CAS Exam 6-Canada Study Kit

"Risk Adjustments for Insurance Contracts," May 2018

Overview and Chapter 1 only

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Risk Adjustments
for Insurance Contracts under IFRS 17

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Foreword

In the world of insurance, based on the business of managing uncertainty and risk, adjustments for risk have been an integral part since the earliest days of accounting for such business. Practices have emerged over time where often such risk adjustments have been implicit, and included in a conservative estimate of the outcome from insurance of the risk. In many parts of the world, specific risk margins have become well established to enable a more realistic interpretation of the economic and financial impact of risk in the insurance business. The specific recognition of the financial implications of insurance risk has helped increase stakeholder confidence in the business. Developments in accounting for insurance, both for general purpose accounting and for regulatory purposes, show specific recognition of, and accounting for, risk.

The measurement model within the International Financial Reporting Standard for Insurance Contracts (IFRS 17) was designed to include risk in a key constituent in financial reporting. While a substantial amount of actuarial literature is available for various applications of risk margins, much of that material is not directly applicable to the specific needs of IFRS 17. There is a need to provide such a focused source of technical education material as IFRS 17 goes into effect. Many of the relevant risk adjustment methods for IFRS 17 transcend national borders and are relevant in any country. For this reason, this monograph has not focused on practice in a specific country. However, parameters and assumptions have been illustrated more generally rather than specific to regions and countries, and case studies have been included as practical illustrations of the various methods in use. Readers can use the educational material to help them develop their own parameters and assumptions based on their current and historical experience and their specific economic environment.

This monograph is sponsored by the International Actuarial Association (IAA). The authors are from a team of professionals from Deloitte Consulting LLP. Their biographies are shown in the last pages of the monograph.

This monograph is intended as educational material specific to IFRS 17 for practitioners in the insurance sectors.

In many cases, technical formulas used in this document were obtained from other publications, as noted in the References section at the end. Additional information should be obtained from the source documents. The intent of this monograph is not to promote one method or technique over any other. Other techniques not covered in this monograph are certainly possible. The goal of the monograph is to provide commonly used or developing methods in financial reporting for IFRS 17. To that end, this monograph covers the following five broad areas:

- Underlying principles
- Description of techniques, both quantitative and qualitative
- Validation, re-measurement and recommended procedures for disclosure and communication

- A number of case studies that show various applications of real situations
- References and additional resources available to the reader

The opinions, viewpoints and conclusions presented in this monograph are those of the individual authors who have contributed to it. They do not necessarily represent official positions of Deloitte Consulting LLP. or the IAA and should not be interpreted as prescribing actuarial standards of practice or as providing authoritative practice guidance in any respect.

Overview

The objective of the monograph is to address the educational needs of practitioners in the insurance field who are involved in the preparation and auditing of financial statements under IFRS 17 Insurance Contracts.

The scope of this monograph is to explain and illustrate the principles and core applications for estimating risk adjustments.

IFRS 17 *Insurance Contracts* is an International Financial Reporting Standard (IFRS) developed by the International Accounting Standards Board, and issued in May 2017 with an effective date of January 1st, 2021. This standard puts into place a common set of financial reporting principles, specifically for insurance contracts. A significant element of IFRS 17 is the application of a risk adjustment for non-financial risk[1] within IFRS measurement approach for the financial reporting of insurance contracts.[2] This monograph aims to describe some of the practical challenges in estimating risk adjustments and to illustrate a range of existing practices and techniques currently in use or could potentially be applied after appropriate consideration.

The objective of the monograph is to address the educational needs of practitioners in the insurance field who are involved in the preparation and auditing of financial statements under IFRS 17 Insurance Contracts. The intended readers are actuaries and other specialists who will be responsible for the development, management and review of estimates needed for IFRS financial reports. This monograph provides descriptions and illustrative examples of techniques that could be applied in the risk adjustment[3] calculation for various types of insurance contracts. While specific practice guidance or interpretations regarding IFRS 17 will come from other sources, this monograph will help educate and assist practitioners as practices emerge.

There are many varieties of insurance contracts offered around the world. The scope of this monograph is to explain and illustrate the principles and core applications for estimating risk adjustments, rather than to provide a comprehensive source addressing the wide variety of contract types. Also, this monograph's purpose is to educate, rather than to provide a roadmap or guidance for IFRS 17 implementation. The International Actuarial Association (IAA) has also undertaken the development of additional resources, addressing many aspects of IFRS 17 including risk adjustment, in the form of an International

1 IFRS 17 defines the *risk adjustment for non-financial risk* as "the compensation an entity requires for bearing the uncertainty about the amount and timing of the cash flows that arises from non-financial risk as the entity fulfils insurance contracts".

2 IFRS 17 defines *insurance contract* as "a contract under which one party (the issuer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policyholder".

3 IFRS 17 refers to the risk adjustment for non-financial risk as a defined term. This monograph uses the term risk adjustment as a shortened expression with the same meaning and definition as risk adjustment for non-financial risk.

Actuarial Note (IAN) and an International Standard of Actuarial Practice (ISAP) on IFRS 17.

In addition to introducing practices and techniques, this monograph provides some educational background about the principles and considerations underlying the risk adjustment. In implementing the estimation of risk adjustments, each reporting entity will make its own assessment and choice of a technique, depending on its risk appetite, preferences, and other factors. IFRS 17 also requires the computation of a contractual service margin[4] (CSM) for many long duration contracts and the identification of separate liabilities for onerous contracts. The size of the CSM and onerous contract liabilities are affected by the risk adjustment. Consequently, an allocation of the risk adjustment estimates to portfolios of contracts may be useful for determining the CSM and onerous contract estimates. The concept of diversification benefits is discussed in this monograph with respect to the aggregation of cash flow risks in estimating risk adjustments. However, the monograph does not specifically address how such diversification might be allocated down to a more granular level. Section 5.5 briefly discusses the different levels of aggregation for risk adjustments and for CSM or onerous contracts as an additional consideration. Given that the relevance of such allocation is mainly with respect to the CSM and onerous contracts, the risk adjustment methods described in the monograph may be helpful in designing a method for allocating risk adjustments for CSM and onerous contract purposes.

The general measurement approach within IFRS 17 is described as a current risk-adjusted present value approach.

While the general measurement approach within IFRS 17 is described as a current risk-adjusted present value approach, the standard allows the use of the Premium Allocation Approach (PAA) for certain short-term contracts, and the so-called Variable Fee Approach (VFA) for direct participating contracts. Since the estimates computed under the PAA and VFA do not involve a risk adjustment component, the PAA and VFA estimates are not in the scope of this monograph. However, the unpaid claims liabilities for expired coverage under short-term contracts, accounted for under the PAA, will fall under the general measurement approach that requires a risk adjustment. The focus of this monograph is the general measurement approach where the risk adjustment concept applies.

Where a specific confidence level, as represented for instance by a 90% probability of sufficiency or the 90th percentile of a distribution, is used in the illustrations, examples or case studies in this monograph, such percentiles were simply chosen for illustration purpose, and do not represent our recommendation for a suitable confidence level percentile. Each entity makes its own assessment of risk consistent with the IFRS 17 measurement objectives. In practice, the confidence level reported by an entity will depend on the entity's

4 IFRS 17 defines *contractual service margin* as a "component of the carrying amount of the asset or liability for a group of insurance contracts representing the unearned profit the entity will recognise as it provides services under the insurance contracts in the group".

risk preference and the risk and uncertainty characteristics of the insurance cash flows.

Chapter 1 introduces the broad objective of risk adjustments and the specific requirements of IFRS 17, in comparison to similar risk adjustment concepts in other frameworks. It also describes the perspectives and needs of users of financial statements with respect to evaluating risk.

Chapter 2 considers the elements that form the underlying framework for risk adjustment measurement developed for IFRS, and discusses the general techniques that an entity may select to estimate risk adjustments in compliance with the IFRS framework.

Chapter 3 describes the assessment of the more commonly found techniques under the IFRS framework. In particular, this monograph considers the advantages of quantile and cost-of-capital techniques to estimate risk adjustments, but also discusses other techniques.

Chapter 4 introduces quantitative techniques for modelling the risk adjustment, including a detailed description of several probability distributions that underpin the choice of the risk adjustment technique. It also discusses the inherent limitations that modelling probability distributions would have on the assessment of the uncertainty that the risk adjustment is designed to represent in the financial statements. Selection of data and application of judgment for purposes of quantitative modelling are covered in Chapter 4, along with statistical techniques that could be applied to support its calculations of risk adjustment liabilities, and discusses the merits of commonly used statistical methods such as stochastic methods and option pricing, copulas, and probability distribution transforms, such as the Wang Transform. Finally, Chapter 4 covers risk aggregation and dependency relationships.

The focus of this monograph is the general measurement approach where the risk adjustment concept applies.

Chapter 5 focuses on the qualitative considerations an entity would reflect to ensure its approach to risk adjustment measurement is consistent with the other components of the current risk-adjusted present value.

Chapter 6 discusses the impact of the insurer's approach to risk on portfolio characteristics, including the diversification, risk pooling and other factors, such as the risk mitigation techniques, which may impact the risk adjustment estimates.

Chapter 7 discusses aspects to be considered in the validation of the risk adjustments that an entity has selected.

Chapter 8 covers the practical considerations on how to remeasure risk adjustment liabilities in light of new information emerging from experience. It also discusses the common triggers for the changes in the risk adjustment that requires re-measurement.

Chapter 9 introduces the IFRS 17 disclosure requirements for risk adjustment liabilities and other means of communication.

Chapter 10 presents several case studies to give an overview of the applications of risk adjustment methods for a cross-section of life, health, annuity, property/casualty and other general insurance contracts.

CHAPTER 1
Introduction

Abstract

The Introduction provides the context for the following technical sections and discussions of practical application of risk adjustments.

The first section explains the main purposes and applications for adjusting expected values to reflect the risks associated with such values. It aims to provide the reader with a clear understanding of the needs of users of financial statements with respect to financial values that are not certain but are subject to risk and uncertainty. IFRS 17 is the Standard issued by the International Accounting Standards Board (IASB) on insurance contracts and it provides the specific requirements regarding risk adjustments that will be addressed.

In the second section, the reader will find a summary of the key requirements in IFRS 17 and more detailed explanations of the rationale and basis for considerations that underlie the IFRS requirements related to risk adjustment. This is intended to help the reader understand the key issues and considerations that may impact possible interpretations of the risk adjustments as required by the Standard.

The third section compares the use and application of risk metrics used for operational, capital, and solvency management to the IFRS risk adjustment requirements.

Section 1.1 Objectives of risk adjustments for financial reporting

1.1.1 Purposes and applications for adjusting expected values to reflect the risks associated with expected values

Risk and uncertainty[5] are inherent features of nearly all human endeavours. Insurers have been managing and pooling business and personal risks for centuries. The act of taking on a third party's risk or the transfer of the financial aspects of activities involving risks through mechanisms such as insurance

5 *Risk and uncertainty* are used interchangeably in this monograph. IFRS 17 makes no distinction between these terms. In section 5.6, there is a discussion of how these terms might be used where a distinction between these terms is important for purposes or in applications other than IFRS 17 financial reporting.

have a unique feature: the proceeds to compensate the party that accepts the transfer of risk are collected prior to the potential disbursement that the occurrence of the risk-related event would trigger. This results in the inversion of the usual business cash cycle, in which entities incur costs to produce goods and services prior to collecting the proceeds from their sale. The consequence of this on financial reporting of a business that sells insurance is that the estimates of the likely disbursements or outflows are of fundamental importance in order to communicate the entity's performance and financial position at any given time to its stakeholders.

From the point of sale and throughout the economic life of an insurance contract, the success of the entity[6] that issues the contract as a business is dependent on its ability to estimate the net expected outflows that the portfolios of insurance contracts[7] it has assembled will generate. The primary purpose of this information is for the entity to obtain from its policyholders[8] the commensurate amount of resources/inflows that would be sufficient to fund the expected outflows and to reward the entity for its ability to effectively relieve the policyholders of the financial consequences that arise from the risks covered by the insurance contracts.

The fundamental statistical law of large numbers applies to many risks covered by insurance contracts. So, a common goal of the insurance business is to achieve a sufficiently large pool of risks—as represented by combinations of portfolios of insurance contracts issued—to benefit from the fact that the average of the outcomes from a large number of similar insured risks would be distributed around the mean, and will become closer to the mean as similar insured risks are added to the same portfolio.

If the actual cash flows turned out to always equal their expected value, no variation in the profit or loss from the pooling of those risks would result to reward the entity's activity.

In addition, the convergence of cumulative actual outcomes around the expected value would not necessarily be achieved in a period where positive or negative deviations from the expected value can be experienced.

Finally, catastrophic, extreme, or extraordinary events may occur that cannot be easily captured in the expected value.

All these reasons suggest that to faithfully report the financial information surrounding an expected value of insured risks requires an additional element to go with that value. The risk adjustment (sometimes referred to as the risk

6 IFRS 17 applies to any issuer of insurance contracts (with certain specified exclusions) and not to a defined entity. In practice, issuers of insurance contracts will normally be insurance companies, sometimes referred to as *insurers*. The monograph refers to insurer in some places but frequently uses the term "entity", which is how IFRS 17 refers to the organization that is reporting under IFRS 17.

7 IFRS 17 in Appendix A, Defined terms, defines *portfolio of insurance contracts* as the "insurance contracts subject to similar risks and managed together".

8 IFRS 17 in Appendix A, Defined terms, defines a *policyholder* as "a party that has a right to compensation under an insurance contract if an insured event occurs."

margin) fulfils this role. The IASB believes that a risk adjustment[9] is necessary to properly represent the uncertain nature of the insurance liabilities. The IAA publication *Measurement of Liabilities for Insurance Contracts: Current Estimates and Risk Margins* [1] notes:

> The objective of the risk margin can be viewed from different perspectives. It can be seen (1) as the reward for risk bearing, measured in terms of the inherent uncertainty in the estimation of insurance liabilities and in the future financial return from the contract or (2) in a solvency context as the amount to cover adverse deviation that can be expected in normal circumstances, with capital to cover adverse deviation in more unusual circumstances.

This monograph considers the first of these objectives. It focuses on how the IASB has incorporated in IFRS 17 the guidance surrounding the financial reporting of the compensation for risk bearing that an entity requires as it issues insurance contracts, otherwise known as the risk adjustment.

The definition of resources and claims as the two economic inputs in any business activity has replaced the previous notions of assets and liabilities.

1.1.2 Needs of users of financial statements with respect to uncertain financial values, subject to risks of outcomes that can differ significantly from the statement values

The IASB's Conceptual Framework [2] explains:

> The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit.

This definition clarifies that the users of financial reporting products, such as the entities' financial statements, were considered by the IASB when developing an IFRS to include the owners, stakeholders and creditors of an entity.

In this context, it is important to remember that insurance policyholders are also important users of an entity's financial statements, in that their collective rights under issued insurance contracts would normally represent an entity's biggest creditor group.

The Conceptual Framework also discusses the fundamental components of the financial reporting system that the IASB has produced by issuing IFRSs. The definition of resources and claims as the two economic inputs in any business activity has replaced the previous notions of assets and liabilities and allows the general discussion on how to define financial reporting standards to be anchored on basic economic theory.

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9 IFRS 17 Standards Basis for Conclusions (BC208–BC212) – Reasons for including a risk adjustment for non-financial risk in the measurement of insurance contracts (paragraph 37 and B86–B89 of IFRS 17).

Of particular interest to the matter covered in this monograph is the discussion within the Conceptual Framework of users' need to understand the changes in economic resources and claims and the degree of variability that reported results may have as a result *(emphasis added below)*:

> Information about a reporting entity's financial performance helps users to understand the return that the entity has produced on its economic resources. Information about the return the entity has produced provides an indication of how well management has discharged its responsibilities to make efficient and effective use of the reporting entity's resources. *Information about the variability and components of that return is also important, especially in assessing the uncertainty of future cash flows.* Information about a reporting entity's past financial performance and how its management discharged its responsibilities is usually helpful in predicting the entity's future returns on its economic resources.

When applied to an entity in the insurance business responsible for paying insurance claims, this statement illustrates well the nature of users' need to understand the potential degree of variability of expected values calculated to measure the obligations an entity has towards its policyholders. Indeed, the financial reporting practices applied to insurance contracts prior to IFRS 17 have become increasingly sensitive to this need. Several instances can be observed of the efforts undertaken to explain to the users of financial information the nature and sources of variability that surround uncertain financial values.

Users' need to understand the changes in economic resources and claims and the degree of variability that reported results may have as a result.

For example, attempts within the European life insurance industry to codify embedded value techniques have focused heavily on the explicit allowance for risk. The European Insurance *CFO Forum Market Consistent Embedded Value Principles* [3] issued in 2008 adopted the requirement of an explicit disclosure of the provision of the residual non-hedgeable risk. The basis for conclusions says:

> Additional allowance should therefore be made for non-hedgeable financial risks and non-financial risks ... Non-hedgeable financial risks include illiquid or non-existent markets where the financial assumptions used are not based on sufficiently credible data. Non-financial risks include mortality, longevity, morbidity, persistency, expense and operational risks.

Another codified example of an explicit measure of the uncertainty that surrounds the estimate of insurance cash flows can be found in the Australian Accounting Standards Board standard 1023 *General Insurance Contracts* [4], where it is stated that "[t]he outstanding claims liability includes, in addition to the central estimate of the present value of the expected future payments, a risk margin that relates to the inherent uncertainty in the central estimate of the present value of the expected future payments".

These developments reflect an effort to evolve financial reporting for entities such that the financial results of a period are reported on a basis that offers a view more closely aligned with the economic substance of the risk-taking and risk management activities that drive profits, in contrast with prior practices that were extensively affected by the influence of solvency conservatism.

This evolution in financial reporting practices permeates the whole of the IASB's work to codify a framework for IFRS where the concept of prudence is abandoned in favour of risk versus reward.

The financial results of a period are reported on a basis that offers a view more closely aligned with the economic substance of the risk-taking and risk management activities that drive profits.

Section 1.2 Requirements of IFRS 17 (specific requirements regarding risk adjustments)

1.2.1 Summary of key conclusions regarding risk adjustments

The measurement of insurance contracts under IFRS 17 aims to provide a faithful representation of the entity's view on the fulfilment of the combined rights and obligations arising from the portfolios of insurance contracts at the reporting date.

The measurement basis underlying this standard is referred to as "current risk-adjusted present value" and is reflected in IFRS 17. In particular, the measurement is required to be current rather than based on outdated information, and focuses on the entity's assessment rather than the market's assessment. It requires representing the degree of fulfilment of the contractual rights and obligations to account for the profit or loss that emerges from long duration contracts over time. In addition to long duration contracts, the risk-adjusted present value allows for profit or loss emergence for expired contracts that have economic performance beyond the expiration date. Therefore, risk adjustments also exist for claim liabilities on expired contracts.

The requirements in IFRS 17 include the explicit reporting of a liability for risk adjustment that is added to the expected cash flows in determining an insurance contract's current risk-adjusted present value.

The requirements in IFRS 17 include the explicit reporting of a liability for risk adjustment that is added to the expected cash flows in determining an insurance contract's current risk-adjusted present value.

The other components of the current risk-adjusted present value are the unbiased estimate of the probability-weighted current estimate of future cash flows, a current discount rate to reflect time value of money and certain financial risks. In addition, under certain circumstances, a CSM, which is part of the insurance contract liability is also required. IFRS 17 summarises these requirements and explains the measurement context in which the risk adjustment operates:[10]

10 IFRS 17 – Measurement on initial recognition (paragraphs B36–B95).

> On initial recognition, an entity shall measure a group of insurance contracts[11] at the total of:
>
> a) the fulfilment cash flows,[12] which comprise:
>
> i) estimates of future cash flows ...;
>
> ii) an adjustment to reflect the time value of money and the *financial risks*[13] related to the future cash flows, to the extent that the financial risks are not included in the estimates of the future cash flows ...; and
>
> iii) a risk adjustment for non-financial risk ...
>
> b) the contractual service margin ...

The risk adjustment is therefore acting as the adjustment to capture the compensation that the entity requires for bearing the uncertainty about the amount and timing of the insurance contract cash flows that the contract generates.

The risk adjustment is therefore acting as the adjustment to capture the compensation that the entity requires for bearing the uncertainty about the amount and timing of the insurance contract cash flows that the contract generates.

This adjustment is a function of the uncertainty that surrounds the net cash flows. The measure of it in the current risk-adjusted present value is a function of the entity's own current view of the amount that would make it (i.e., the specific reporting entity) indifferent between holding such uncertain contractual obligations and those for the same amount but no underlying uncertainty.

The IFRS application guidance exemplifies this concept[14] as follows:

> The risk adjustment for non-financial risk for insurance contracts measures the compensation that the entity would require to make the entity indifferent between:
>
> a) fulfilling a liability that has a range of possible outcomes arising from non-financial risks; and
>
> b) fulfilling a liability that will generate fixed cash flows with the same expected present value as the insurance contracts.

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11 IFRS 17 in Appendix A, Defined terms, defines a *group of insurance contracts* as "a set of insurance contracts resulting from the division of a portfolio of insurance contracts into, at a minimum, contracts written within a period of no longer than one year and that, at initial recognition:

(a) are onerous, if any;

(b) have no significant possibility of becoming onerous subsequently, if any; or

(c) do not fall into either (a) or (b), if any".

12 IFRS 17 in Appendix A, Defined terms, defines *fulfilment cash flows* as an "explicit, unbiased and probability-weighted estimate (ie expected value) of the present value of the future cash outflows minus the present value of the future cash inflows that will arise as the entity fulfils insurance contracts, including a risk adjustment for non-financial risk".

13 IFRS 17 in Appendix A, Defined terms, defines *financial risk* as "the risk of a possible future change in one or more of a specified interest rate, financial instrument price, commodity price, currency exchange rate, index of prices or rates, credit rating or credit index or other variable, provided in the case of a non-financial variable that the variable is not specific to a party to the contract".

14 See IFRS 17, B87.

> For example, the risk adjustment for non-financial risk would measure the compensation the entity would require to make it indifferent between fulfilling a liability that—because of non-financial risk—has a 50% probability of being 90 currency units (CU) and a 50% probability of being 110 CU, as compared to fulfilling a liability that is fixed at 100 CU.

In other words, the current risk-adjusted present value includes the present value of the expected insurance contract cash flows, representing the statistical mean in terms of the probability-weighted cash flows under the different scenarios for the risks to which that an insurance contract is exposed. In addition to the present value, the risk adjustment is an explicitly reported amount that, when added to the present value of the expected cash flows, would make the entity indifferent about having on its balance sheet this risk-adjusted present value (expected value plus risk adjustment) or the same present value but without exposure to the underlying uncertainty in the cash flows.

1.2.2 Summary of the key requirements and more detailed explanations of the rationale and considerations that underlie the IFRS requirements related to risk adjustment

IFRS 17 identifies five basic qualitative principles for consideration when estimating the liability for risk adjustment.

Central to the risk adjustment calculation is the entity's appetite for the risks associated with the in-force insurance contracts, and those expired contracts that still have unpaid claims liabilities at the balance sheet date.

The factors that would affect this calculation are not limited by IFRS 17 and will differ depending on the entity's specific business. So, the computation of the risk adjustment would reflect risk appetite considerations at the IFRS reporting entity level.

One factor that will be present for all entities calculating the risk adjustment is the effect of pooling similar risks. Drawing on the law of large numbers, assembling portfolios of insurance contracts with similar risks usually results in the expected cash flows being proportionately closer to the accumulated actual cash flows from the portfolio of risks. This factor is implicit in any portfolio of insurance contracts and delivers its benefit irrespective of all other factors present in the entity.

IFRS 17 identifies five basic qualitative principles for consideration[15] when estimating the liability for risk adjustment:

> [...] the risk adjustment for non-financial risk shall have the following characteristics:
>
> a) risks with low frequency and high severity will result in higher risk adjustments for non-financial risk than risks with high frequency and low severity;

15 See IFRS 17, B91.

b) for similar risks, contracts with a longer duration will result in higher risk adjustments for non-financial risk than contracts with a shorter duration;

c) risks with a wider probability distribution will result in higher risk adjustments for non-financial risk than risks with a narrower distribution;

d) the less that is known about the current estimate and its trend, the higher will be the risk adjustment for non-financial risk; and

e) to the extent that emerging experience reduces uncertainty about the amount and timing of cash flows, risk adjustments for non-financial risk will decrease and vice versa.

These are additional considerations to the pooling of similar risks that would affect the entity's assessment of the risk adjustment.

Risks arising from a portfolio of insurance contracts that an entity holds could be negatively correlated with each other, thus offering a reason for the entity to add a smaller amount to the present value of the insurance contract cash flows to make it indifferent to the cash flows without uncertainty. For example, portfolios that expose the entity to the risk of paying cash flows on the deaths of its policyholders in a particular age group before a particular date are negatively correlated with portfolios where the obligation is to pay cash flows to policyholders in the same age group for as long as they survive beyond a particular date, assuming the risks impact these portfolios similarly. This example illustrates that diversification across negatively correlated risks can result in a very significant effect of risk reduction. In cases involving the aggregation of largely independent risks, dissimilar risks or even mildly correlated risk, some risk reduction may be possible when such risks are aggregated.

IFRS 17 allows the effect of diversification among different portfolios of insurance contracts that belong to the same reporting entity to be considered if the entity applies it in determining the compensation it requires to bear the uncertainty contributed by those portfolios.

Furthermore, insurers may enter into risk-mitigating activities that affect the compensation an entity requires. For example, an entity could enter into a reinsurance contract[16] to transfer uncertainty from the insurance contracts it issues to a reinsurer. In this instance, the impact of reinsurance contracts purchased by the entity is subject to specific IFRS 17 requirements. They mandate that the entity measures the risk adjustment for the insurance contracts issued by it without the benefit of the reinsurance protection purchased. Instead, the risk mitigation achieved by purchasing reinsurance is reported as an explicit component of the reinsurance contract's current risk-adjusted present value

16 IFRS 17 in Appendix A, Defined terms, defines a reinsurance contract as an "insurance contract issued by one entity (the reinsurer) to compensate another entity for claims arising from one or more insurance contracts issued by that other entity (underlying contracts)".

in reporting the value of the reinsurance assets separately in the entity's balance sheet.

Section 1.3 Risk margins or risk adjustments in other contexts (e.g., pricing, economic capital, Solvency II)

1.3.1 Risk metrics used for operational, capital, and solvency management as compared to the IFRS risk adjustment for non-financial risks

The valuation of insurance contract liabilities for IFRS 17 is based on principles and measurement objectives that are similar to, but differ in several aspects from, other insurance contract valuation frameworks.[17]

The IFRS principles for risk adjustment are comparable in concept to those used in other types of actuarial valuations, and common terms underlying the IFRS framework are used in other insurance contract frameworks.

Capital requirements, capital adequacy assessments, risk-based capital requirements, and other solvency tests applied to an entity's capital or surplus are not directly relevant to the IFRS 17 risk adjustment.

However, there are significant differences for IFRS risk adjustments in applying the principles in practice. One is that the IFRS principles for the valuation of insurance contract liabilities are not based on an entity's solvency requirements. Capital requirements, capital adequacy assessments, risk-based capital requirements, and other solvency tests applied to an entity's capital or surplus are not directly relevant[18] to the IFRS 17 risk adjustment.

Another difference is that under IFRS 17 the valuation of insurance contract liabilities is not directly based on the management of the insurance asset-liability cash flows nor on the market yields or price of the entity's invested assets. Rather, insurance liabilities are valued by applying the applicable discount rates (implicit in the yield curve) to the expected cash flows.

The valuation of insurance liabilities under IFRS may be compared to a market-consistent valuation approach to assist in understanding the IFRS framework for risk adjustments. Under that valuation, the cost-of-capital is based on an amount of capital chosen by the entity. It could be based on the entity's own capital requirements or risk appetite, or defined based on capital adequacy requirements (of the applicable supervisory jurisdictions or the markets in which the entity operates) or on the actual capital held. The amount of capital may also vary depending on the time horizon chosen by the entity in its calculation. The cost-of-capital rate under a market-consistent valuation can be thought of as a measure of the excess return over the risk-free rate that investors expect to receive for investing in the entity.

Cost-of-capital is recognised as a valid technique for estimating IFRS 17 risk adjustments. However, there are no specific rules or detailed guidance provided

17 Risk adjustments are also incorporated into the IAIS Insurance Core Principles (ICPs) as Margin over Current Estimates.

18 Under the cost-of-capital approach, solvency requirements may be a starting point for an entity in allocating or assigning capital to associated cash flows.

regarding the choice or criteria for the amount of capital or the cost-of-capital rate. The appropriate time horizon for the capital amount for IFRS risk adjustments is the lifetime of the uncertainty in the insurance contract cash flows. IFRS 17 provides a principles-based measurement objective for the risk adjustment as the basis for determining the elements and parameters to be used for the cost-of-capital technique.

In other words, the capital requirements imposed by insurance supervisors or other insurance regulatory frameworks serve a different purpose than for IFRS reporting. Similarly, the intended measure of the IFRS 17 risk adjustments may not necessarily align with external market demands for certain levels of capital, solvency protection, or market returns on capital. In fact, the reporting entity should consider its own compensation requirements for bearing risk and uncertainty, focused on the risk in the cash flows associated with its insurance liabilities as of the reporting date. In particular, this does not include consideration of the compensation for bearing investment risk (other than the investment risk that affects the amounts payable to policyholders) or the risk that the entity will not be able to obtain new business, or retain business without renewal options.

The capital requirements imposed by insurance supervisors or other insurance regulatory frameworks serve a different purpose than for IFRS reporting.

The principles under IFRS 17 are applied to the entity's point of view with respect to its desire for compensation for bearing uncertainty. This concept of compensation for risk under IFRS 17 may not align with regulatory solvency metrics, fair value, market-consistent value or other notions of risk-adjusted value. However, similar measurements concerning risk versus return (compensation for bearing uncertainty) may be appropriate concepts for an entity to consider when calibrating its specific compensation model.

1.3.2 Key differences in measuring risk, estimating risk values, and reporting of IFRS risk adjustments versus other frameworks

The approach to the valuation of the insurance liabilities under IFRS 17 also differs from what might be used for market-consistent, fair value, transfer valuation, settlement value, market model valuation, or valuations based on specific entity costs. Moreover, the concept of risk adjustment under IFRS is not tied to the market's valuation of risk, but rather the specific entity's valuation of risk. For example, an entity's insurance pricing practices reflect its risk preferences as a result of its own risk appetite, and are therefore potentially relevant when evaluating the risk adjustment. In addition, an entity's consideration in pricing its insurance products may reflect its risk preferences in terms of its desired competitive position in the marketplace. These types of entity-specific and market-related inputs are treated differently in the determination of the IFRS risk adjustment compared to other valuation frameworks.

Therefore, IFRS risk adjustments are intended to reflect the risk preferences of the reporting entity. Consequently, risk adjustments comparisons between entities with similar insurance liability risks will not be purely comparisons in

risk measurement. Rather, such comparisons will incorporate the combined effect of the estimated risk in the cash flows and the value the entity assigns to such risks based on its own risk preferences. Similar entities could have very different risk preferences or different assessments about the measurement of the risk and uncertainty associated with their specific insurance cash flows.

IFRS 17 requires the explicit reporting of a liability for risk adjustment that is added to the expected cash flows in determining the current risk-adjusted present value of an insurance contract. IFRS 17 also requires the disclosure of an equivalent confidence level associated with the entity's reported risk adjustment as a means of benchmarking the entity's financial statement values against that of other entities.

There are other financial and regulatory reporting systems that require risk adjustments or risk margins to be calculated, such as Solvency II, the Swiss Solvency Test (SST) [5], and Australian Financial and Regulatory Reporting as defined in Standard 1023 of the Australian Accounting Standards Board (AASB).

IFRS 17 also requires the disclosure of an equivalent confidence level associated with the entity's reported risk adjustment.

For example, the SST defines the risk margin of an insurance portfolio as the hypothetical cost of regulatory capital necessary to run-off all the insurance liabilities following financial distress of the company. The focus of the risk margin is on policyholder protection in the case of solvency.

Under AASB Standard 1023, the risk margin is to allow for the inherent uncertainty in the central estimate of the present value of the expected future payments for insurance claims. It is determined on a basis that reflects the entity's business, with considerations given to robustness of the valuation models, reliability of the available data, past experience of the entity and industry, the characteristics of the written business, etc. While it is for financial reporting purposes, AASB 1023 states that risk margins adopted for regulatory purposes may be appropriate risk margins, or they may be an appropriate starting point in developing such risk margins. This monograph's bibliography provides additional materials relevant to these reporting systems, while the next chapter provides further insight into risk adjustments themselves.