

Regulatory Impact Assessment

Prudential Regulation of Insurance: Solvency Standards

Executive Summary

1. The case for regulatory intervention within the insurance sector using solvency standards is justified by several market failures and other reasons including the existence of information asymmetry, negative externalities and moral hazard and a need to improve solvency measurement, disclosure and supervisory discipline.
2. The status quo does not allow the Reserve Bank (“Bank”) to adequately measure the financial strength of all insurers to ensure the purposes of the Insurance (Prudential Supervision) Act 2010 (“IPSA”) are met.
3. The primary objective and assessment criterion is to develop solvency standards which meet the purposes of IPSA. Three detailed policy objectives flow from this primary objective, solvency standards which: (a) result in a prudent capital requirement; (b) are suitable for the oversight of the insurance sector; and (c) meet all the legal requirements set out within IPSA.
4. The preferred option is a standardised factor-based approach to calculate the solvency capital requirement for each licensed insurer with a prescribed minimum capital amount specific to each insurance sector. Five alternative options have also been considered. In developing the preferred option the Bank has used eight overall principles including that the solvency standards must be risk-based, calibrated appropriately and used consistently across each insurance sector.
5. There are currently four solvency standards for the different insurance sectors of the New Zealand market: Life, Non-life, Captive insurers and Non-life insurers in Run-off. Several aspects are common to each solvency standard, for example the definition of capital and asset risk capital factors. Other aspects of the solvency standards are sector-specific, for example the calibration of the catastrophe risk capital charge. (Note that, per IPSA section 55, the Bank may issue further solvency standards as required).
6. The preferred option has been assessed against and satisfies the objectives and assessment criteria. Given that adequate solvency levels are fundamental to an effective insurance prudential regime in New Zealand, the benefits of the solvency standards are assessed as moderate to high. The costs of the solvency standards are assessed as low to moderate. Compliance costs will be less for insurers which already have a high level of self discipline and for the many foreign-owned insurers which are already required to meet the solvency standards of their home country supervisors. It is also possible that the main incidence of cost will fall upon those insurers where increased capital is needed, because the risks of these insurers are disproportionate to their current financial strength.
7. Overall, intervention in the form of solvency standards is justified because there is a demonstrable net benefit, considering the costs and risks, of the preferred option compared to a pure market outcome and any of the other options considered.
8. Going forward, the Bank will maintain an ongoing review of the solvency standards to assess whether refinements are necessary in order to improve the measurement of solvency across the New Zealand insurance sector.
9. Pre-release consultation with industry has been extensive with at least two rounds of consultation for most of the solvency standards. The catastrophe risk capital charge for the non-life solvency standard required two additional consultation exercises because of its complexity. The submissions from industry were generally supportive of the need for solvency standards and the purpose and nature of the risk-based capital charges within the solvency standards. All of the issues raised by the consultation process have been considered by the Bank in developing the solvency standards. Many detailed issues were raised by the submissions, with some being specific to individual insurers or unique points of view. In considering some of the consultation responses the Bank has needed to take on-balance decisions in order to meet the objectives of the solvency standards. As a consequence it has been impossible to satisfy the wishes of all stakeholders.

10. Agency Disclosure Statement

This Regulatory Impact Assessment (“RIA”) has been prepared by the Bank in accordance with the requirements of section 162AB of the Reserve Bank Act 1989. It provides analysis of alternative options and a preferred option to measure the capital sufficiency (known as solvency) of all licensed insurers within the New Zealand insurance sector.

Sufficient capital (as prescribed by the solvency standards) is very often the most important mitigant which may avert the failure of an insurer in financial distress. Given the importance of insurer financial strength, the solvency standards are some of the most important regulations which accompany IPSA and underpin the prudential regulation of New Zealand insurers by the Bank. In establishing the solvency standards the Bank’s primary objective is to ensure that the standards meet the purposes of IPSA, which are to:

- (a) promote the maintenance of a sound and efficient insurance sector; and
- (b) promote public confidence in the insurance sector.

The corollary of this objective is that, as regulator of the insurance industry, the Bank must establish standards which maintain the possibility of insurer failure at low levels and thereby safeguard the interests of policyholders and, to some extent, other stakeholders. Accordingly, we have developed solvency standards that are prudent in their capital requirements, suitable for the oversight of the New Zealand insurance sector and meet the legal requirements of IPSA.

The measurement of solvency is inherently subjective because there is no single quantum of capital that is “the correct level” of capital that licensed insurers should hold. However, in calibrating the solvency standards we have drawn on our own experience and had regard to international best practice.

The solvency standards have been developed using sufficient information; however all necessary information can never be known prior to the implementation of such complex regulations. Therefore as the solvency standards are implemented, and the Bank gains further experienced-based data on insurers, it may be necessary to refine certain aspects of the standards in order to improve the measurement of risk within the insurance sector.

Toby Fiennes
Head of Prudential Supervision
Reserve Bank of New Zealand

Structure of the RIA

11. The structure of the RIA is firstly that the problem under consideration is defined and why intervention by the Bank is necessary is discussed. The status quo is outlined followed by the objectives and assessment criteria. The alternative options and the preferred option are then described followed by an assessment of the preferred option against the objectives and assessment criteria, including the benefits, costs and risks of the preferred option. Finally implementation, review and the consultation process are described.

Problem Definition and Status Quo

Problem Definition

12. The case for regulatory intervention within the insurance sector using solvency standards is justified by the following market failures and other reasons:

Information asymmetry

13. Policyholders need to know the likelihood that their insurer will be able to pay claims, but currently have insufficient information to assess this. Typically policyholders do not have the financial experience to appraise insurers' published financial statements and make an informed assessment of an insurer's capital strength, which is known as solvency. Thus policyholders can in effect be subject to "bounded rationality" with an inability to appraise the capital strength and risk of an insurer before entering an insurance contract. This market failure is acute in the insurance sector because the complexity of the actuarial valuation and accounting of policyholder liabilities makes insurers' financial statements difficult to interpret. Solvency measurement directly addresses this market failure by providing relevant information to measure insurers' financial strength.

Negative externalities

14. Insurance is an integral part of the financial system. Although insurers are not generally considered systemic, following the Global Financial Crisis major insurers are now viewed as being more inter-connected within the financial system. In managing their own solvency position, insurers will consider their own private costs and benefits but will not typically consider any potential implications on the wider financial system. The potential impact of a failed major insurer could damage the soundness of the rest of the New Zealand insurance sector and possibly also the wider financial system. There would be a short-term impact of the failure on the financial system and in an extreme situation there is also the possibility that future growth of the financial system would be adversely affected.
15. Insurance is fundamentally important to the economic system because it allows individuals and businesses to reduce their levels of risk and supports economic activity in the business and personal sectors. As natural disasters are very costly to the economy, insurers need to maintain sufficient financial strength to meet their policyholder obligations and thereby assist with the costs of the rebuild. The potential impact of a failed major insurer could cause an adverse spill-over economic impact. It could also damage the international reputation of New Zealand which could discourage new insurance and other business entrants to the New Zealand market, lower insurance utilisation and decrease foreign investor participation.

Moral hazard

16. Recent history has shown that insurer failure can lead to requests for government assistance to save the insurer. If insurers believe that government assistance in the event of failure is relatively likely, then insurers may assume imprudent levels of risk or hold less capital than would otherwise be the case in the absence of such government assistance, in the expectation that any failure will be underwritten by the government.

Solvency measurement and disclosure need to be improved

17. Policyholders must have a high level of confidence that commitments made by insurers will be honoured. Whilst most insurance products are not complex, the management of the risks associated with writing insurance renders the inherent risk within the insurance sector quite high. The failure of a life insurer can have severe consequences for individuals and the failure of a property insurer is likely to have an adverse effect on the personal and business sectors. The principal consequence of insurer failure is direct costs upon policyholders for any unpaid claims in process and the costs of moving insurer (if possible) for all other policyholders.
18. Solvency standards allow the Bank to measure the financial strength of insurers in an effective risk-based context. Where an insurer has insufficient capital relative to its risks, either the capital strength of that insurer must be increased or its risks reduced. Solvency standards facilitate this economic resource allocation by ensuring the level of risk, relative to capital, is appropriate.
19. There is currently no consistent disclosure of solvency by New Zealand insurers. Policyholders, insurance brokers and other market participants will be better informed about the soundness of the New Zealand insurance market if the solvency position of New Zealand insurers is disclosed by all licensed insurers in a consistent manner.

Supervisory discipline required

20. Prior to the introduction of IPSA some insurers were rated by external credit rating agencies and there is some informal oversight of the sector by insurance brokers and insurers' reinsurers. Member companies of the Insurance Council of New Zealand are subject to an informal and relatively simple solvency requirement. However, market discipline in this sector is assessed as weak to moderate because few insurers are listed (and therefore open to that form of public scrutiny) and there is no equivalent of the interbank market. Self discipline of the insurance sector is assessed as relatively low because there has been a low level of director (and officer) accountability and few minimum governance standards.
21. Reliance on market discipline and self discipline will not naturally determine that sufficient capital is held within the insurance sector to meet the Bank's requirements specified within IPSA. Accordingly the Bank considers that supervisory discipline, in the form of solvency standards, is necessary to complement self and market discipline. Specifically, a satisfactory solvency margin and minimum capital are key licensing criteria under the Bank's insurance prudential regime.

Other factors

22. New Zealand does not have an insurance guarantee scheme of any type, so the maintenance of sufficient capital by insurers is the only form of financial protection that policyholders have against potential insurer distress. Agency problems also exist because the personal assets of directors are not directly at risk.

Stakeholders

23. The stakeholders who are most affected by the solvency standards are New Zealand policyholders, insurers and their shareholders, the Bank and wider government (particularly Treasury) and the general New Zealand public. The Appointed Actuary of each licensed insurer must prepare or review the calculations prescribed by the solvency standards, so work performed by the New Zealand actuarial profession is also affected by the solvency standards. Other stakeholder groups who may have an interest in the solvency standards are rating agencies, insurance brokers and financial analysts who cover the New Zealand market.

Implications of problem

24. The previous deposit requirement and solvency standard for life insurers (refer to "Status Quo" below) do not allow the Bank to adequately measure the financial strength of all insurers to meet the purposes of IPSA, which are to:
 - (a) promote the maintenance of a sound and efficient insurance sector; and
 - (b) promote public confidence in the insurance sector.
25. The risks of insurance failure are significantly reduced (but can never be eliminated) with effective solvency standards in place, which facilitate the effective measurement and disclosure of insurers' solvency position. Without solvency standards, New Zealand policyholders would be at risk of unknowingly contracting with weaker insurers where such weakness is not transparent either to the market or to the policyholders themselves. As there is a lack of consistent disclosure about insurers' solvency, the status quo does not adequately utilise the potential benefit of market discipline.
26. Failure of a major insurer could be catastrophic for some policyholders, especially those with significant claims outstanding at the time of the insurer failure. Confidence in the sector could be quickly undermined by even a small amount of unexpected distress in the sector and without solvency standards any necessary remedial action by the Bank may be hampered because it would be more difficult to measure any capital shortfall. In the event of distress there could be financial and reputational damage to the insurance sector and wider economy, which could undermine the important role of insurance and lower the level of insurance utilisation. If a large insurer should fail government intervention may be possible and if this were to be implemented it would be a sup-optimal solution.
27. The status quo (refer below) is not consistent with international practice as outlined by the International Association of Insurance Supervisors ("IAIS") and OECD which both promote risk-based solvency regimes. Jurisdictions such as Canada, the UK, Australia and the USA have all adopted such regimes.

28. Retention of the status quo also creates increased reputation risks for the New Zealand financial system and economy, with possible consequences of a lower level of foreign investor participation; to the extent that investors attach importance to a country's compliance with international standards and codes.

Overall rationale for solvency standards

29. The market failures and other reasons outlined above are considered to be clear precursors to regulatory intervention. Given the potential severity of such market failures and other implications, a prudent level of capital (measured and required by solvency standards) in the insurance sector is fundamentally important. Solvency standards seek to directly address some of the problems that warrant regulatory intervention and help to safeguard against their implications. Whatever the reason for institutional distress, sufficient capital (as prescribed by the solvency standards) is very often the most important mitigant which may avert institutional failure.
30. The Bank considers that the preferred option (described below) improves upon the market outcome and produces the highest net benefit compared to the market outcome and other alternative options considered.

Status Quo

31. The New Zealand insurance market comprises three broad sectors: life insurance, general insurance and health insurance, with some providers operating in more than one of these sectors. Each sector is heavily concentrated, being characterised by a small number of large insurers with large market share and larger numbers of small insurance providers. The industry includes New Zealand owned insurers and foreign owned insurers who operate either using branches or local subsidiaries. New Zealand owned insurers include some mutual providers who typically have an inherent constraint in raising new capital. The industry also includes a small number of captive insurers, which are internal companies used by a corporate group to self-insure its insurable risks, often reinsuring a high proportion of the risk.
32. The New Zealand life insurance industry has an existing non-legislated solvency standard issued by the New Zealand Society of Actuaries ("PS5") which was based on the equivalent Australian solvency standard. PS5 has been in place for more than five years and it is believed that most New Zealand life actuaries use PS5 to report solvency to their boards and within their financial statements. However, the manner of disclosure of a solvency margin within life insurers' financial statements is not standardised across all life insurers.
33. There is a non-legislated industry solvency standard for health insurers, and non-life insurers that are members of the Insurance Council of New Zealand are subject to a simple and non-legislated solvency standard, but other non-life insurers carrying on business in New Zealand including captive insurers are not currently subject to a professional or other form of solvency standard.
34. Prior to IPSA, insurers carrying on insurance business in New Zealand were required to lodge a specified monetary deposit with the Public Trustee. This deposit requirement was established to provide protection to policyholders in the event of an insurer's failure, where the funds could then be distributed amongst policyholders of that provider.
35. Under the Insurance Companies Deposits Act 1953 (now repealed) a deposit for general (and some other) insurers of \$500,000 was required. Other amounts apply to entities which paid deposits under previous or other appropriate legislation (now repealed) including under the Life Insurance Act 1908 a deposit of between \$100,000 (1975) and \$500,000 (1979 onwards) was required for life insurers depending on the year the deposit was made. Under the Mutual Insurance Act 1955 (repealed) deposits are required for mutual insurance associations relating to agriculture, depending on the line of business, from \$10,000 to \$45,000.

Objectives and Assessment Criteria

36. The primary objective and assessment criterion is to develop solvency standards which meet the purposes of IPSA, which are to:
 - (a) promote the maintenance of a sound and efficient insurance sector; and
 - (b) promote public confidence in the insurance sector.

37. The following three detailed policy objectives flow from this primary objective:

Prudent capital requirement

38. The solvency standards must result in a prudent capital requirement that is cost justified. The capital requirement needs to be prudent (but not excessive) to a level of calibration which properly represents the risks faced by insurers and will therefore adequately protect the interests of policyholders. This will significantly reduce (but cannot eliminate) the possibility of insurer failure and such a level of capital will also minimise instances when government intervention may be considered. As the calibration of the solvency standards increases this could cause insurers to raise their levels of reinsurance or capital and at an excessively prudent level this may result in an outflow of capital from New Zealand (under the proposed calibration this is considered unlikely). The alternative of requiring only a low level of capital is considered unacceptable because individual and multiple insurer failure(s) are more likely. Such failures would adversely impact the soundness of the insurance sector and also have adverse macro-economic consequences.

Solvency standards suitable for oversight of the insurance sector

39. The solvency standards must provide a suitable measurement framework for the oversight of the New Zealand insurance sector by the Bank. This includes appropriate solvency measurement methodology, ensuring that standards are appropriate for licensing and monitoring, workable and support increased market discipline.

Meets legal requirements

40. The solvency standards must meet the legal requirements set out within IPSA. This includes meeting the purposes and relevant principles of IPSA and any other responsibilities with respect to solvency within IPSA.

41. The Bank has assessed each of the alternative options and the preferred option against the above objectives and assessment criteria.

Alternative Options

42. In arriving at the preferred option for the solvency standards a number of options have been considered and are set out below. The criteria against which the options have been assessed are set out above in the Objectives and Assessment Criteria section. Having considered the alternative policy approaches the proposed solvency standards described within the preferred option best meet the objectives and assessment criteria.

Option 1: A solvency standard which relies solely on principles and guidance for its operation including the public disclosure of a solvency margin by each insurer, but with no monitoring or intervention by the Bank.

43. This option would entail the following:

- a. High level policy principles of solvency calculation, addressing the appropriate level of solvency which licensed insurers must hold, would be developed and published by the Bank;
- b. Where such principles do not provide sufficient guidance for insurers to implement the principles of solvency calculation, additional guidance material would be developed and published by the Bank;
- c. Each licensed insurer would interpret the principles of solvency calculation and additional guidance material to calculate its own solvency margin;
- d. The solvency margin would be published within the licensed insurer's annual financial statements and on its website;
- e. The Bank would not monitor the levels of solvency published by insurers or intervene if the Bank considered a licensed insurer's solvency margin to be too low; and
- f. If policyholders, reinsurers, brokers or other market participants considered that a licensed insurer's published solvency margin was too low, then these market participants may avoid doing business with or

recommending this licensed insurer to their clients. Such actions may encourage or necessitate a licensed insurer with a low published solvency margin to increase that solvency margin.

In substance this is a market orientated option which relies upon market discipline and which involves minimal intervention by the Bank.

Costs of option

44. There would be costs for the Bank to develop the principles and guidance. By their nature principles and guidance are generic, so there would also be considerable compliance costs both for insurers in interpreting the principles and guidance and for the Bank in providing interpretation of the principles and guidance.

Risks of option

45. The operation of principles and guidance is likely to result in inconsistent calculations of solvency margins by insurers because sufficient detail of the calculations cannot be prescribed in principles and guidance.
46. Public disclosure is only effective if it creates genuine market discipline which would encourage insurers who published weaker solvency margins (providing insufficient capital protection for policyholders) to strengthen their solvency margin. It is unlikely that market discipline would operate consistently in this way and so this process cannot be relied upon to provide sufficient capital protection for policyholders.

Benefits of option

47. The generalised approach to solvency calculation would be a less intrusive approach to solvency regulation by the Bank.
48. The use of market discipline as an integral part of this option has the benefit of less reliance upon supervisory judgements which might not reach the right balance.

Option 2: A solvency regime based on accounting ratios or other simple metrics which are not risk based.

49. This option would entail the Bank developing appropriate accounting ratios or other simple metrics to measure solvency. The use of the accounting ratios or other simple metrics would be via the solvency standards published by the Bank in the same manner as the preferred option.

Costs of option

50. There would be compliance costs for the Bank to develop the appropriate accounting ratios or simple metrics. The compliance costs on insurers would be comparatively low compared to the preferred option.

Risks of option

51. Since the ratios or other simple metrics are not risk based, such metrics will not adequately measure the capital required for a licensed insurer in a risk-based manner. This is not a satisfactory outcome because the regulatory capital which licensed insurers are required to hold is not linked to the financial risks which insurers face. The fundamental purpose of the capital required for solvency purposes is to protect licensed insurers from unexpected losses arising from the financial risks they face. So if the measure of capital required is not clearly linked to these financial risks the amount of capital, acting as protection against unexpected losses, may be too little or too great and will not achieve its purpose.

Benefits of option

52. This option would be relatively simple for licensed insurers to calculate and it may be easier for policyholders to understand.

Option 3: A solvency standard which allows the use of Internal Capital Models that are approved by the Bank.

53. This option would entail the following:
- a. Licensed insurers would develop their own Internal Capital Model to calculate the amount of capital required to provide them with a satisfactory solvency margin;
 - b. The Internal Capital Model would be submitted for approval to the Bank;
 - c. If approved by the Bank, the Internal Capital Model would be the basis for that licensed insurer to calculate the amount of capital required to provide them with a satisfactory solvency margin for regulatory purposes; and
 - d. If the Internal Capital Model is not approved by the Bank the licensed insurer would be required to calculate its solvency margin in accordance with the calculation methodology set out within the relevant solvency standard issued by the Bank.

Costs of option

54. Internal Capital Models would, in general, be very expensive for insurers to establish and it is unlikely that smaller insurers would be able to justify the cost of such a sophisticated approach to capital management.
55. To approve the use of an insurer's Internal Capital Model for the calculation of regulatory capital, the Bank would need to establish appropriate principles and guidance which may need to be lengthy. Also additional staff with the necessary technical experience to review insurers' Internal Capital Models would need to be recruited. Both of these activities would be costly.

Risks of option

56. Internal Capital Models can be quite complex which can make the models difficult to interpret and maintain. Insurers' own Internal Capital Models may not be sufficiently reliable, for example there is a risk that the financial risks faced by the licensed insurer are not adequately captured and measured by the model (known as "model risk").
57. Given their complexity, Insurers' own Internal Capital Models are unlikely to be comparable between insurers. This would introduce inconsistencies to the measurement of risk by insurers and the overall appraisal of risk by the Bank.
58. Further, the capital requirement of an insurer's Internal Capital Model will typically be less than the capital requirement of a standardised approach to the calculation of capital required for solvency purposes. The implication is that licensed insurers may hold less capital using an Internal Capital Model which could weaken the soundness of the insurance sector and policyholders' confidence in that sector.

Benefits of option

59. The benefit of Internal Capital Models is that the measurement of risk and capital to support such risks can be very specific to the nature of the business of a licensed insurer. Accordingly Internal Capital Models might, for those insurers that can afford to develop them, provide a more accurate measurement of the economic capital needed by the licensed insurer to protect against its financial risks.

Option 4: A standardised factor-based method to determine the catastrophe risk capital charge for non-life insurers (instead of using catastrophe models).

60. This option would entail the following:
- a. the Bank developing appropriate factors to effectively measure catastrophe risk, faced by non-life insurers, for solvency purposes. The factors are likely to be based upon the output of one or more catastrophe risk models used by non-life insurers and a high degree of judgement is likely to be required in establishing the factors;
 - b. ongoing monitoring would be required by the Bank to ensure the factors established remain appropriate over time; and

- c. the use of the factors would be via the non-life solvency standard published by the Bank in the same manner as the preferred option.

Costs of option

61. The costs to the Bank of establishing appropriate factors to adequately measure catastrophe risk are likely to be considerable. There would also be ongoing costs to maintain such a set of factors.

Risks of option

62. The factors are likely to be quite judgemental and therefore subjective, with some insurers believing the factors are too high for the risks and perhaps some insurers may consider the factors are too low.
63. The measurement of catastrophe risk is a complex area, with particular risks specific to each property insurer. A standardised set of factors is a blunt approach which is unlikely to accurately represent an appropriate calibration of catastrophe risk across the New Zealand property market.

Benefits of option

64. The advantage of this approach is that it would appear to remove reliance on catastrophe models, which are complex to populate and deliver a range of outcomes.

Option 5: Application of the Non-life Solvency Standard to captive insurers (with no separate solvency standard for captive insurers). This option would mean that captive insurers, which are a different sector of the insurance industry, would have to apply the Solvency Standard developed for the Non-life insurance sector.

Costs of option

65. The costs to develop solvency standards by the Bank would be reduced because a separate solvency standard for captive insurers would not be required.
66. However, the capital costs incurred by captive insurers would be higher because the calibration of the Non-life Solvency Standard for non-life insurance is more prudent, in some places, than it needs to be for New Zealand captive insurers given their “internally-owned” business model.

Risks of option

67. There is a danger of using a solvency standard that is misaligned to the reality of the captive insurance market.

Benefits of option

68. There would be a reduced number of solvency standards which would simplify monitoring activity by the Bank.

Conclusions and recommendations

69. The Bank considered and rejected the alternative options above mostly at an early stage in the development of the solvency standards. The alternative options were not preferred because they did not adequately meet the objectives and assessment criteria.
70. The following tables provide the relevant analysis: (See next page)

<u>Alternative option</u>	<u>How well does option meet objectives and assessment criteria</u>	<u>Comments on relative costs and benefits of alternative options</u>
<p>Option 1: A solvency standard which relies solely on principles and guidance for its operation including the public disclosure of a solvency margin by each insurer, but with no monitoring or intervention by the Bank.</p>	<p><u>Prudent capital requirement:</u> This option is unlikely to result in a sufficiently prudent capital requirement.</p> <p><u>Solvency standards suitable for oversight of the insurance sector:</u> With no monitoring or intervention, the Bank cannot perform its oversight role satisfactorily.</p> <p><u>Meets legal requirements:</u> The level of capital resulting from this option is likely to be insufficient to meet the purposes of IPSA which are to promote the maintenance of a sound and efficient insurance sector and promote public confidence in the insurance sector.</p>	<p>The costs of this option are considered to be similar to the preferred option, but the benefits of this option are considered to be significantly less than those of the preferred option.</p>
<p>Option 2: A solvency regime based on accounting ratios or other simple metrics which are not risk based.</p>	<p><u>Prudent capital requirement:</u> This option is unlikely to result in a sufficiently prudent capital requirement.</p> <p><u>Solvency standards suitable for oversight of the insurance sector:</u> This option is unsuitable for the Bank’s oversight of the insurance sector because the measurement of capital it is not risk based. An integral aspect of the Bank’s oversight role is that it is risk based.</p> <p><u>Meets legal requirements:</u> The level and nature (i.e. not risk based) of capital resulting from this option is likely to be insufficient to meet the purposes of IPSA which are to promote the maintenance of a sound and efficient insurance sector and promote public confidence in the insurance sector.</p>	<p>The costs of this option are considered to be less than option 1 and the preferred option and the benefits of this option are considered to be significantly less than those of the preferred option.</p>
<p>Option 3: A solvency standard which allows the use of Internal Capital Models that are approved by the Bank.</p>	<p><u>Prudent capital requirement:</u> This option could meet this criterion provided the calibration of the internal capital models is sufficiently prudent.</p> <p><u>Solvency standards suitable for oversight of the insurance sector:</u> The Bank does not believe that appraisal and approval of insurers’ internal capital models is cost justified.</p> <p><u>Meets legal requirements:</u> In principle, this option could meet the purposes of IPSA.</p>	<p>The costs of this option are considered to be higher than options 1 and 2 and the preferred option and the benefits of this option are considered to be similar to those of the preferred option.</p>
<p>Option 4: A standardised factor-based method to determine the</p>	<p><u>Prudent capital requirement:</u> This option is likely to result in a capital requirement that is more prudent than the preferred option.</p>	<p>The costs of this option are considered to be higher than the preferred option and the benefits of</p>

catastrophe risk capital charge for non-life insurers (instead of using catastrophe models).	<p><u>Solvency standards suitable for oversight of the insurance sector:</u> This option is considered unsuitable for oversight of the insurance sector because of the difficulty in establishing and maintaining appropriate factors.</p> <p><u>Meets legal requirements:</u> In principle, this option could meet the purposes and other legal requirements of IPSA.</p>	this option are considered to be less than those of the preferred option.
<p>Option 5: Application of the Non-life Solvency Standard to captive insurers (with no separate solvency standard for captive insurers).</p>	<p><u>Prudent capital requirement:</u> This option is likely to result in a capital requirement that is too prudent for the captive insurance sector.</p> <p><u>Solvency standards suitable for oversight of the insurance sector:</u> This option is considered unsuitable for oversight of the insurance sector because the solvency standard would not measure the risks in the captive insurance sector appropriately.</p> <p><u>Meets legal requirements:</u> In principle, this option could meet the purposes and other legal requirements of IPSA.</p>	The capital costs of this option are considered to be higher than the preferred option and the benefits of this option are considered to be significantly less than those of the preferred option.
<p>Preferred Option: Standardised factor-based approach to calculate the solvency capital requirement for each licensed insurer with a prescribed minimum capital amount specific to each insurance sector.</p>	Refer to the commentary set out later in this document.	The costs of the preferred option are considered to be higher than options 1 and 2, but the benefits of the preferred option are considered to be significantly greater than options 1 and 2 (in their entirety) and options 3, 4 and 5 when compared against the relevant aspects of the preferred option.

Summary reason why the alternative options are not preferred

Alternative option	Summary reason why this option is not preferred
<p>Option 1: A solvency standard which relies solely on principles and guidance for its operation including the public disclosure of a solvency margin by each insurer, but with no monitoring or intervention by the Bank.</p>	Although the greater use of market discipline on its own would have some benefits, it is unlikely that market discipline would operate effectively to provide sufficient capital protection for policyholders.
<p>Option 2: A solvency regime based on accounting ratios or other simple metrics which are not risk based.</p>	Although there may be some benefits in terms of simplicity of operation, the option would not provide the correct economic level of capital protection for policyholders.
<p>Option 3: A solvency standard which allows the use of Internal Capital Models that are approved by the Bank.</p>	Some other jurisdictions allow the use of Internal Capital Models, for example the Financial Services Authority in the UK and the proposed Solvency II regime within Europe.
	This approach to solvency measurement is not

	appropriate at the present time because the use of Internal Capital Models by insurers is not presently widespread in the New Zealand market and the Bank does not believe that such an approach is cost justified.
Option 4: A standardised factor-based method to determine the catastrophe risk capital charge for non-life insurers (instead of using catastrophe models).	<p>The Bank would need to establish the standardised factors at relatively prudent levels to ensure sufficient capital was available to protect policyholders against potential catastrophe risk across all New Zealand property insurers. This is likely to place an additional capital burden on some property insurers.</p> <p>In practice the standardised factors are likely to be based upon the output of one or more catastrophe models. So the reliance on catastrophe models would not be removed.</p> <p>Overall, this policy approach is not considered appropriate because of the difficulty in setting appropriate factors that will have relevance across the entire New Zealand property insurance sector.</p>
Option 5: Application of the Non-life Solvency Standard to captive insurers (with no separate solvency standard for captive insurers).	The provisions of section 55 of IPISA anticipate solvency standards will be issued for different classes of licensed insurers in New Zealand. It is considered more appropriate to develop and implement a solvency standard specifically calibrated to measure the risks in the captive insurance sector.

71. The consultation with the insurance industry, set out immediately below, was in respect of the preferred option (set out below), with the intention of making refinements to it to ensure that it met the objectives and assessment criteria.

Consultation

72. At least two rounds of industry consultation have been performed for most of the solvency standards. The catastrophe risk capital charge for the Solvency Standard for Non-Life Insurance required two additional consultation exercises because of its complexity. As an integral part of the catastrophe risk consultation exercises the Bank sought numerical data from insurers as well as written submissions. Many helpful and detailed submissions were received in response to these consultation exercises. In developing the solvency standards the Bank has consulted with the New Zealand Society of Actuaries. In addition the Bank has consulted with a small group of life actuaries to validate the approach taken in certain technical areas of the life solvency standard.
73. The submissions from industry were generally supportive of the need for solvency standards and the purpose and nature of the risk-based capital charges within the solvency standards. Many detailed issues were raised by the submissions, with some being specific to individual insurers or unique points of view. All of the issues raised by the consultation process have been considered by the Bank in developing the solvency standards. Some of the major policy issues that have been raised as part of the submission process are set out below.

Product granularity

74. For life insurance solvency calculation, the level at which products are grouped together can have a direct impact upon capital requirements because higher capital typically results from applying the insurance risk capital charge to smaller product groups. For solvency calculation the approach adopted within the solvency

standards is to use insurers' existing product groupings, which will typically mirror their current accounting practice and the previous PS5 solvency calculation method. This has been amended from a much more granular approach proposed by the Bank in the first consultation exercise.

Dividends

75. The initial version of the solvency standards required ex-ante approval of dividends by the Bank in some cases. This has been removed because it is considered that sufficient other protections are in place and that this requirement would add unnecessary compliance costs.

Pandemic risk

76. Some insurers considered the pandemic risk charge within the life solvency standard to be too onerous at a calibration level of one per thousand. However the Bank considers this is a major potential catastrophe risk for life insurers and capital must be set aside to cater for it.

Minimum capital

77. Some smaller insurers believed that the level of minimum capital was too high. The Bank considers that a minimum level of financial strength is necessary across the insurance sector. However, to minimise the potential cost impact of the solvency standards, an exemption from the minimum capital requirement for small insurers with gross written premium less than \$1.5m p.a., has been implemented by way of a separate regulation to IPSA.

Taxation

78. Some life insurers considered that the taxation requirements of the life solvency standard were too prescriptive and higher level principles should be used. The Bank has not implemented any change in respect of this issue because principles could easily result in inconsistent solvency calculations.

Asset and market risk capital factors

79. Some insurers considered that the Bank's capital charge factors in the areas of asset risk and market risk are too onerous. However the Bank believes that the economic calibration of these factors is appropriate to the insurance sector.

Disclosure of solvency position of insurers

80. In addition to disclosure of the solvency margin by licensed insurers, the Bank had proposed that licensed insurers may also be required to include in such disclosure a comparison of the licensed insurer's solvency ratio with any current recommended solvency ratio guideline published by the Bank.
81. Given the complexity of insurance accounting and solvency calculations, several insurers considered that meaningful disclosure of solvency ratios across the industry is very difficult. Also the Bank does not plan to publish a recommended solvency ratio guideline at this time. Accordingly, the Bank has removed this disclosure requirement from the current solvency standards.

Non-life catastrophe risk consultation

82. Given the significance and technical nature of catastrophe risk which non-life insurers face, in arriving at the calibration of the non-life catastrophe risk capital charge a specific industry consultation exercise was performed with New Zealand property insurers. The summary findings of that consultation exercise are set out below.
83. Twenty one of the twenty six active property insurers participated in the consultation. Respondents were from across the sector, from the largest property insurers to several small property insurers with assets less than \$100m. Many New Zealand non-life insurers are part of overseas groups where catastrophe reinsurance cover

is typically arranged at group level, covering either their global non-life exposures or, for example, Australian and New Zealand risks in the case of Australian based insurers.

84. The Bank proposed a calibration level of catastrophe losses of 1 in 1,000 years. The majority of insurers who responded to the consultation were not adversely impacted by the 1 in 1,000 year policy because these insurers already have sufficient catastrophe reinsurance in place to cover their potential insurance losses to this level. Some insurers will be impacted by the 1 in 1,000 year policy and may incur costs either by increasing their level of capital or catastrophe reinsurance. Additional unknowns which may magnify the potential impact on this small group of insurers are the potential further rise in reinsurance pricing and the possible reduction in reinsurance capacity as a result of the Canterbury earthquakes.
85. There was generally consistent adverse response to the proposed 1 in 1,000 year approach to the calibration of catastrophe risk within most written (as distinct from numeric) submissions - in particular the Insurance Council of New Zealand submission, representing the views of its member companies. Comments focused mainly on increased reinsurance costs, affordability of insurance and potential loss of overseas support for the New Zealand market.
86. Industry also raised a number of other qualitative objections to the Bank's proposal, many of which were concerned about introducing this policy now and some of which argued for a less conservative stance on various grounds – for example, the Government, not private insurers, should bear the cost of severe catastrophes and that a higher calibration level increases the risk of catastrophe risk “model shopping”. The Bank has considered these arguments and does not believe they warrant changing the 1 in 1000 year conservative calibration.

Preferred Option

87. A further option is a standardised factor-based approach to calculate the solvency capital requirement for each licensed insurer with a prescribed minimum capital amount specific to each insurance sector. The discussion set out within this Regulatory Impact Assessment shows why this is the preferred option.

Overall principles underlying preferred option

88. In developing the preferred option the Bank has used the following overall principles.

Scope of solvency regulation

89. It is considered critical that all licensed insurers within a business segment are subject to the same solvency standard.

Consistent measurement of financial strength

90. The Bank's solvency standards use a consistent risk-based measure of solvency across all sizes of insurer and irrespective of their corporate form within each insurance sector. In this way the solvency standards demonstrate competitive neutrality.

Appropriate level of calibration

91. The level of calibration should aim to ensure that the required amount of capital for regulatory purposes equates to the necessary economic capital that an insurer should hold. It is considered that the level of calibration of the solvency standards is appropriate to the risks within the New Zealand insurance sector. It is a prudent level of calibration which aims to limit intervention costs by the Bank and minimise any potential funding costs and reputation risks which might fall on government in the event of the failure of a major insurer.
92. The alternative of a lower level of capital within the insurance sector is a risky strategy, because it would not be based upon the economic capital needs of an insurer. This makes the possibility of insurer failure more likely which would undermine the soundness of the insurance sector, may cause adverse macro-economic consequences and could increase the likelihood of insurer requests for government assistance.

Risk-based

93. The solvency standards must be sector-specific and calibrated to the specific risks within those insurance sectors. Such a risk-based approach will provide a meaningful measurement of insurers' financial strength, irrespective of the size of the insurer.
94. The solvency standards must address all material risks facing insurers apart from operational risk. Operational risk has no capital requirement at this time because its measurement is very subjective and the quantum is considered likely to be small in relation to other risks.
95. The risk-based calculations must be based upon robust economic calibration, but without unnecessary complexity within the calculations. For example, cross correlations between risks is an area of complexity not specifically addressed within the solvency standards. The Bank considers that a higher level of complexity is unlikely to significantly improve the ability of the solvency standards to measure risk. Avoiding undue complexity makes the solvency standards relatively easy to apply and also helps to limit the compliance costs for all insurers.

Strengthen self and market discipline

96. Policyholders' objectives are to have certainty of claims payout with a risk attitude for insurer failure of zero. However, shareholders' risk attitude is primarily driven by financial return, sometimes without full regard to the possibility of insurer failure. Without adequate solvency regulation, shareholders may have a "short-term returns" horizon and potentially a less prudent attitude to financial strength and risk compared to policyholders. In this way the solvency standards serve to strengthen the self discipline of insurers.
97. It is also desirable that the solvency standards improve market discipline within the insurance sector, by increasing the disclosure of insurers' solvency position in a consistent manner. This will benefit policyholders and other stakeholders.

Use of actuaries

98. The insurance prudential regime in New Zealand relies heavily on the important industry role which actuaries perform. A key part of actuaries' responsibilities is the calculation of their insurer's solvency position. The solvency standards utilise this reliance on actuaries by requiring that the solvency margin calculations are either prepared or reviewed by the insurer's appointed actuary.

Facilitate monitoring

99. To ensure the financial soundness of the insurance sector on an ongoing basis, the Bank must monitor the sector. Solvency measurement is a critical element of the Bank's sector monitoring activity because licensed insurers are required to calculate their actual and forecast solvency margins on an ongoing basis and report this to the Bank on a half-yearly basis.

International guidance and other countries' regimes

100. The solvency standards need to be appropriate for the New Zealand insurance sector. At the same time there is a need to ensure that the solvency standards are developed having regard to appropriate international best practice. Standards issued by the IAIS are the best source of international guidance in this area, and the proposed approach generally aligns New Zealand with IAIS guidance.

Description of solvency standards

Common aspects of solvency standards

101. The following aspects of the solvency standards are common to each solvency standard.

Responsibilities

102. The insurer's Appointed Actuary is responsible for all solvency calculations and the insurer's board is responsible for all requirements of the solvency standard being met. Implicit within the board's role is consideration of the assumptions made by the Appointed Actuary. Closely related to these responsibilities, the Appointed Actuary must also review all policy liability information included within the insurer's financial statements and prepare a separate Financial Condition Report.

Solvency margin calculation

103. The solvency margin of an insurer is the excess of Actual Solvency Capital over Minimum Solvency Capital, which can also be expressed as a ratio. Minimum Solvency Capital is the sum of all components of the:

- Insurance risk capital charge - this caters for the risk of unexpected insurance losses;
- Catastrophe risk capital charge - this caters for the risk of a sudden catastrophe;
- Asset risk capital charge - this caters for the risk of a sudden decline in asset values;
- Foreign currency risk capital charge - this caters for the risk of a sudden decline or increase in foreign exchange rates;
- Interest rate capital charge - this caters for the risk of a sudden increase or decrease in interest rates; and
- Reinsurance recovery risk capital charge - this caters for the risk that reinsurance assets of the licensed insurer will not be recovered.

104. Each insurer is expected to operate at a solvency margin that is fully appropriate to the risks within its business and any other appropriate factors. This solvency margin will be reviewed by the Bank. The Bank is not currently proposing to publish a required solvency margin that all insurers or groups of insurers in the same insurance sector must meet. However, this issue will be kept under review and required solvency margins will be published if this is considered appropriate.

Definition of capital

105. The solvency standards define the capital instruments and reserves which qualify as regulatory capital for the purposes of the solvency margin calculations. Regulatory capital is defined as Actual Solvency Capital, being Capital minus Deductions from capital. The Capital of a licensed insurer is intended to represent capital instruments that are of a permanent nature and freely available to meet losses. It includes ordinary shares, perpetual non-cumulative preference shares and reserves. It is a single pool of capital, without separate tiers. Deductions from capital include goodwill and other intangible assets and deferred tax assets. It represents, in broad terms, assets that may not have a fully realisable value in the event of distress or failure of the licensed insurer. Such deductions are made from regulatory Capital for prudence, so that Actual Solvency Capital represents an amount of capital that is very likely (assuming reserves have not been suddenly depleted by losses) to be available in the event of distress or failure of the licensed insurer.

Minimum capital

106. The risk-based capital calculations within the solvency standards determine the capital required for solvency purposes. In addition to this requirement each licensed insurer must maintain an absolute minimum amount of capital, which represents a financial commitment to the New Zealand insurance sector. The minimum amount of capital is \$5m for the life insurance sector, \$3m for the non-life insurance sector and \$1m for the captive insurance sector.

Asset risk capital factors

107. The asset risk capital factors range from 0.5% to 100% depending upon the asset class. The asset classes for fixed interest investments are dependent upon external rating agencies' counterparty ratings and maturity. For example AA rated fixed interest securities maturing in less than one year have an asset risk capital factor of 1% and BBB rated fixed interest securities have an asset risk capital factor of 6%. Listed equity has an asset risk capital factor of 25% and unlisted equity has an asset risk capital factor of 35% because unlisted equity is typically more risky than listed equity.

108. Non-insurance activities undertaken by licensed insurers are permitted but assets relating to non-insurance activities attract a 40% asset risk capital factor. Any other assets of the licensed insurer not described as an asset category within the solvency standards also incur an asset risk capital factor of 40%. Assets with an asset risk capital factor of 100% include loans to the directors of the licensed insurer and assets under a fixed or floating charge.

Asset concentration risk

109. There is a separate capital charge for any asset concentrations to a single counterparty or group of related counterparties. The capital charge calculation applies for assets in excess of prescribed limits. For example assets with a New Zealand bank in excess of 25% of total assets of the licensed insurer (excluding any reinsurance recoverable assets) attract an asset concentration risk capital charge.

Reinsurance recovery risk

110. There is a separate capital charge for any amounts recoverable from reinsurers, and also from EQC in respect of coinsurance recoverable. The reinsurance recovery risk capital charge is the product of the balance sheet value of the licensed insurer's reinsurance assets and the appropriate reinsurance risk capital factor. The reinsurance risk capital factors range from 2% to 40% depending upon the counterparty grade of the reinsurer, for example AA reinsurers and BBB reinsurers have a reinsurance risk capital factor of 2% and 10% respectively.

Market risk capital factors

111. To calculate the interest rate risk capital charge, an upward and downward interest rate shock of 1.75% is used across all fixed interest bearing assets and liabilities that either bear a fixed interest rate or are discounted.

112. A foreign currency shock of 22% is used to calculate the foreign currency risk capital charge. The foreign currency shock is applied to the licensed insurer's net open position in each currency.

Special circumstances

113. The solvency standards allow for the situation where one or more of the capital charges are either inaccurate or otherwise inappropriate to measure one or more of the financial risks of the licensed insurer. To cater for such special circumstances the solvency standards permit the Bank to vary the solvency margin of the licensed insurer, using an appropriate condition of licence. This ensures that where there are special circumstances the financial risk(s) of the licensed insurer are measured in a more appropriate manner for solvency calculation purposes.

Exemption for equivalent overseas solvency standards

114. The Bank can exempt (under section 59 of IPSA) an overseas insurer from compliance with all or part of a solvency standard if the overseas solvency standard used by the overseas insurer is broadly equivalent to the New Zealand standard. Even if such an exemption is granted, the Bank can require solvency calculation using the appropriate New Zealand solvency standard, so that equivalence can be measured. The granting of any such exemptions will be assessed as part of the Bank's licensing process.

Solvency returns

115. Each licensed insurer must provide an annual solvency return, stating its solvency margin, to the Bank within five months and twenty days after the end of the licensed insurer's financial year. The licensed insurer must also provide a half-yearly solvency return, stating its solvency margin, to the Bank within five months of the date six months after the end of the licensed insurer's financial year.

Disclosure

116. Licensed insurers must disclose their solvency margin within their annual financial statements and website and this disclosure must be updated by the solvency margin calculated using the insurer's half-yearly financial statements.

Consolidated supervision

117. Any insurance groups must also calculate and report their solvency margin on a group basis.

Audit

118. The solvency margin calculated using the licensed insurer's (and any insurance group's) annual financial statements must be audited.

Continuous compliance and solvency forecast

119. IPSA requires licensed insurers to comply with the appropriate solvency standard at all times ("continuous compliance"). Section 24 of IPSA requires insurers to notify the Bank as soon as practicable if the licensed insurer has reasonable grounds to believe that a failure to meet a solvency margin is likely to occur at any time within the next three years. This effectively requires licensed insurers to maintain a rolling forecast of their solvency margin. To satisfy this requirement, the calculations of the forecast solvency margin must be made in accordance with the solvency standard to which the licensed insurer is subject. The solvency forecast is part of the process that licensed insurers will use to ensure continuous compliance.

Sector-specific aspects of solvency standards

120. The following aspects of the solvency standards are specific to the solvency standard of each insurance sector. These aspects are in addition to the common elements of the solvency standards explained above.

Solvency standard for non-life insurance business

Insurance risk capital charge

121. This capital charge caters for the risk of insurance liabilities being understated. It is a percentage charge, depending upon product, on outstanding claims and forward looking liabilities (premium liabilities). The Insurance risk capital charge factors are based upon those used by the Australian Prudential Regulation Authority, with some adjustment to render them appropriate to the New Zealand market.

Catastrophe risk capital charge

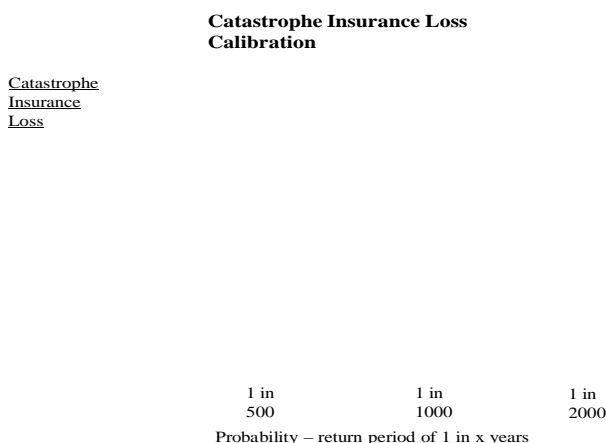
122. This capital charge caters for the risk of earthquakes (calibrated initially to a 1 in 500 years requirement, moving progressively to 1 in 1,000 years) and other extreme events (calibrated to a 1 in 250 years requirement). The calculation of the catastrophe risk capital charge is complex and qualitative because of the difficulty of obtaining relevant data, the complexity of the models used to quantify catastrophe risks and the sensitivity of the outcomes to the many assumptions that are necessary. The catastrophe risk capital charge needs to be a sophisticated calculation to capture this complex risk as accurately as possible. Insurers can fail in the event of a catastrophe and if this happens there can be a large cost on society and a potential cost on the Crown, and an increase in moral hazard, if government intervention is justified. Further discussion of the rationale for the catastrophe risk charge is set out below.

123. The Catastrophe Risk Capital Charge is the net cost (after reinsurance recoverable amounts) to the licensed insurer of the catastrophe exposure, including any gap or shortfall in the reinsurance cover, plus the cost (if any) of one reinstatement of the full catastrophe reinsurance programme. The licensed insurer's catastrophe exposure for the purposes of calculating the Catastrophe Risk Capital Charge is the greater of the following:

- (a) The projected insurance losses incurred by the licensed insurer in respect of a major earthquake event affecting Wellington¹ (defined as everywhere within a 50 kilometre radius from the Beehive), calibrated to the required regulatory minimum loss return applicable for the time being; or
- (b) The projected insurance losses incurred by the licensed insurer in respect of a major earthquake affecting any place other than Wellington (as defined above) calibrated to the required regulatory minimum loss return period applicable for the time being; or
- (c) The projected insurance losses incurred by the licensed insurer in respect of non-earthquake Extreme Event occurring anywhere within New Zealand, calibrated to a minimum loss return period of 1 in 250 years.

Catastrophe risk calibration rationale

124. Most property insurers use the output of catastrophe models to calculate their potential insurance losses in the event of a catastrophe. The insurance loss will increase the greater the return period assumed in a relationship similar to the following diagram:



Note: The relationship between return period and catastrophe insurance loss will be specific to each insurer and not necessarily exactly as shown.

125. The calibration of the Catastrophe Risk Capital Charge has been set at a prudent level to reduce the possibility of government intervention and therefore to minimise moral hazard. Insurer failure resulting from an unexpected catastrophe may trigger consideration of government intervention, especially if adverse impacts are likely to spread to the wider financial sector or the economy. However, government intervention should be limited to only extreme cases, because it is costly and could increase moral hazard within the sector if insurers perceive that government assistance is too easily available.

126. Following the Canterbury earthquakes in 2010/2011, there are a number of important factors that are still fluid, including the pricing and availability of reinsurance support for the New Zealand insurance market. The Bank recognises that it is important to give the new long-term “normal” more time to become apparent. Therefore, in order to give industry time to adapt to the new solvency requirements there will be a progressive phasing in of the requirements toward the ultimate target 1 in 1000 year calibration in accordance with a Policy Position Paper which accompanied the issue of the Solvency Standard for Non-Life Insurance. Should circumstances dictate, the Bank may amend the implementation timetable.

Solvency standard for captive insurers transacting non-life insurance business

127. The financial structure of captive insurers (being wholly-owned subsidiaries of the parent), and the fact that a captive insurer has only its parent and/or sister subsidiaries as its policyholders, creates a quite different

¹ It is considered useful to anchor the calibration to a major earthquake affecting Wellington because this is the market-recognised benchmark event considered in New Zealand non-life insurers' use of catastrophe models and their catastrophe reinsurance purchase decision.

solvency and policyholder risk profile to that of a traditional insurer. A separate solvency standard is warranted for captive insurers because of their different operating and financial models compared to other non-life insurers.

128. With respect to the purposes of IPSA, captive insurers are relatively low risk because of the nature of their policyholders. If a captive insurer were to become distressed or fail the need for intervention by the Bank would be minimal because the failure of a captive insurer would not affect the soundness of the insurance sector or public confidence in the insurance sector. The Solvency Standard for Captive Insurers provides an effective method of measuring solvency in this low risk sector. It is based closely upon the Solvency Standard for Non-life Insurance, with the following areas of difference:

Insurance risk capital charge

129. The Insurance Risk Capital Charge is calculated as an amount equal to 20% of the largest foreseeable per event retention of the licensed insurer plus the cost of one reinstatement of the relevant reinsurance programme if any. This is a simpler calculation than the treatment in the Non-Life Solvency Standard because captive insurers do not typically have a large pool of outstanding claims (and therefore any significant likelihood that these may be understated) and do not calculate premium liabilities. The uncertainty regarding premium adequacy is low because a captive will have a good understanding of its parent's risks that it is insuring.

Catastrophe risk capital charge

130. There is no catastrophe risk capital charge within the Solvency Standard for Captive Insurers because a captive insurer typically has a single policyholder (its parent) and cannot be exposed to claims from multiple policyholders simultaneously. In effect there is no difference between the exposure of a captive insurer in the event of a single loss event and a more widespread catastrophe event.

Related party transactions

131. Equity investments and subordinated loans between the captive insurer and its parent are allowable, with an asset risk capital charge of 15%. This recognises the business model of most captives which is to re-invest any surplus assets back to the parent.

Asset Concentration Risk Charge

132. An asset concentration risk limit of 66% applies to related party transactions between a captive and its parent owner before the imposition of an additional capital charge. This reflects the fact that related party transactions are treated as assets for solvency calculation purposes and not deductions from capital (as in the Solvency Standard for Non-Life Insurance Business).

Solvency standard for non-life insurance businesses in Run-off

Insurance risk capital charge

133. The solvency standard for non-life insurers in run-off is heavily based upon the non-life solvency standard. A separate solvency standard is required for non-life insurers in run-off because the insurance risk capital charge factors within the non-life solvency standard are not appropriate.

134. The solvency standard for non-life insurers in run-off has increased capital charge factors for the insurance risk capital charge because, in the absence of new business, there needs to be more certainty that sufficient actual solvency capital is available to meet policyholders' claims as the business runs-off.

Solvency standard for life insurance business

Solvency margin calculation

135. The solvency margin calculation must be performed at the statutory fund² level, which meets the requirement of section 82 of IPSA that life insurers are required to maintain at least one statutory fund.
136. The life solvency standard defines a resilience risk capital charge. The resilience risk capital charge is the sum of the asset risk capital charge and market risk capital charges offset by any appropriate revaluation of policyholders' liabilities including any realistic allowance for mitigating action, for example premium rate increases.
137. All asset and liability capital charges are calculated net of taxation, with a Deduction from Capital for any deferred taxation assets if this is the position on simulated wind-up of the licensed insurer.

Catastrophe risk

138. The calculation of the capital requirement for catastrophe risk represents additional capital, compared to solvency calculated under PS5, for most life insurers and is as follows. The main element relates to the possibility of a pandemic which is potentially the biggest financial risk that life insurers face. This is called the pandemic capital charge and is calibrated at the potential loss arising from a one per thousand increase in the rate of policyholders dying over the following year. This calibration factor has been set at the lower end of the possible range indicated by available research materials; however it should be noted that this factor is highly judgemental, given the lack of available data. A morbidity factor is not included because the Bank considers the inclusion of a morbidity factor would have a small potential impact and would unnecessarily complicate the catastrophe risk capital charge calculation.
139. Each insurer is also required to propose a catastrophe risk capital charge specific to any other major risks that are borne by the licensed insurer, including natural disasters and the exposure arising from concentration risks under group risk policies. The total catastrophe risk capital requirement is the higher of the pandemic capital charge and the catastrophe charge relating to other major risks.

Insurance risk capital charge

140. The assumptions used for the calculation of policyholder liabilities are stressed for solvency purposes (for example, the use of increased mortality rates) and are the same as those used in PS5 except for the lapse rate and run-off expenses assumptions which have been increased for prudence.

Health insurance

141. Although health insurance is a non-life product, life insurers who write health insurance will be required to use the life solvency standard. This will ensure consistent treatment within the life sector but it may create inconsistency with non-life insurers providing health insurance. The alternative of a separate solvency standard for health insurance business would add complexity to the number of solvency standards used and would also involve additional implementation and monitoring compliance costs for the Bank. This issue will be further evaluated by the Bank (refer to "Implementation and Review" section below).

Assessment of preferred option against objectives and assessment criteria

Prudent capital requirement

142. With the exception of the catastrophe risk element for non-life insurers, the solvency standards have been calibrated to a statistical basis of 1 in 200 years for all risks, which is considered prudent and is consistent with international practice. (Catastrophe risk for non-life insurers is discussed in paragraph 130.)
143. The asset capital factors within the solvency standards have been established using an economic capital approach which had regard to the volatility of assets and an allowance for diversification with other risks. This calibration methodology is appropriate because it reflects the true economic risks which insurers face and the outcome represents the necessary economic capital that an insurer should hold. The calibration of the asset

² A statutory fund is a legal separation of policyholder liabilities together with the assets that support those policyholder liabilities. This legal "ring fencing" is within the life insurer entity.

capital factors for insurers within the solvency standards is broadly aligned to the asset capital factors used to measure capital adequacy within the New Zealand banking sector. Thus the Bank is being consistent in its approach to capital sufficiency across the New Zealand financial sector.

144. Catastrophe risk for non-life insurers has been calibrated to a statistical basis of 1 in 1,000 years (including a transition period from 1 in 500 years to 1 in 1,000 years). Catastrophe risk for non-life insurers is calibrated to a higher level than other risks because in New Zealand this is one of the biggest risks faced by property insurers which has systemic implications. Catastrophes are a very real and significant risk which can cause significant financial impacts on insurers and the real economy. If insurers are not sufficiently capitalised or do not have adequate amounts of catastrophe reinsurance in place, a catastrophe can cause the failure of one or multiple insurers in a short period of time. Such failures could have a significant impact on policyholders, undermine the soundness and recovery of the insurance sector and have a potential cost on the Crown if government intervention is justified.
145. To fulfil the purposes of IPSA, the catastrophe risk capital requirement must be set at a prudent level to minimise insurer failure and hence adequately protect policyholders. The precise calibration that represents a “prudent level” is judgemental, but what is known about earthquake and other catastrophe risks is as follows:
- (a) The industry-recognised “benchmark” major Wellington earthquake event is typically calibrated in a range between 1 in 600 to 1 in 800 years.
 - (b) The Canterbury earthquakes on February 22 2011 has been assessed as having a return period significantly greater than 1 in 1000 years, with the exact return period unknown at this point.
 - (c) The potential damage from a major volcanic eruption in New Zealand could be very significant. Insurers’ catastrophe reinsurance contracts cover this risk but only up to the level of existing catastrophe reinsurance. Most insurers are unable to quantify the potential exposure from volcano risks because the return period is too long and the financial impact too uncertain.
 - (d) For other non-earthquake perils such as floods and storms the risks are typically quantified to a much shorter return period than earthquakes, for example a 1 in 100 year flood. This is because loss data for such events are better understood (i.e. within living memory or recorded history) and in New Zealand the scope of such losses is generally less than for major earthquakes. A calibration of 1 in 250 years is considered appropriate for such catastrophes because this is broadly consistent with the calibration of the remainder of the Solvency Standard for Non-Life Insurance.

146. Further comments to explain the prudent capital objective are set out below.

Risk based

147. The solvency standards are risk-based and require capital to be held against all financial risks that insurers face. In this way the solvency standards are an effective way of measuring insurers’ financial risks and the capital that is required to withstand such risks. The solvency standards are comprehensive because they require capital against all risks apart from operational risk.

Cost justified

148. The necessary outcome of a prudent capital requirement inevitably involves a trade-off between competing factors: the amount of capital required to achieve a prudent capital requirement and the cost of that capital. A prudent capital requirement may increase premiums with some policyholders no longer able to afford cover. If the capital requirement is too high some insurers (most likely smaller providers) could exit the industry. However, the potential cost impacts of a prudent capital requirement are considered to be justified against the benefits (refer to “Overall cost and benefit impacts of preferred option” section below).

Solvency standards are suitable for oversight of the insurance sector

149. The following attributes of the solvency standards demonstrate that the solvency standards are suitable for the oversight of the New Zealand insurance sector.

Standardised approach

150. The solvency measurement methodology is a standardised factor-based approach without any allowance for the use of insurers' own internal capital models. Within the capital charge calculations undue complexity has been avoided because this would drive up compliance costs, particularly for the many smaller insurers in the sector.

Licensing and monitoring

151. Solvency is the key measure of capital sufficiency to protect against unexpected losses. One of the most important licensing criteria that the Bank will use in deciding whether to license insurers is the insurer's ability to meet the relevant solvency standard for its industry sector.

152. On an ongoing basis, insurers' solvency measurement, both current and projected, will be a critical component of the Bank's sector monitoring activity to ensure the financial soundness of the New Zealand insurance sector.

All inclusive scope

153. The solvency standards are applicable to all insurers within an industry sector (life insurers, non-life insurers, captive insurers and run-off insurers) irrespective of corporate form and size. This allows consistent solvency measurement across each insurance sector which also ensures competitive neutrality within each insurance sector.

Small insurer treatment

154. Small insurers may be inherently more risky than large insurers for a number of reasons including less diversified insurance portfolios, a low level of capital to withstand unexpected events and often a lack of independent input and strong parent. However some small insurers do have very simple products and a low risk business model e.g. the provision of funeral plans. At this stage it is considered that small insurers' solvency can be measured using the solvency standards that have been developed and a separate solvency standard for small insurers is not warranted.

155. However, solvency standard compliance costs can be proportionately higher on smaller insurers. Because of this small insurers (with gross written premium less than \$1.5m p.a.) are exempt from the minimum capital requirement within the solvency standards.

Disclosure

156. Disclosure of each licensed insurer's solvency margin on the insurer's website and within the insurer's financial statements is a requirement of IPSA. This ongoing disclosure is expected to strengthen both market and self discipline of the insurance sector. It may also help to improve capital sufficiency and hence the soundness of the insurance sector.

Actuarial input

157. Actuaries play an important industry role and each insurer is required to appoint an actuary under section 76 of IPSA. The solvency standards echo this tenet by placing significant reliance on the work of the appointed actuary in the calculation of an insurers' solvency.

Relationship with other prudential requirements

158. The requirements of the solvency standards usefully complement two other key prudential requirements within IPSA:

- **Financial strength rating:** All insurers (apart from very small insurers with annual premium income less than \$1.5 Million) are required to obtain a financial strength rating from a rating agency approved (for this

purpose) by the Bank. The measurement of solvency using the solvency standards is likely to inform rating agencies' assessment of insurer solvency; and

- **Risk management programme:** All insurers are required to prepare a risk management programme which must articulate the risks an insurer faces. It is primarily these risks which require capital backing under the solvency standards.

Workability

159. The solvency standards must be workable which has been tested during the consultation process. Based upon the consultation responses it is considered that the solvency standards are workable because no major operational difficulties have been raised by insurers in applying the solvency standards.

Flexibility

160. Flexibility in the application of the solvency standards is important. If the solvency margin calculation is not appropriate to properly measure the risks of a particular insurer, the Bank can prescribe an appropriate condition of licence to enable a better measurement of the risk(s) that are not properly addressed by the existing solvency standard.

Proven and acceptable internationally

161. New Zealand has no international obligations in this area, but in developing the solvency standards the Bank has drawn on other countries' solvency standards (most notably those of Australia) and guidance material published by the IAIS, where appropriate.

Solvency standard meets legal requirements

162. The solvency standards must meet the relevant legal requirements of IPSA, as follows:

Purposes

163. The purposes of IPSA are to promote the maintenance of a sound and efficient insurance sector and promote public confidence in the insurance sector. This is met by the prudent capital requirement and being suitable for the oversight of the insurance sector (refer to sections above).

Principles of IPSA

164. In achieving the purposes of IPSA, the Bank must take into account principles specified in section 4 of IPSA. The following principles are relevant and how they have been met by the objectives and assessment criteria are set out below, in italics:

- the importance of insurance to members of the public in terms of their personal or business risk management: *prudent capital requirement*.
- the importance of maintaining the sustainability of the New Zealand insurance market: *prudent capital requirement*.
- the importance of recognising that it is not a purpose of this Act to eliminate all risk of insurer failure: *prudent capital requirement*.
- the desirability of providing to the public adequate information to enable members of the public to make those decisions: *disclosure of solvency position*.
- the desirability of consistency in the treatment of similar institutions: *competitive neutrality within prudent capital requirement*.
- the need to avoid unnecessary compliance costs: *the prudent capital requirement is cost justified*.
- the desirability of effective risk management by insurers: *inter-relationship of the solvency standards with the risk management programme (refer above)*.

Overseas standards

165. The Bank must, before issuing a solvency standard, have regard to relevant overseas standards for the purpose of ensuring that the solvency standard to be issued by the Bank does not apply in an unreasonable manner as a result of the insurer being incorporated in New Zealand or some other jurisdiction. This will be achieved by the appropriate application of exemptions of overseas jurisdictions under section 59 of IPSA.

Content

166. Section 56 of IPSA specifies the detailed content of solvency standards, including the methods for calculating the amount of capital and the minimum amount of capital that an insurer must hold and maintain, the private and public reporting requirements and the manner in which a review of actuarial information contained within the insurers' financial statements is to be carried out. These requirements have been met; refer to "Description of solvency standards" section above.

Consultation and notice

167. The Bank must consult on a solvency standard and also give public notice of the issue of a solvency standard in the Gazette (refer to sections 235 and 55 of IPSA). Both of these requirements have been fulfilled for the solvency standards.

Benefits of preferred option

168. The key benefits of the preferred option, relative to the status quo, are likely to be those discussed below. The benefits are mainly attributable to policyholders and the Bank, but some benefits will also accrue to the wider economy.

Benefits attributable to policyholders:

Supports purposes of IPSA

169. Solvency standards, which are an established method to measure the financial strength of insurers, will reduce (but can never eliminate) the probability of insurer failure and improve the financial soundness of the insurance sector. This is achieved because the solvency standards are risk-based and appropriate to the risks of each insurance sector (non-life, life, captive insurers and run-off insurers). Reducing the probability of insurer failure will strongly support the purposes of IPSA (set out in paragraph 24 above).

Use of economic capital

170. The calibration of the risk-based solvency standards is to an economic level of capital that insurers are required to hold. (It should be noted that the economic level of capital is inevitably judgemental.) Even in the absence of solvency standards, in managing their risks insurers who are responsible about their level of financial strength would seek to maintain an economic level of capital. So the solvency standards help to align the regulatory capital requirement with insurers' own capital. This further ensures that insurers are managing their required capital in a risk-based economic manner.

Effective financial strength measure

171. The solvency margin for each insurer is the key output which is arrived at when the insurer applies the prescribed calculations within the solvency standard appropriate to its business. The solvency margin provides a relatively simple and internationally recognised metric summarising, in one measure, the financial strength of an insurer. Preparation and publication of the solvency margin by each insurer greatly reduces the need for analysts and policyholders to try and perform their own appraisal of an insurer's financial strength. The solvency margin also provides a powerful mechanism to assist policyholders, brokers and analysts to distinguish between insurers with lower and higher levels of financial strength, as indicated by the solvency margin.

172. New Zealand is not required to mirror any other country's solvency standards, nor is it legally bound to comply with IAIS guidance in the area of solvency measurement. However, in developing the New Zealand

solvency standards, the Bank has had regard to other countries' solvency standards (most notably those of Australia) and the IAIS guidance. In this way the solvency standards are robust because they draw on appropriate international precedent and guidance.

Improvement in self discipline

173. Regulatory solvency measurement is expected to drive important practical benefits by improving self discipline in the insurance sector. This is because for ongoing solvency measurement it is vital for insurers to have sound internal risk and capital management processes. In this way the regulatory solvency requirements supplement and support insurers' own self discipline.

Strengthens market discipline

174. The required disclosure of each insurer's solvency margin on its website and within annual financial statements will provide policyholders, brokers and analysts with a much-improved capacity to identify and compare the financial strength (and hence potential risk of failure) of insurers within the insurance sector. This will enable higher risk insurers to be identified and may encourage insurers with a relatively low solvency margin to increase their solvency margin.

Benefits attributable to the Bank:

Integral to supervision process

175. Solvency measurement will be a very important element of the Bank's risk-based monitoring of the insurance sector. It will provide a consistent measurement of insurers' capital strength across each insurance sector. The adequacy of each insurer's solvency margin will be reviewed which will enable the Bank to identify any higher risk insurers (relative to their capital strength). Any intervention by the Bank during its monitoring work will generally be on an exception basis, which will allow the Bank to run a low cost and relatively non-intrusive prudential regime. In the event of any actual or potential institutional distress, the Bank will be able to use the solvency standards to quickly measure any capital shortfall. This process, which is made possible by the solvency standards, will help to limit any potential damage to the financial soundness of the insurance sector and policyholder confidence.

Financial sector consistency

176. Prior to the introduction of the solvency standards, the measurement of solvency within the insurance sector was inconsistent and only partial. The solvency standards achieve much greater consistency in the measurement of solvency across the entire Zealand insurance market. A solvency measurement requirement in the insurance sector is also consistent with the Bank's prudential requirements for capital sufficiency in other sectors, notably the capital adequacy requirements for New Zealand registered banks.

Complements other regulatory requirements

177. The solvency standards complement other key regulatory requirements of the insurance prudential regime. For example, solvency measurement will be needed by all insurers to obtain and maintain a financial strength rating, from a rating agency approved for that purpose by the Bank. In addition, the risks identified within each insurer's risk management programme must be supported by sufficient capital. The quantum of capital required for each risk will typically be adequately addressed by the risk-based solvency requirements set out within the solvency standards. IPSA also requires insurers to prepare a Financial Condition Report ("FCR"). The solvency standards support the preparation of the FCR because the FCR will need to address matters relating to the insurer's solvency position.

Benefits attributable to the wider economy:

Supports economic activity

178. Insurance has a critical role in supporting New Zealand business and personal economic activity. Well designed solvency standards will play an important role in strengthening the insurance sector and will therefore support this wider economic activity.

Strengthens insurance sector

179. Some insurers may need to increase their level of reinsurance or existing capital as a result of the capital requirements of the solvency standards. It is possible that some insurers will not be able to achieve this to the required level. As an alternative these insurers will either have to reduce the level of their risk, merge with another insurer or even exit the market. Insurers who are able to hold sufficient reinsurance or capital commensurate with their risks demonstrate good capital management. So any insurers who may need to merge or exit the market will facilitate a potentially stronger insurance sector.

Costs of preferred option

180. The costs of the preferred option, relative to the status quo, are likely to comprise those discussed below. Most of the costs will be incurred by insurers or the Bank.

Costs incurred by insurers

Higher capital requirements

181. For some insurers the solvency standards will impose additional reinsurance costs or the cost of holding additional capital, for example in respect of the capital requirement relating to catastrophe risk. In addition, there was no previous solvency standard, and hence formal capital requirement, for non-life insurers, captive insurers and insurers in run-off. Any increase in reinsurance or capital that is needed to meet the solvency standards will fall upon those insurers whose risks are disproportionate to their financial strength.

Industry compliance costs

The solvency standards will impose additional compliance costs on insurers, including the need to maintain systems, processes and management structures to verify compliance with the requirements, the costs of review or preparation of the solvency margin calculations by the insurer's Appointed Actuary, the costs of internal reporting and monitoring and forecasting the solvency margin, public disclosure requirements and the costs of reporting the solvency margin half-yearly to the Bank. Some small property insurers do not currently use a model to calculate their potential insurance losses in the event of a catastrophe. These insurers may incur some compliance costs moving to the required modelled approach (of some form), but such costs are not expected to be significant. The initial or "set-up" compliance costs are likely to be higher compared to the ongoing compliance costs of implementing the solvency standards. Also the marginal compliance costs will be less for insurers with already high self discipline and may be less for foreign-owned insurers who are already required to meet the solvency standards of their home country supervisors.

182. In addition it is possible that some insurers may need to bear the cost of a third party review of the insurer's solvency margin calculation (or any aspect of the calculation) if this is required by the Bank.

183. The compliance costs are not expected to be significant relative to insurers' revenue and profits and are not likely to affect the ability of insurers to continue to provide insurance services at current levels, although the impact on small insurers is likely to be proportionately higher than for the large insurers. However, separate to the solvency standards an IPSA regulation exempts small insurers (those with gross written premium less than \$1.5m p.a.) from the minimum capital requirement set out within the solvency standards. This will mitigate the marginal cost of the solvency standards for these insurers.

Increased costs of reinsurance

184. Reinsurance costs are expected to increase significantly as a result of the Canterbury earthquakes in 2010/2011, but the full magnitude of the potential increase may not have fully worked through into the market because scientific data is still being analysed prior to catastrophe reinsurance models being fully re-calibrated. The increased reinsurance requirement of the catastrophe risk capital charge will impact all property insurers.

This cost will be proportionately higher for those property insurers who are required to either increase their level of reinsurance or capital to the prudent level required by the catastrophe risk capital charge. It is expected that the rising cost of catastrophe reinsurance will be largely passed through to policyholders and this may in turn reduce property insurance take-up.

185. The above potential medium and longer term cost effects will continue to be monitored to determine their significance over time. If these factors become pronounced then the increased cost will be considered to determine whether the Bank's policy approach to catastrophe risk capital requirements requires any revision or whether any other appropriate measures need to be taken.

Reduction in market participants

186. The improved solvency measurement may result in some higher risk insurers being identified, relative to their financial strength. This could potentially lead to consolidation in parts of the insurance sector or other insurers leaving the sector. If there is a reduction in the number of market participants, there may be direct costs on those insurers and some indirect costs on their policyholders who are required to move to a different insurer. But this is not a totally negative outcome for the insurance sector or for policyholders because reducing areas of high risk helps to correct any mispricing of risk and should improve the soundness of the New Zealand insurance sector. It should also be noted that if there are exits from the industry it is likely that other requirements of IPSA may have contributed to this decision in addition to the solvency standards, or indeed such exits may be due to other matters entirely unrelated to IPSA or the solvency standards.

Barrier to entry

187. The requirements within the solvency standards may represent a barrier to entry for potential new market participants. However, this potential cost in effect facilitates the entry of only sufficiently capitalised insurers and thereby helps to strengthen the overall insurance industry.

Costs incurred by the Bank and government:

Cost to the Bank

188. The total cost to the Bank of implementing and monitoring the solvency standards across the Bank's insurance teams is estimated at 1 to 2 FTE of current staffing levels.

Cost to government

189. The calibration of the solvency standards, including the catastrophe risk capital charge, has been set at a prudent level so as to minimise the possibility of insurer failure and hence any potential costs to government. If the calibration had been set at a lower level, then the potential costs to governmental (and hence New Zealand taxpayers) of intervention could be at a much greater frequency and be potentially more expensive.

Other cost impacts:

190. It is possible that the Bank's improved measurement of solvency will save some costs for other industry participants such as rating agencies or brokers.

191. Some of the costs incurred by insurers are likely to be passed on to policyholders and there is a possibility that this will reduce insurance take-up in New Zealand. This may have possible adverse effects on the wider New Zealand economy.

Risks of preferred option

192. The main risks associated with the solvency standards are set out below. These risks are currently assessed as low and in the event they become significant can be managed by appropriate revisions to the solvency standards during the Bank's licensing and monitoring processes.

Calibration

193. It is possible that the calibration of the solvency standards may, over time, be found to be not sufficiently prudent given the risks that insurers manage. Alternatively the calibration may be found to be excessively prudent.
194. It is also possible that the calibration of the capital charges within the solvency standards do not measure risk sufficiently accurately.

Non-life catastrophe model risk

195. Each insurer's Appointed Actuary is required to be satisfied with the level of the non-life catastrophe risk charge. However the major input influencing actuarial views on the catastrophe risk capital charge is likely to be the statistical outputs of catastrophe models. Given the uncertainties of quantification in this area, it is very likely that model risk exists within and between the different catastrophe models. The Canterbury earthquakes underlined the fact that catastrophe models can only approximate such a complex risk.

Other impacts

196. Costs or benefits other than those discussed above may transpire as the solvency standards are fully implemented.

Monetisation and summary of cost and benefit impacts of preferred option

197. It is considered impractical to monetise the costs and benefits of the solvency standards because of their wide-ranging and subjective nature. Given that adequate solvency levels are fundamental to an effective insurance prudential regime in New Zealand, the benefits of the solvency standards are assessed as moderate to high. The costs of the solvency standards are assessed as low to moderate.
198. Intervention in the form of solvency standards is justified because there is a net benefit, considering the costs and risks, of the preferred option compared to a pure market outcome and any of the other options described above.