Current Estimates should not include any premiums beyond the next future anniversary date where such adjustment is possible, along with the related claims and expenses.

Time horizon

18. The projection horizon used in the calculation of the Current Estimate should cover the full lifetime of all the cash in- and out-flows required to settle the obligations related to existing insurance and reinsurance contracts on the date of the valuation.

Data quality and setting of assumptions

19. When selecting data for the calculation of the Current Estimate, G-SIIs should consider:

    - the quality of data, for different data sets, based on the criteria of accuracy, completeness and appropriateness;

    - the use and setting of assumptions made in the collection, processing and application of data;

    - the frequency of regular updates and the circumstances that trigger additional updates.

20. In some cases, only limited or unreliable data may be available from the G-SII's own experience of a particular type of contract or claim from which to base an assumption for that contract or claim. Historical data about the G-SII's own experience should be supplemented when necessary with data from other sources. Adjustment should be made to these alternatives sources so that they are more consistent with the risk characteristics of the portfolio considering in particular whether:

    - the characteristics of the portfolio differ (or will differ, for example because of adverse selection) from those of the population that has been used as a basis for the historical data;

    - there is evidence that historical trends will not continue, that new trends will emerge or that economic, demographic and other changes may affect the cash flows that arise from the existing insurance contracts; or

    - there have been changes in items such as underwriting procedures and claims management procedures that may affect the relevance of historical data to the portfolio of insurance contracts.

21. When calculating the Current Estimate consideration should be given to events not captured in the data that can impact the Current Estimate.

22. Consistency across assumptions is important to consider, for example the relationship between inflation and interest rates.

Possible methodologies

23. The calculation of insurance liabilities is typically based on valuation models. Where this is the case, these models should be comprehensive, transparent, based on current and reliable data, and use appropriate actuarial and statistical methods. Valuation models and their parameters should be calibrated as much as possible on the basis of objectively observable data.

24. G-SIIs should use actuarial and statistical techniques for the calculation of the Current Estimate which appropriately reflect the risks that affect the cash flows. This may include simulation methods, deterministic techniques and analytical techniques. Following the application of the proportionality principle,[22] in the case of more complex cash flow projections (e.g. future discretionary benefits relating to participating contracts or embedded options and guarantees), simulation techniques may lead to more robust valuation results. In other cases, deterministic and analytical techniques may be more appropriate.

Liabilities expressed in different currencies

25. Discounting of liabilities needs to occur with a yield curve relevant to the particular currency. Conversion to the reporting currency from different currencies should be carried out according to the jurisdictional GAAP for consolidated group reporting. This will usually result in conversion at the currency conversion spot rate at the reporting date.

Valuation of options and guarantees

26. Insurance contracts often include embedded options and guarantees, such as guarantees of minimum investment returns (including as part of death benefits), maximum charges for mortality, surrender options, or options for the policyholder to reduce or extend coverage. Expected cash flows for these options and guarantees should be included in the cash flows to determine Current Estimates. Expected cash flows should reflect expected policyholder behaviour. For the calculation of the time value of options and guarantees all payments which are connected to the insured risks have to be considered, especially profit participations.

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[22] Proportionality principle: when the G-SII can demonstrate that taking into account a specific factor / rule in their calculation or valuation would lead to a significant increase in complexity, without material improvement to the quality of the figure produced, or to the assessment of risk linked to this figure, then this factor or rule can be ignored or simplified.

27. Ideally, options and guarantees should be valued using stochastic approaches. However, for the purposes of initial reporting and subject to a materiality assessment, simplified deterministic approaches can be used.

Policyholder behaviour

28. Expected cash flows should reflect expected policyholder behaviour, particularly where the options or guarantees allow policyholders to take actions to change the amount, timing or nature of the benefits they will receive. In the case of long term contracts, options available to policyholders can include the termination of a contract, guaranteed living benefits, guaranteed income benefits or any other contractual options.

29. The likelihood that policyholders will exercise contractual options should be taken into account, considering in particular:

   - past behaviour of policyholders
   - how beneficial the exercise of options would be to policyholders under specific circumstances
   - economic conditions
   - past management actions.

30. The likelihood that policyholders will exercise contractual options, including lapses and surrenders, shall be based on a prospective view of expected policyholder behaviour that makes appropriate and justified assumptions about the elements mentioned above.

31. The assumptions on policyholder behaviour should be appropriately founded in statistical and empirical evidence, to the extent that it is deemed representative of the future expected behaviour.

32. Policyholder behaviour is driven by convenience and other considerations and not purely financial self-interest (or may appear as such to the G-SIIs due to the lack of knowledge of the specific circumstances of the policyholder). Realistic current expectations would incorporate at least some policyholder action or inaction consistent with observed policyholder behaviour.

33. The assumptions concerning policyholders' behaviour would need to be consistent with the assumptions for investment returns and should not, in general, be assumed to be independent from financial markets. For instance policyholders' behaviour may be linked to the interest rate scenario and associated assumptions.

34. Ideally, the quantification of the impact on the Current Estimate of optionality or other non-symmetric cash flow could be done using a stochastic method considering the entire range of scenarios.

Valuation of future benefits (discretionary vs. non-discretionary)

35. All future benefits that are non-discretionary should be included within the projection of cash flows according to the contractual obligation of the G-SII and the economic or loss scenarios applicable for the Current Estimate.

> **Example**
>
> For bonuses or crediting rates, the Current Estimate should recognise the amounts expected to be paid consistent with the expected future experience and economic scenarios for which the liability valuation is based. For example, if a reference group of assets is expected to earn a greater amount than the contractual crediting rate and discretionary additional credit rates can be declared, the expected discretionary crediting rate should be taken into account. This projection should be consistent with the yield curve that is used to discount the cash flows for the contract.

36. Discretionary benefits and the exercise of policyholder options should usually be included in the projection of cash flows. The application of discretions often drive policyholder behaviour and so must be considered along with options and guarantees embedded within policies. A Current Estimate of cash flows will include the value of cash flows as a result of the exercise of discretions consistent with the assumed policyholder behaviour and other valuation assumptions.

Management actions

37. When calculating the Current Estimate, the G-SII's future management actions could be taken into account if they can reasonably be expected to be carried out under the specific circumstances to which they are applied.

38. Management actions should be objective, realistic and verifiable. They cannot be contrary to the G-SII's obligations to policyholders or to legal provisions applicable to the G-SII. Assumed future management actions should be consistent with the G-SII's current business practice and business strategy unless there is sufficient evidence that the G-SII will change its practices or strategy.

39. Assumed future management actions shall be consistent with each other. The assumptions about future management actions should take into account the time needed to implement them and any expenses caused by them.

Simplifications/approximations and appropriate adjustments (application of the Proportionality principle)

40. Where existing approaches (GAAP or economic valuation) provide a reasonably close approximation to the valuation principles outlined above for the market adjusted valuation approach, it is acceptable to use these valuation frameworks as starting points and apply adjustments.

41. Possible adjustments could include approximating the market-adjusted value by using sensitivities of economic values to using different yield-curves for discounting.

42. For insurance business not including embedded options and guarantees (in particular insurance liabilities related to non-Life insurance), there might be no need to perform stochastic valuations. In that case, the adjustment of GAAP values based on management's best estimates for determining market-adjusted values could be limited to applying discounting to the insurance liabilities which were determined according to GAAP.

Discounting

43. Current Estimates of insurance liabilities (and related reinsurance recoverables) are to be calculated using the IAIS specified discount curves.

IAIS Specified Discount Curves

44. The main objective of applying IAIS specified discount curves is to improve comparability. As such, the initial approach chosen for the BCR does not pre-empt the future development of alternative comparable approaches to discounting the Current Estimate that may better reflect the long term nature of insurance liabilities and that could be eventually used as part of IAIS standards. That applies to both the mechanics of the curve as well as any factors used in the calculation for the purposes of the field test.

45. The IAIS specified discount curves are based on risk adjusted liquid interest rate swaps or government bonds (in cases where the latter are considered being more liquid) and some adjustment based on investment grade corporate bond indices.

46. The curves provided to volunteers for field testing were based on calendar year end 2013 market data for swaps and government bonds as well as an adjustment based on a relevant investment grade corporate bond index. To derive the full curve (before adjustment), the Smith Wilson technique was used. This technique is a macroeconomic approach: A spot (i.e. zero coupon) rate curve is fitted to observed prices of financial instruments. For the purpose of the field test the curves were flat after 30 years.

47. Adjustment: For the field testing exercise the adjustments were grouped by three different buckets: (1) adjustment for currency/jurisdiction identity, (2) adjustment for currency unions, and (3) adjustment for markets with small corporate bond markets

48. The basis for the adjustment was an investment grade corporate bond or broad market index (i.e. basket of liquid bonds with a credit rating from AAA to BBB), where they were available.

49. The adjustment was calculated as a fixed percentage upward shift and was based on the 10 year unadjusted rate (where available).[23] Forty percent of the actual corporate bond spread was used for the adjustment.[24] The percentage adjustment that was applied to the curve was then relative to the (10 year) basic risk free rate. The adjustment was capped at the absolute spread as calculated at 10 years.

$$interest\ rate_{adjustment}\ = min\left(basic\ risk\ free_t \frac{40\%\ times\ spread_{10}}{basic\ risk\ free\ rate_{10}}, spread_{10}\right)$$

50. In case of currency unions, such as the Eurozone, both government bond and corporate bond spreads were taken into account. The adjustment has regard to the average composition of G-SIIs' assets between government bonds and corporate bonds. The adjustment is calculated as:

*Weight_Govt * Relevant_Spread_Govt +Weight_Corp * Relevant_Spread_Corp.*

51. For markets where a number of indicators (e.g. lack of index, low amount outstanding, few bonds high quality bonds) suggest that the corporate bond market does not allow considerable investments by G-SIIs, a simple assumption was made that the adjustment would be 50bp. For future field testing exercises, further investigation will be undertaken on the development of the local corporate bond markets.

52. The IAIS provided the discount curves for a number of currencies/jurisdictions. To ensure comparability, for a given currency, each volunteer firm was required to use the relevant curve provided by the IAIS. The IAIS will publish the yield curves for use in conjunction with quantitative field testing exercises from 2015 to 2018. From 2019, another publication method will be considered.

Curves not provided centrally

53. The IAIS will not provide discount curves for all currencies and countries where G-SIIs operate. In those cases, the G-SIIs are required to derive the curve following the approach set out above by complying with the principles presented above.

Method to derive risk free term structure for field testing purposes

54. For discount curves that are not centrally provided, the G-SIIs are required to take the following aspects into account, when deriving the basic risk free curve:

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[23] The reason for using the 10 year rate as a basis for the adjustment is that in order to be representative, a corporate bond index is needed that is liquid and largely representative of the market (i.e. covers a sufficiently large number of bonds).

[24] This spread adjustment is universal and no distinction is applied among the products to which it is applied. For example, even a product that could be surrendered at any time without penalty applies the same curve. This was done as a simplification. The IAIS will evolve its approach to determining yield curves during the confidential reporting period with particular consideration of long-term guaranteed products.

- The risk free interest rate term structure should be determined on the basis of market data as of the valuation date.

- The relevant data should either be swaps or government bonds, both adjusted for credit risk. In the rarer case where neither is available, other financial instruments that are similar to swaps can be used, subject to appropriate credit risk adjustment.

- If the risk free rate is derived by using swaps, an appropriate (flat) basis point adjustment to the swap rates should be applied. The credit risk of sovereigns could be measured by looking at CDS premiums on government bonds. It is recognised though, that under certain market circumstances the relationship between government bonds and CDS prices can be weak.

- The rates should be based on financial instruments for which a reliable market value is available. This requires a deep, liquid and transparent market.

- Where the credit risk assessment lacks a sufficiently robust basis, the adjustment should be approximated by multiplying the credit risk adjustment used for USD multiplied by the respective interest rate differential.

- The interpolation should be done in line with the approaches mentioned in the technical specifications. However, a simple linear interpolation between the observed spot rates is also acceptable.

The particular case of obligations replicable by a portfolio of assets

55. Where future cash flows associated with insurance obligations can be replicated reliably using financial instruments for which a reliable market value is observable, the value of insurance obligations associated with those future cash flows could be determined on the basis of the market value of those financial instruments.

56. The cash flows associated with insurance obligations cannot be reliably replicated when:

  - policy holders can exercise contractual options, including lapses and surrenders

  - obligations depend on mortality, disability, sickness and morbidity rates

  - expenses associated with insurance obligations cannot be reliably replicated.

57. Financial instruments used to value insurance obligations must be traded in deep, liquid and transparent (DLT) markets.

Other Liabilities

58. For the market-adjusted valuation approach, liabilities will be reflected at a market-value that does not take into account changes in the credit standing of the G-SII.

Annex D – Qualifying Capital Resources

1. The BCR defines Qualifying Capital Resources as either Core or Additional.

2. The G-SII's core capital is comprised of qualifying financial instruments and capital elements other than financial instruments that contribute to financial strength, absorb losses both on a going-concern and winding-up basis and otherwise contribute to survival through periods when the G-SII is under stress.

3. The G-SII's additional capital is comprised of qualifying financial instruments and capital elements, other than financial instruments, that protect policyholders in winding-up. The key characteristics of capital instruments that qualify as additional capital are subordination and availability to absorb losses in winding-up.

4. Qualifying capital resources include the following:

Financial Instruments

5. Financial instruments are classified as capital resources where those instruments:[25]

- are available

- are not undermined or rendered ineffective by encumbrances

- are subordinated to the rights of its policyholders in an insolvency or winding-up. Policyholder priority order should not be compromised by guarantees or security arrangements given by either the G-SII or another related entity for the benefit of holders

- have a level of distribution that is neither tied nor linked to the credit standing or financial condition of the G-SII or another related entity, such that those distributions may accelerate insolvency.

6. Financial instruments are classified as Core Capital where those instruments:

- do not have a fixed maturity

- are not retractable by the holder

- are not redeemable within the first five years after issuance

- require that redemption is subject to review or approval from the relevant supervisor

- are fully paid-up

- have distributions (e.g. dividends and coupon payments) that can be cancelled without the risk of invoking default or triggering insolvency

- with distributions that are cancellable are non-cumulative

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[25] Availability and subordination may be encumbered if there is any arrangement or connected transaction that prevents the financial instrument from meeting the criteria.

- have no fixed serving costs (e.g. fixed interest payments and principal repayments)

- are free from charges, claims or other hindrances and do not include a right by the holder to receive compulsory payments.

7. Where financial instruments do not meet the criteria for classification as Core Capital, they may be classified as additional capital where those instruments:

- have an initial maturity of at least five years, where the instrument's limited protection as it nears maturity is captured either:

  - by the notional amount of the instrument being amortised on a straight-line basis in the final five years to maturity

  - due to the existence of a requirement for the G-SII to suspend repayment or redemption if it is in breach of its capital requirement or would breach it if the instrument is repaid or redeemed

- require that redemption is subject to review or approval from the relevant supervisor

- give holders no rights to accelerate the repayment of future scheduled principal or coupon payments, except in bankruptcy, insolvency, winding-up or liquidation.

8. G-SIIs will only be permitted to include non-paid-up capital items (e.g. unpaid preference shares, unpaid subordinated debt, letters of credit, guarantees) in additional capital where those items contain legally binding commitments that increase the amount of qualifying paid-up capital at the discretion of the G-SII, at any time. Non-paid-up capital items are limited to an amount not greater than 10% of BCR. Non-paid-up capital items that qualify as additional capital are subject to supervisory review or approval.

Elements Other than Financial Instruments

9. Core Capital elements other than financial instruments may include, for example:

- Retained earnings

- Surplus funds

- Contributed surplus

- Paid-up initial funds (e.g. mutual entities)

- Non-participating account (e.g. mutual entities)

- Participating policyholders' equity or account (e.g. joint stock entities)

- Accumulated Other Comprehensive Income (AOCI)

- Margins Over Current Estimates (MOCE)/Reserves included in GAAP equity or otherwise allocated to equity.

10. Capital instruments issued by a fully consolidated regulated financial subsidiary of the G-SII to third-party investors (minority interests) may be recognised as consolidated Core

capital of the G-SII only if the instrument meets or exceeds all of the criteria for classification as Core capital.

11. Capital instruments issued by a fully consolidated regulated financial subsidiary of the G-SII to third-party investors may be recognised as consolidated Additional capital of the G-SII only if the instrument meets or exceed all of the criteria for classification as Additional capital.

Adjustments, exclusions and deductions

12. The following items are excluded or deducted from Core Capital:[26]

    a) Goodwill

    b) Intangible assets, including computer software intangibles

    c) Each net defined benefit pension plan asset, where it cannot be easily and promptly accessed for the own use and on-going operations of the G-SII

    d) Deferred Tax Assets (DTAs), which rely on the future profitability of the G-SII

    e) Reciprocal cross holdings, arranged either directly or indirectly between financial institutions and which artificially inflate the Core Capital position of the G-SII

    f) Direct investments in own shares and in own Core Capital financial instruments

    g) Reinsurance assets arising from arrangements deemed to constitute non-qualifying reinsurance i.e. those without an executed and legally binding contract (subject to a six-month grace period from the effective date of reinsurance coverage)

    h) Total secured (encumbered) assets in excess of the sum of:

        o the value of the G-SII's on-balance sheet liabilities secured by the (encumbered) assets; plus

        o the value of the G-SII's incremental supervisory capital requirements for liabilities secured by the (encumbered) assets; plus

        o the value of the G-SII's incremental supervisory capital requirements for secured (encumbered) assets

    No deduction is required for encumbered assets relating to off-balance sheet securities financing transactions (e.g. securities lending and borrowing, repos and reverse repos) that do not give rise to any liability on the balance sheet.

13. The following items are excluded or deducted from additional capital:

        o Reciprocal cross holdings, arranged either directly or indirectly between financial institutions and which artificially inflate the additional capital position of the G-SII

        o Direct investments in own additional capital financial instruments.

14. The following items, though excluded or deducted from Core Capital, are added back or included in additional capital:

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[26] Items (a) to (d) should be net of associated DTLs.

- o Realisable value of net DTA which relies on future profitability
- o Realisable value of computer software intangibles
- o 50% of each net pension plan asset, net of any eligible DTLs.

Annex E – BCR Formula and Derivation

> This annex provides an explanation of the derivation of the various components of the BCR formula. It also provides commentary on the rationale for implicit rather than explicit treatment of elements, such as ALM and diversification.

1. The BCR Required Capital formula is as set out in section 3.2

$$BCR\ Required\ Capital = \alpha \left[\sum_{i=1}^{4} a_i\,TL_i + \sum_{i=1}^{4} b_i\,TNL_i + \sum_{i=1}^{4} c_i\,NT_i + \sum_{i=1}^{3} d_i\,A_i \right] + \sum_{i=1}^{n} NI_i$$

Insurance Component

2. The process for determining the factors to be applied to the insurance component in the formula above was essentially done in two separate steps. The factors relating to the risk exposures (a1, a2, to d3) were derived separately from the alpha scalar (α). This facilitated the separation of the analysis required to derive the risk profile of the BCR from the wider discussion of how the overall level of the BCR should be calibrated.

3. The alpha scalar is set at 100%; however, that decision is subject to further consideration in the context of the development of HLA. In determining the level of the BCR, the IAIS has targeted a level between the upper and lower thresholds of supervisory intervention, such that frequent breaches are not expected assuming normal market conditions. As set out in section 6 of the report, the data has shown that for the G-SIIs the average level of the BCR is 75% of the reported PCR when the scalar parameter (alpha) of 100% is applied.

Risk exposure factors

4. Risk exposure factors were derived from supervisors' responses to a questionnaire seeking estimates of relative riskiness of various proxy measures of risk related to different asset and liability segments. Supervisors of jurisdictions in which most of the G-SIIs are based and in which the G-SIIs have key operations provided estimates of relative riskiness which could be applied, based on their knowledge and actual experience of the underlying risks and the G-SIIs.

5. This process yielded an interesting result, namely that even though the level of factors differed between the various supervisors, the relative riskiness allocated to the different exposure measures appeared similar, although there were significant differences in some estimates, especially in relation to asset risks.

6. Further analysis applying the estimated factors to the exposure data collected from the volunteers showed that the ranking of Required Capital for G-SIIs using the different sets of factors from the supervisors was similar even though the level of Required Capital differed.

7. During the analysis, the key metrics considered were:

- The level of BCR compared to the level of PCR[27]
- The ratio of Core Capital resources to BCR.

8. For those G-SIIs that provided sufficient data, comparison of the split of capital requirement over the risk exposures derived using the supervisors' factors to that provided by the volunteers gave additional comfort that the overall allocation of risk capital was appropriate.

9. As the relativity of the capital required for risks suggested by the supervisors was similar but the calibration level diverged, a single set of parameters was developed based on combining the parameters from the jurisdictions in which most G-SIIs are based. Calibration was then carried out consistent with the objective of the targeting the BCR between the upper and lower thresholds for supervisory intervention (e.g. typically between PCR and MCR).

10. The process as described above has resulted in the factors shown in section 3.3.

11. Care should be taken when comparing factors. Different exposure measures are used, resulting in different magnitudes of factors. As an example, Net Amount at Risk on protection business will be a large amount as it represents the total exposure of the G-SII. Any such factor applied to Net Amount of Risk will be much lower than a factor applied to a different measure, such as a Current Estimate.

12. Even where factors are applied to the same exposure measure, care needs to be taken when comparing the factors due to the different nature of the underlying risks. As an example even though Current Estimate is used as an exposure measure for both life and non-life business, the factors applied to the exposures are very different.

13. The Current Estimate for non-life business will typically be smaller than the Current Estimate for non-protection life business, as it will be dependent on contingent low probability events occurring. This in contrast to non-protection life business where there will typically be a build-up of funds which will be paid out to the policyholder in the future. Thus, even though the factors applied to non-life business are higher, they are applied to a smaller exposure.

Selection of the segments – general approach

14. The fifteen BCR insurance segments have been selected following consideration of all of the sub-segments reported as part of field testing. This ensures the BCR formula avoids unnecessary complexity while remaining sufficiently granular to provide a robust and risk sensitive capital measure. In particular, the specific risk profile of the G-SIIs to which the BCR is to be applied has been considered. As part of field testing, insurance was captured at the level of 26 sub-segments. All of these sub-segments have been mapped

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[27] Not all G-SII jurisdictions have group-wide PCRs. However, for those G-SIIs which are not subject to a group-wide PCR, additional guidance was given to estimate a group wide PCR based on the existing requirements at the individual insurer level.

to one of twelve segments (please see the table in Annex F). In grouping into the segments chosen for the BCR formula, supervisory judgement was applied to allocating business to broadly homogeneous groups with specific consideration given to:

- Whether the same exposure measure is appropriate for different risks grouped together

- Similarity in terms of uncertainty relating to the size and timing of payments

- Relative riskiness of earned and unearned business.

15. The appropriateness of the initial allocation of sub-segments was then validated against the data provided as part of field testing. In particular, consideration was given to the materiality of the segments and sub-segments in the context of the G-SIIs with a view to avoid allocating a specific capital charge to an immaterial segment or conversely creating the need to derive a blended factor for two or more material sub-segments.

16. Although consideration was also given to data provided by all volunteers, greater weight was given to the specific risk profile of G-SIIs given that the BCR is to be applied only to G-SIIs. Although, on the whole, the final allocation of sub-segments to segments was broadly consistent with the initial allocation, some re-allocations were made as a result of this validation exercise.

17. The IAIS has looked to derive segments for which the mix of business is broadly consistent across the various G-SIIs.

Traditional Life Insurance Segmentation

18. When considering all G-SIIs in the aggregate, 90% of Current Estimates are just in three sub-segments, namely Savings without guarantees (approximately 25%), Annuities (approximately 10%) and Participating Products (approximately 50%). The proportion of Current Estimates explained by these three sub-segments ranges from 70% to 95% across the G-SIIs. For all field testing volunteers the allocation of reserves between the three sub-segments does vary from the G-SII population, overall they continue to account for approximately 80% of Current Estimates in the aggregate. Two of these three dominant sub-segments, Annuities and Participating Products, have each been allocated a separate factor under the proposed BCR. The third of the three dominant sub-segments (Savings without guarantees) has been allocated to the Other Life Segment and is by far the most important element of this segment. All segments are dominated (80% of exposure measure or more) by a single sub-segment with the particular sub-segment being similarly dominant across all G-SIIs. Current Estimates are not an ideal exposure proxy for some lines of business – in particular protection business.

Exposure measures for traditional life business

19. The proxy measures for risk exposure for the four segments of the "Traditional Life insurance" main category of activity are:

- Participating, Annuities, Other life: Current Estimate as specified in the Market Adjusted Valuation Approach, net of reinsurance recoverables, using the IAIS specified discount curve. The reason for the choice of the Current Estimate is to improve comparability across jurisdictions and to optimise transparency through the use of a common and explicitly specified yield curve. The Current Estimate is net of reinsurance recoverables to allow for the risk mitigating effect of outwards reinsurance.

- Protection: Net Amount at Risk (NAAR), equal to the sum insured minus the Current Estimate, net of reinsurance recoverables, where the sum insured is the sum of all maximum amounts that the insurance group would have to pay out on policies in force within the Protection segment. The NAAR equals the maximum possible payouts in excess of the Current Estimate and thus provides a measure of relative riskiness; it is comparable across jurisdictions. The NAAR is considered an appropriate proxy for the Protection – Life sub-segment, which is the most material sub-segment; for other sub-segments the appropriateness of the proxy is under further consideration. The Current Estimate is not considered an adequate proxy for the Protection segment because it is derived from cash-flows in which benefit and claims payments are netted by premiums received, so that the Current Estimate could be negative. An estimate of the present value excluding premiums received is not available from the field testing data.

Traditional Non-Life segmentation

20. The pattern of segments that are dominated by a single sub-segment is also the case for non-life insurance except for the Non-Life Other segment. For most G-SIIs, the most material sub-segment within this segment is Accident, Protection & Health business but this is not universally the case. However, in the context of G-SIIs this is not a material segment and segmenting to a more granular level would introduce a disproportionate level of granularity to the BCR formula in return for very limited additional risk sensitivity.

21. For the G-SIIs, the property segment is dominated by property damage. Other property sub-segments (non-proportional property, accident protection and health, motor damage and catastrophe reinsurance) are all relatively insignificant for the G-SII population.

22. For the casualty segment, the other liability segment dominates with an immaterial amount of non-proportional liability business.

Exposure Measures for Non-Life Business

23. For three of the four non-life segments, Current Estimates have been used as a proxy measure for risk exposure. For the most part, Current Estimates provide a reasonable indication of business volumes as well as exposure to open claims which may deteriorate materially as a result of adverse legal or legislative decisions. In particular, Current Estimates offer an indication of accumulated exposure to possible legacy issues which is a significant area of risk for traditional casualty business. Although Current Estimates are less sensitive than premium to more recent changes in non-life business volumes, this is unlikely to be a significant concern in the case of G-SIIs.

24. For the Property segment, net written premium was identified as providing a better proxy and it is against this measure, therefore, that the BCR Property factor is applied. There are various reasons for taking this alternative approach:

- For traditional property business, the most material area of uncertainty relates to the possibility of future events impacting such business (e.g. major fire, terrorist attack or windstorm). The best indicator of exposure to future events, which can reasonably[28] be provided by companies, is net written premium as this should reflect both business volume and, if priced appropriately, its relative riskiness.

- The volatility of property business, however, significantly depends on the size of underlying loss necessary for a G-SII to incur a claim and the specific perils insured. For example, the performance of business underwritten purely to indemnify losses resulting from named catastrophe perils or business which is only exposed to losses in excess of a material underlying loss will be more unpredictable than primary property insurance covering all perils. To reflect the varying level of uncertainty and ensure that that the BCR incorporates an appropriate level of risk sensitivity while respecting its basic structure, the property exposure measure recognises that non-proportional and catastrophe reinsurance will typically represent a proportionately more significant level of exposure than property damage premium. The applied definition of *Premium Measure* is;

Premium Measure = Property Damage + [10 x (Non-Proportional + Cat Reinsurance)]

- Current Estimates are not an appropriate measure because:

  o They provide only a weak indicator of those events which have not yet occurred

  o They do not necessarily offer a good indicator of risk relating to previous events (e.g. where policy limits or retention levels have already been reached)

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[28] Arguably, sums insured will provide an enhanced exposure measure but the integrity and comparability of such data is likely to be weaker than for net written premium.

- They would introduce unjustifiable levels of volatility in the BCR as the BCR would increase materially following a major event

- There is a concern that Current Estimates would not be sufficiently sensitive to rapidly adjusting exposures to property related risks resulting in a significant lag between material changes in underlying exposures and the reflection of this in the BCR.

Non-Traditional Insurance Segmentation

25. There were four sub-segments of non-traditional life insurance – Variable annuities (separate information was obtained about the guarantees), GICS, Synthetic GICS and other non-traditional life insurance. The IAIS does not intend to significantly reduce the segmentation on non-traditional business and therefore has only combined GICS and Synthetic GICS with variable annuities remaining in its own segment. Other non-traditional life insurance business has been combined into a comprehensive other non-traditional insurance category along with other non-traditional non-life insurance and commercial credit insurance and suretyship.

26. Mortgage insurance remains as a separate segment of non-traditional, non-life business.

Exposure Measures for Non-traditional Insurance Business

Variable Annuities – Notional Value

27. The notional value of variable annuities represents the present value of those payouts that are contractually guaranteed to each policyholder as of the valuation date. Before hedging, the main risk of loss in this business relates to declining interest rates and equity market prices. Notional value is deterministic, independent of jurisdictional accounting standards and always results in a positive exposure. The notional value varies as the book of business ages, and captures many of key contract terms, particularly the roll-up rates and the equity market ratchet features. Current estimate liabilities were considered, but were not chosen as the exposure base because they may be negative, vary by accounting regime, are typically calculated using stochastic techniques, and are not well suited for factor-based capital requirements. "Separate account value" was considered but rejected because it does not capture the value of the guarantees and, under a factor-based approach, would lead to declining capital requirements; even as Current Estimates increase.

Mortgage Insurance – Risk in force

28. Mortgage insurance risk-in-force measures the insured outstanding principal of the mortgage loans insured. The main risk in this business is credit loss due to housing market and general household credit quality deterioration. Unexpected insured losses are incurred when loan delinquencies and loss severities exceed expected levels. Jurisdictional capital requirements typically prescribe maximum risk to capital ratio thresholds for supervisory intervention. Since liabilities are typically not incurred until loans become delinquent, the use of Current Estimate liabilities as an exposure base for factor-based capital requirement would be backward-looking and a poor indicator of unexpected loss.

GICs – Notional value

29. The notional value of a guaranteed investment contract (GIC) represents the present value of principal and interest payments that are contractually guaranteed by the G-SII. The main risk of loss relates to declining interest rates and credit losses in underlying investments. For non-synthetic GICs, notional value are close to Current Estimates. For synthetic products, Current Estimates are typically small under benign market conditions, but are sensitive to unrealized market and credit losses in the reference portfolios, so Current Estimate is not a good exposure base to measure unexpected loss in a factor-based framework.

Other non-traditional – Current Estimate

30. Other non-traditional insurance includes credit products like surety, trade credit (except for short term trade credit) and political risk insurance. Due to limited data availability, Current Estimate has been used as the proxy exposure measure during initial field testing. Notional value captures insured volumes outstanding and could be better suited for the BCR. The main risk of loss comes from non-performance by the reference obligors in the contracts. Like mortgage insurance, a loss is not typically incurred until there is a credit event. The feasibility of using Notional value will be investigated during further field testing.

Asset segmentation

31. With respect to risk associated with assets, the BCR has been calibrated to the three segments of Credit – investment grade, Credit – non investment grade and Equity, real estate & non-credit investment assets. The process for the selection and validation of the asset classes is broadly consistent with that applied when selecting the appropriate insurance segments. As expected, the investment grade asset class (including policyholder loans) comprises a broadly consistent blend of corporate and government bonds. With regards non-investment grade assets, the segment is largely explained by the sub-segments of Corporate Bonds and Mortgage loans with some further exposure to corporate bonds. In the case of equity, real estate & non-credit investment assets, the segment is largely attributable to a combination of traditional equities and real estate with the balance explained by other invested assets.

Exposure Measures for Assets

32. The proxy measure for risk exposure for the three segments Credit – investment grade, Credit – non-investment grade, and Equity, real estate & non-credit investment assets is fair value. One reason for the choice of fair value is comparability across jurisdictions, in contrast to GAAP values; another reason is that the fair value is defined to optimise transparency through the maximum use of relevant public data.

33. Assets supporting liabilities where the asset risks have been fully passed through to the policyholder (e.g. unit linked) are not included in the asset category. For some life insurance products, such as those maintained in separate accounts without guarantees, the assets are specifically identifiable. For other life insurance products, with residual asset risk exposure, the IAIS will provide technical guidance for confidential reporting to ensure consistent application of this exclusion of assets.

Asset-Liability Matching (ALM)

34. While Asset-Liability Matching (ALM) is a major risk category, particularly for life insurance, practical difficulties within the given timeframe for the development of the BCR posed particular challenges for addressing this risk category. Following analysis of field testing data, the IAIS determined that explicitly including such a factor in the BCR formula is not appropriate given the simple design of the formula. As a straightforward approach, the calibration level of the BCR implicitly accounts for the absence of an ALM factor.[29]

Diversification

35. The treatment of diversification in the BCR, especially in the context of composite G-SIIs where their life and non-life business may be of similar sizes, has been explored. While it would be appropriate to reflect the effect of diversification between major risk drivers in the ICS, the technical complexity of doing so explicitly in the BCR formula is inconsistent with its simple design.[30] As a straightforward approach, the calibration level of the BCR implicitly accounts for some degree of diversification.[31]

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[29] The explicit treatment of ALM will be further explored in the development of the ICS.

[30] The explicit treatment of diversification will be further explored in the development of the ICS.

[31] The factors that have been listed in section 3.3 have been determined on a post-diversified basis. This gives an implicit allowance for the diversification benefit that would be expected for the G-SII group of companies. Due to the simplistic nature of the BCR, the implicit diversification allowance within the BCR does not allow for the differentiation between the G-SIIs where they have different levels of diversification.

Annex F – Mapping table: BCR category to field testing data collection

BCR category	BCR segment	Data collection
Traditional Life		
	Protection	Protection - Life
	Participating products	Participating products
	Annuities	Annuities
	Other life	Protection - health
		Protection - other
		Savings without guarantees or living benefits (including VA without guarantees)
		Other traditional
Traditional Non-life		
	Property	Property Damage
		Non-proportional property, Accident, protection and health and motor damage (including property catastrophe)
		Catastrophe Reinsurance
	Motor	Motor
	Casualty	Other liability
		Non-proportional liability
	Other non-life	Accident, protection and health
		Marine, Aviation and Transport (MAT)
		Non-proportional MAT
		Other traditional - short-tail
		Other traditional - medium-tail
		Other traditional - long-tail
Non-Traditional		
	Variable annuities	value of guarantees
	Mortgage insurance	Mortgage insurance
	GICS & Synthetic GICS	Guaranteed Investment Contracts (GICs)
		Synthetic GICs
	Other non-traditional	Other non-traditional
		Commercial credit insurance including Suretyship
		Other non-traditional non-life insurance
Assets		
	Credit - investment grade / non-investment grade	Investment income receivable / accrued
		Fixed Interest Government Bonds
		Fixed interest Corporate Bonds
		Fixed Interest Municipal Bonds
		Variable Interest Government Bonds

		Variable interest Corporate Bonds
		Variable Interest Municipal Bonds
		Convertible notes
		Residential Mortgage Loans
		Non-residential Mortgage Loans
		Other (non-mortgage) Loans
		Loans to policyholders[32]
		Residential Mortgage Backed Securities
		Commercial Mortgage Backed Securities
		Insurance Linked Securities
		Other structured securities
		Reinsurance recoverables
		Other reinsurance assets
	Equity, real estate & non-credit investment assets	Equities
		Hedge Funds
		Private equity
		Real estate (for investment purposes & own use)
		Infrastructure
		Other investment assets

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[32] Loans to policyholders will be treated as 'Credit – investment grade'