Seeing Beyond Risk Canadian Institute of Actuaries Institut canadien des actuaires Voir au-delà du risque

Research Paper

Embedded Derivatives and Derivatives under International Financial Reporting Standards

Practice Council

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Memorandum

To: Members in the Life Insurance and Property and Casualty Insurance Practice Areas

From: Tyrone G. Faulds, Chairperson
CIA Practice Council

Date: December 11, 2009

Subject: **Research Paper: Embedded Derivatives and Derivatives under International Financial Reporting Standards**

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International Financial Reporting Standards (IFRS) will be effective in Canada for interim and financial statements relating to fiscal years starting on or after January 1, 2011.

In preparation for this conversion, the Practice Council has examined the International Actuarial Standards of Practice (IASPs) that have been issued by the International Actuarial Association (IAA), and has decided to release selected IASPs, as either Educational Notes or Research Papers, to assist CIA members in the application of IFRS. Since the IASPs were originally published by the IAA, they are presented in a different format and may use somewhat different terminology than that used in the Standards of Practice and Educational Notes developed by the CIA. Nevertheless, the Practice Council has decided to release the documents without modification.

This Research Paper addresses professional services related to the identification and measurement of embedded derivatives for purposes of preparation or review of financial statements in accordance with IFRS. It was originally published by the IAA as IASP 10.

In accordance with the CIA's Policy on Due Process for the Approval of Guidance Material Other than Standards of Practice, this Research Paper has received final approval for distribution by the Practice Council on November 26, 2009.

If you have any questions or comments regarding this Research Paper, please contact Tyrone G. Faulds, Practice Council Chair, at his CIA Online Directory address, ty.faulds@londonlife.com.

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This Practice Guideline applies to an actuary only under one or more of the following circumstances:

- If the Practice Guideline has been endorsed by one or more IAA Full Member associations of which the actuary is a member for use in connection with relevant International Financial Reporting Standards (IFRSs);
- If the Practice Guideline has been formally adopted by one or more IAA Full Member associations of which the actuary is a member for use in connection with local accounting standards or other financial reporting requirements;
- If the actuary is required by statute, regulation, or other binding legal authority to consider the Practice Guideline for use in connection with IFRS or other relevant financial reporting requirements;
- If the actuary represents to a principal or other interested party that the actuary will consider the Practice Guideline for use in connection with IFRS or other relevant financial reporting requirements; or
- If the actuary's principal or other relevant party requires the actuary to consider the Practice Guideline for use in connection with IFRS or other relevant financial reporting requirements.

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1. Scope

The purpose of this PRACTICE GUIDELINE (PG) is to provide advisory, non-binding guidance to ACTUARIES or other PRACTITIONERS that they may wish to take into account when providing PROFESSIONAL SERVICES in accordance with INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRSs) with respect to the identification or measurement of EMBEDDED DERIVATIVES incorporated within INSURANCE CONTRACTS, INVESTMENT CONTRACTS, and SERVICE CONTRACTS and separately issued DERIVATIVES of a REPORTING ENTITY under IFRSs. This PG applies where the REPORTING ENTITY is an ISSUER of insurance contracts, investment contracts, or service contracts. It is a class 4 INTERNATIONAL ACTUARIAL STANDARD OF PRACTICE (IASP).

The guidance focuses on the identification of when accounting guidance requires the separation of an embedded derivative from its HOST CONTRACT and the related disclosure requirements. In addition, high level guidance is provided for the measurement of both the embedded derivative and the remaining elements of the host contract. The PG is not intended to provide guidance with respect to derivatives in general or to hedge accounting.

Reliance on information in this PG is not a substitute for meeting the requirements of the relevant IFRSs. Practitioners are therefore directed to the relevant IFRSs (see Appendix A) for authoritative requirements. The PG refers to IFRSs that are effective for annual periods on or after 1 January 2007. If IFRSs are amended after that date, practitioners should refer to the most recent version of the IFRS.

2. Publication Date

This PG was published on 26 January 2007, the date approved by the Council of the INTERNATIONAL ACTUARIAL ASSOCIATION (IAA).

3. Background

Derivatives and embedded derivatives are defined in INTERNATIONAL ACCOUNTING STANDARD (IAS) 39.9 and 39.10. FINANCIAL INSTRUMENTS and derivatives, both in the form of assets or liabilities, are within the scope of IAS 32, IAS 39 and IFRS 7. IAS 39 includes criteria for identifying a derivative and conditions for separating a derivative embedded in a non-derivative contract. For FINANCIAL REPORTING purposes IFRS 4 provides further conditions regarding the separation requirements and special disclosure requirements for embedded derivatives.

Derivatives are financial instruments that may contain a greater concentration of FINANCIAL RISK than normal financial instruments, e.g., a similar or larger variance at a lower net expected value. Derivatives contain concentrated market risk without BENEFIT of the rights in an investment with such risks. The price charged for derivatives, i.e., for accepting this concentration risk, is therefore a risk transfer price rather than a price for an investment. To reflect such price-sensitive risks appropriately, IAS 39 requires that derivatives be measured at their FAIR VALUE with specific exceptions, e.g., certain derivatives within the scope of IFRS 4. In classifying a contract as an investment contract (see 4.6 of IASP 3 *Classification of Contracts under International Financial Reporting Standards*), it is therefore necessary to consider whether the contract qualifies as a derivative.

In some cases, derivatives may be embedded in other contracts. Therefore, it is necessary to reflect the concentrated risk in these contracts. To avoid a need to measure the entire contract at fair value, IAS 39 requires – under specific circumstances – separating these COMPONENTS of the contract and

reporting them at fair value. For this purpose IAS 39 defines the term "embedded derivative" as a contract feature with characteristics similar to that of a derivative. An embedded derivative is not, as the term might suggest, a derivative embedded in another contract, but has a definition of its own.

First, a derivative can be described as a financial instrument whose value changes in response to a financial index, but does not include the rights in an investment contract, i.e., it is merely a transfer of the pure deviation risk of that index. An embedded derivative is a contract feature modifying other contractual cash flows in response to a financial index. The definition of a derivative focuses on a change in value, while an embedded derivative requires only a modification of cash flows, even if those modifications are neutral to the value.

Three specific criteria have to be met to separate an embedded derivative:

a) The host contract is not already measured at fair value through profit or loss;

b) The embedded derivative is not closely related to the other parts of the contract; and

c) The embedded derivative would meet on a stand-alone basis the definition of a derivative.

IFRS 4.7 indicates that embedded derivatives containing significant INSURANCE RISK are not separated. Embedded derivatives in the form of traditional surrender rights need not be separated according to IFRS 4.8.

A survey of practices has shown that in many countries the majority of insurance products do not contain embedded derivatives which require separation. However, as a consequence of the complexity of insurance products and their lack of comparability with common financial market products, it can be difficult to identify the reasons for not separating them. Since the usual examples provided in accounting literature involve the most common products in financial markets, a rigorous investigation of accounting principles is needed to identify the reasons prohibiting separation. This PG provides insight into the principles of IAS 39 concerning embedded derivatives and derivatives in general. Its emphasis will be on identifying conditions where no separation is allowed.

The most frequently applicable IFRSs pertaining to this PG are given in Appendix A. Due to the complex nature of the topic dealt with, it may be useful to read the relevant sections of IAS 39 and its Implementation Guidance (IG) and IFRS 4.7–9, IFRS 4, BC188–194, IFRS 4, IG3–4, and IG Example 2 in connection with this PG.

4. Practice Guideline

4.1 Overview

This PG addresses the recognition, measurement, and disclosure of derivatives and embedded derivatives, with a focus on:

1. The definition of a derivative and its identification, primarily with respect to those characteristics that might be relevant where IASP 3 is applied to classify the contract, as well as to identify whether a contract identified as an investment contract in its entirety is qualified as derivative;

2. Identification of components of contracts qualified as embedded derivatives;

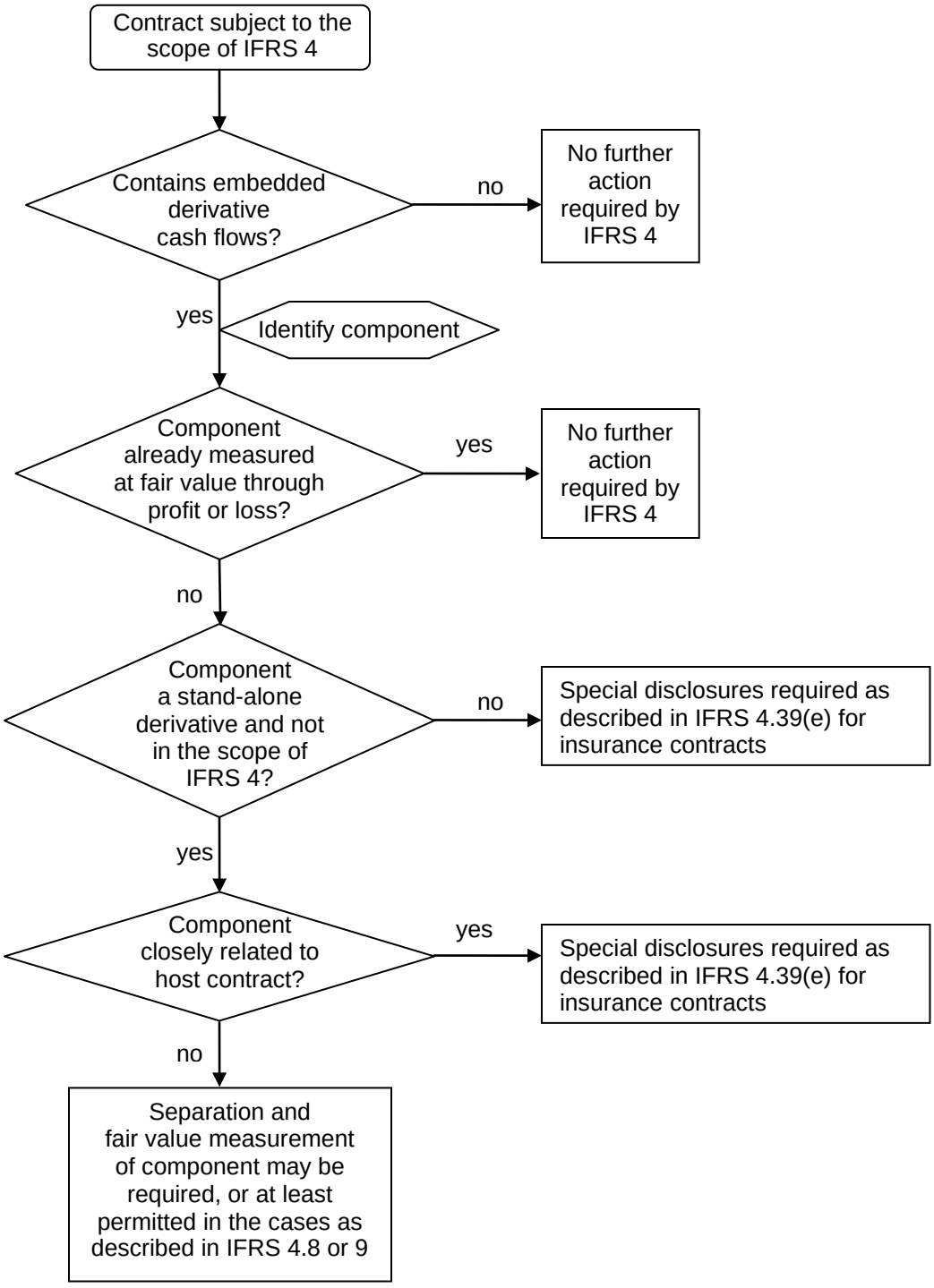
3. The application of the definition of a derivative to an identified embedded derivative to determine whether the component would meet the definition of a derivative on a stand-alone basis;
4. The assessment as to whether an identified embedded derivative is closely related to the host contract for possible separation; and
5. Some key aspects of required measurement and disclosure.

IAS 32, IAS 39, IFRS 4 and IFRS 7 provide primary accounting requirements and guidance for these issues. Other sources of related guidance from the INTERNATIONAL ACCOUNTING STANDARDS BOARD (IASB) are listed in Appendix A.

In those cases in which the entire contract is measured at fair value (as defined in IAS 39.9) with changes through profit or loss, no further action is needed; i.e., the embedded derivatives need not be separated. Fair value through profit or loss is required under IFRSs for derivatives (see 4.2 for further discussion) which are not insurance contracts, and financial instruments classified under IAS 39 as "trading" or "at fair value through profit or loss" (see 4.4.2). No special recognition, measurement or disclosure requirements apply. Examples in the insurance industry include:

- Weather derivatives, i.e., financial instruments whose benefits are triggered entirely by changes in a weather index other than one based on the actual claims of a party to the contract, typically are derivatives.
- Contracts outside the scope of IFRS 4, in which the benefit is linked to the fair value of a derivative.
- Investment contracts establishing a right to receive on demand the fair value of specified financial instruments (investment-linked contracts) if they are within the scope of IAS 39 and measured at fair value through profit or loss.

The following chapters provide a systematic introduction to this issue. The chart below provides a high-level overview of the steps for identification of the treatment as discussed in this PG (based on IAS 32.4 and 32.4(d); IAS 39.2, 39.2(e), and 39.9–11; and IFRS 4.7–9 and 4.34(d)). It refers only to those cases in which the contract is within the scope of IFRS 4 (see IASP 3), i.e., not to the decision whether the contract in its entirety is a derivative outside the scope of IFRS 4.


Contract subject to the scope of IFRS 4
Contains embedded derivative cash flows?
no
No further action required by IFRS 4
yes
Identify component
Component already measured at fair value through profit or loss?
yes
No further action required by IFRS 4
no
Component a stand-alone derivative and not in the scope of IFRS 4?
no
Special disclosures required as described in IFRS 4.39(e) for insurance contracts
yes
Component closely related to host contract?
yes
Special disclosures required as described in IFRS 4.39(e) for insurance contracts
no
Separation and fair value measurement of component may be required, or at least permitted in the cases as described in IFRS 4.8 or 9

Notes to the above chart:

1. The chart addresses only contracts within the scope of IFRS 4 (see IASP 3). Except for the case of embedded derivatives as described in IFRS 4.7-9 there are no special rules for other contracts, i.e., the same principles apply as for any other contract outside the scope of IFRS 4. Any contract already classified as "at fair value through profit or loss" may be ignored in that review (see 4.4.2 for further discussion). Disclosure of any investment contract subject to IFRS 4 is within the scope of IFSR 7, including disclosures concerning any non-separated component such as embedded derivatives.
2. The first step is to review the product features of the insurance contract to assess whether it contains EMBEDDED DERIVATIVE CASH FLOWS (see 4.3.3 for definition and discussion). If it does, the next step is the identification of the component containing those cash flows (see 4.3.5 for further discussion). If a specific identifiable contract clause (identifiable component) that creates the embedded derivative cash flows does not exist, the contract does not contain an embedded derivative and no further step is required (see 4.3 for further discussion). If the component or any part of the contract containing the component is classified as "at fair value through profit or loss", no further action is required (see 4.4.2 for further discussion).
3. If the component would meet the definition of a derivative if it were a stand-alone contract, but is outside the scope of IFRS 4, the component may be within the scope of IAS 39 (see 4.2 as to how to identify a derivative). If not, the special disclosure requirements of IFRS 4.39 (e) apply.
4. If the component meets the criteria of a derivative on a stand-alone basis and is not closely related to the host contract (see 4.4.1 for further discussion), the accounting criteria for separation of the embedded derivative are met (also see 4.5). If the ACCOUNTING POLICY of the REPORTING ENTITY makes use of the exemption rules in IFRS 4.8 and 4.9, the embedded derivative is not separated and IFRS 4.39(e) regarding disclosures is applicable.

4.2 Identification of derivatives according to IAS 39

Identification of the derivative is a fundamental step in determining the appropriate accounting treatment of embedded derivatives.

IAS 39.9 defines a derivative as a:

> …financial instrument or other contract within the scope of this Standard (see paragraphs 2–7) with all three of the following characteristics:
>
> (a) its value changes in response to the change in a specified interest rate, financial instrument price, commodity price, foreign 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 (sometimes called the "UNDERLYING");
>
> (b) it requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts that would

be expected to have a similar response to changes in MARKET FACTORS; and

(c) it is settled at a future date.

The definition requires that the contract in question be a financial instrument (as defined in IAS 32.11). Most insurance contracts, except for those contracts providing for benefits in kind, are considered to be financial instruments.

If a contract meets both the definition of a derivative and of an insurance contract, the contract is within the scope of IFRS 4 and not treated as a derivative (IAS 39.2 (e)).

The contract (or a component of a contract considered on a stand-alone basis) is nevertheless a derivative (see IAS 39.11 (b)). This is relevant for an INSURANCE COMPONENT within a contract within the scope of IAS 39, since the insurance risk inherent in the insurance component is significant in comparison with that component, but not in comparison with the entire contract. (See 4.3.1, Scope of IAS 39).

The definition of an embedded derivative in IAS 39.10 excludes cases in which the host contract is a derivative, assuming that all such contracts are already measured at fair value. The case that the derivative might not be measured at fair value (since it meets the definition of an insurance contract) is not considered. In such a case whether those contracts are measured in their entirety (or at least the non-insurance components of a derivative character) at fair value may be considered, e.g., by making use of the option under IFRS 4.22 to change the entity's accounting policy.

An example of such a contract is an insurance contract in which the insurance benefit equals the market value of a specified derivative (such a benefit complies with the definition of an insurance contract provided that the value of the derivative cannot be larger than the loss caused by the INSURED EVENT). If the contract includes any other feature which is separable and qualifies as a stand-alone derivative (e.g., a non-traditional surrender clause which also depends on a derivative), the definition of an embedded derivative is not met, since the host contract is a derivative itself, although not within the scope of IAS 39.

Since the economic substance of contracts offered by INSURERS can differ significantly from the examples of financial instruments included in IAS 39 or the implementation guidance of IFRS 4 and products can vary significantly by jurisdiction, the substance of the contract is looked at rather than the product label. For example, weather derivatives can refer to a weather index based directly on the claims against the issuer. In that case, the contract might qualify as an insurance contract in spite of the label.

The following relates to the scope of IAS 39 and the interpretation of criteria (a) and (b). Criterion (c) is met by almost all cases of embedded derivatives in insurance contracts. However, there may be circumstances where this criterion still has to be considered. In determining whether a contract is a derivative, each criterion outlined in IAS 39.9 is considered individually. Further interpretation is provided in Appendix A of IAS 39, AG9–12. Implementation guidance is given in IAS 39, IG B (2–10), and IFRS 4, IG3–4.

In conjunction with the identification of derivatives, all features, conditions, terms, and expected cash flows that would be considered in calculating the fair value of the contract according to IAS 39 would ordinarily be considered. If, for example, the salaries of administrative staff are linked to a market factor, actual administrative COST for a contract might be considered to vary in response to

that market factor. However, this expense would not be paid under the contract and therefore is not part of a fair value. The fair value would include the costs incurred by an ordinary market participant, and not those incurred by a party to the contract.

The categorisation of a derivative is based on its features at the outset of the contract. A discussion of the treatment of changes in a contract, including the conditions under which changes are equivalent to establishing a new contract, is included in IASP 3. Specific guidance is provided in 4.2.2.1 for cases in which market factors, which are not expected by the parties under the contract at the outset, begin to influence the contract.

4.2.1 Interpretation of criterion (a): impact of market factors

This section describes those variables which represent those that are "underlying" the derivatives (referred to as "market factors" as in IAS 39.9) and the effect that they have on the value of the contract. Its definition is discussed in general, without specific reference to embedded derivatives.

4.2.1.1 Identification of market factors

Characteristic (a) of a derivative as defined in IAS 39.9 provides the following guidance for a market factor:

1. It is specific;
2. It is a variable; and
3. It is a financial variable or, if it is a non-financial variable it is not specific to a party to the contract.

The requirement to be specific considers its substance rather than its form. Therefore, the variable does not have to be referred to explicitly in the written contract. For example, a put option in an equity is a derivative, even though the underlying (the price of the equity) is not explicitly referred to in the contract. Nevertheless, the holder of the right will execute it in response to the price of the equity. Although it is generally sufficient that all affected parties have the specific variable in mind in entering the contract to fulfil this criterion, intent can be difficult to determine.

A market factor is variable in nature. Factors in the form of constant amounts are not variable and therefore are not market factors, even if they change as a linear function of time.

Market factors include financial variables such as an "interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating, or credit index". (IAS 39.9)

Non-financial variables can also be considered to be market factors if they are not specific to one of the parties to the contract. IFRS 4, B9 and IAS 39, AG12 (a) provide further guidance on interpreting this point.

Examples of non-financial variables that are specific to a party to a contract can include:

1. The specific cost actually incurred in managing and settling a service contract (or SERVICE COMPONENTS of a contract); and
2. Claims development with respect to an insurer's portfolio of insurance risks, even if the insurance risk is not significant.

Contract elements that are subject to counterparty behaviour (e.g., OPTIONS in the broadest meaning), and which are dependent on non-financial variables specific to one of the parties (hence not market factors) would ordinarily be reviewed to determine whether the observed or the expected behaviour of the counterparty is or could be influenced by a market factor. If a direct relationship exists, such an element may, if considered stand-alone, meet the definition of a derivative since it is indirectly but observably subject to a market factor.

It is sufficient that a contract grants one party unilateral rights affecting the contract's cash flows, the execution of which might be triggered by market factors not explicitly mentioned in the contract but which can be determined from the contract's intended economic use. A contract whose cash flows are subject to one party's decisions that are dependent on a specific market factor can also be a derivative. Examples include unilateral rights to surrender investments, rights to increase investments at predetermined terms, and prices that are independent from a written condition in the contract. Those rights will generally be executed when the economic value of the available alternatives is sufficiently large. As a result, as long as the other required criteria are satisfied, cash flows from contract surrender can be indirectly affected by market factors, thus categorising such rights as a derivative.

A market factor whose influence on the value of the contract arises only after the contract is issued and was not considered by the parties as being relevant at issue, cannot be viewed as having created a derivative. In this case it was not specified by the economics of the contract as agreed between the parties.

The fact that rights or obligations inherent in the contract have different values under different market conditions without relation to a specific market factor (such as the market value of an alternative instrument that has similar characteristics at outset) is not sufficient to create a derivative. For example:

- The value of renewal options in a reinsurance contract might depend on the capacity in reinsurance markets, even though the capacity of the reinsurance market is not a specific market factor.
- A term life insurance contract might grant a one-time bonus based on favourable mortality experience in response to market pressure. The market factor influencing the behaviour of the insurer is not specified, although it was present at contract outset.

4.2.1.2 Required effect of the market factor on the value of a derivative

The definition of a derivative in IAS 39 indicates that the value of a derivative contract changes in response to changes in the underlying. Although those changes normally have a direct effect on the contract's associated cash flows, the value might also reflect an assessment of the extent of the adequacy of the unchanged cash flows in comparison with market prices. For example, a derivative may provide for the payment of a fixed cash flow. The value of that right depends on the interest rate achievable elsewhere in the market.

The value of the contract under consideration is measured at its fair value. IAS 39, AG30 (g) only requires a reference to an approximation of the fair value used for that contract, and does not require a comparison with AMORTISED COST or other book value. Usually, an overall assessment is applied to determine whether a fair value measurement is dependent on a market factor.

Typically, the measurement of the fair value of a surrender option in a contract with a savings element reflects the relationship between the interest rate provided under the contract and market interest rates. Together these could be considered a market factor in combination with the surrender value itself. In cases in which the surrender value is not based on the same market factor, it can usually be assumed that the value of the option changes in response to changes in that market factor.

To qualify as a derivative, a change in the value of the contract that occurs as the underlying changes is relevant. The relevance of the change is normally assessed in comparison with its uncertainty in the expected value and does not depend on the measurement approach chosen. In some cases, the change might not be relevant, such as the effect of market factors on the values of term life insurance contracts. A review of relevance does not usually consider unlikely scenarios or scenarios in which changes are quite small.

A right to exchange one net right with another one at fair value on the exercise date is not classified as a derivative, since the net value of that right is always zero and is not affected by market factors. An example is a contract with unit-linked benefits payable upon maturity for the market value of the number of units purchased by a single premium that acquired units at their market value. The right to surrender the contract at the fair value of the units at the time of surrender has no value, since the surrender value equals the fair value of the maturity value. Hence, the surrender right is not a derivative, if assessed separately. However, such a contract could, in its entirety, be a derivative if the fund underlying the units consists of a relevant amount of derivatives.

If at the outset of a contract it can be reasonably expected that the ability to settle the obligation is consistent with prices in the relevant market, the value of that obligation would be considered to depend only on a variable specific to a party of the contract and the obligation is not a derivative. A typical example is an obligation to provide a service, e.g., the underwriting service provided by a reinsurance company which can be viewed as being provided at the price or cost of the service.

In summary, to qualify as a derivative, the market factor needs to affect the financial character of the contract. Nevertheless, it is not necessary, as in the case of a put or call option for a traded financial instrument, that the value be determined solely by the market factor.

4.2.2 Interpretation of criterion (b): ALTERNATIVE INVESTMENTS

Criterion (b) of IAS 39.9 indicates that a characteristic of a derivative is that "it requires no net initial investment or an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors".

This section describes the identification of such "other types of contracts that would be expected to have a similar response to changes in market factors" that can be used for comparison with the potential derivative. For convenience, this PG refers to them as alternative investments. The PG also addresses the determination of whether there is no net investment or a smaller net investment than required in order to be characterised as being the alternative investment.

4.2.2.1 Identification of an alternative investment

The identification of an alternative investment can be a matter of judgment. IAS 39 does not explicitly define the term "investment." This PG assumes that an alternative investment represents an ordinary type of asset, such as a fixed interest security, an ordinary equity interest in a commercial activity, or an interest in a property. By definition, an alternative investment cannot be a derivative itself.

An alternative investment usually funds a commercial activity, while a derivative provides for its expected volatility or for transfer of the risk of it deviating from a specified value. Here, the term "investment" is only referring to a funding of an activity, which funding is subject to some risks resulting from that activity. A derivative consists only of that risk, with the price paid being the risk price, without a significant funding element. The alternative investment to a derivative is a funding activity where the funded activity is subject to the risks inherent in the derivative. To identify the "alternative investment" as referred to in IAS 39.9 (b), such a funding activity needs to be identified.

The alternative investment is determined by considering some or all of the financial risk transferred by the potential derivative. Typically, a derivative transfers all or some of the volatility in the market price of a certain investment from a given reference without involving the actual investment part.

Since derivatives embedded in insurance contracts are often not based on ordinary assets, explanation in addition to that based on the usual examples from financial markets may be needed.

When identifying an appropriate alternative investment, it is important to include similar services or other features that require payment but whose value is not subject to other market factors. In comparison, any feature whose value is subject to other market factors is excluded.

With respect to non-financial variables, special consideration may be needed to identify the appropriate alternative investment. Some of these considerations include the following:

1. If the variable affecting the value of the contract does not involve an economic risk exchanged in a financial market, no alternative investment may be identifiable;
2. A variable that does not represent risk from an ordinary type of asset (as indicated above) may not form the basis of an alternative investment, e.g., if the variable is the average longevity of a population;
3. Natural events might not affect an observable investment. For example, even if a forest fire influences the cash flows of a contract, it does not necessarily qualify that contract as a derivative.

If an alternative investment is not available, the contract is not recognised as a derivative unless no significant initial net investment is required. A contract that refers to a risk usually covered by an insurance contract under IFRS 4 that does not require an insurable interest (i.e., the risk covered is not specific to one of the parties and is therefore a financial risk) is not considered to be an insurance contract. If such a contract is not considered to be a derivative due to a lack of an identifiable alternative investment, care may be needed in considering the inherent risk involved.

A non-financial variable that reflects an event that is expected to affect a commercial activity can be considered economically relevant. Examples of such variables are:

- Weather conditions that affect commercial activities like funding agriculture or tourism.
- Insured population longevity that could affect the aggregate cost of living, e.g., funded by a life annuity. Investments in such activities could be viewed as being subject to such variables and thus potentially suitable as alternative investments. Consider a life annuity whose benefit is indexed with the longevity index of the insured population, i.e., a benefit adjustment clause based on the longevity of the insured population transferring the risk of changes in the portfolio longevity to the POLICYHOLDERS. This can be viewed

as an alternative investment in the case of a derivative triggered by changes of longevity of that insured population. On the other hand, a contractual reference to the average longevity of another population than the insured one (e.g., the population of another country) could be seen as referring to a risk other than that included in the funding activity.

4.2.2.2 Comparison with the alternative investment

The term "initial net investment" referred to in (b) of the definition of a derivative is limited to the cash flows exchanged at the outset of a contract. In contrast, especially in long-term periodic premium contracts, it might represent the present value of the overall contributions payable by the party (e.g., the policyholder) to establish the rights that cause the contractual terms to satisfy (a) of the definition. When related to insurance contracts, obligations are often priced considering an initial set of premiums. Failure to pay these premiums may place the policyholder in jeopardy of losing the ability to be insured (because of deteriorated INSURABILITY) or other benefit (this is another example of the difference between an insurance contract and an investment contract).

The criteria are satisfied if the initial net investment in a contract is significantly lower than that required of a corresponding investment in an alternative investment. In effect the net investment in a derivative contains only a transfer of risk and does not represent any funding as in the alternative investment. Therefore, miss-pricing of a derivative creates a greater leverage effect than does the miss-pricing of the alternative investment.

Therefore, to some extent the decision regarding whether the price for an instrument represents a normal funding activity or just a partial price for acceptance of only the financial risk inherent in an activity can be based on the facts and circumstances involved and judgment. For this purpose, the potential range of pricing for the identified alternative investment is compared with the price for the instrument in question, and a significant difference may affect meeting the criterion (b) of the definition of a derivative in IAS 39.9.

4.3 Identification of embedded derivatives according to IAS 39

An embedded derivative is defined in IAS 39.10 as:

> "An embedded derivative is a component of a hybrid (combined) instrument that also includes a non-derivative host contract – with the effect that some of the cash flows of the combined instrument vary in a way similar to a stand-alone derivative. An embedded derivative causes some or all of the cash flows that otherwise would be required by the contract to be modified according to a specified interest rate, financial instrument price, commodity price, foreign 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."

The definitions of an embedded derivative and of a derivative include somewhat different wording. Embedded derivatives, which meet on a stand-alone basis the definition of a derivative, are referred to in IFRSs as a "derivative embedded in the contract" to distinguish them from other embedded derivatives. The definition of an embedded derivative requires that cash flows are modified in response to a market factor, which does not necessarily affect the value of the component. The definition of a derivative requires that the value of the instrument changes in response to the market factor.

The characteristics of an embedded derivative consist of the following:

- An embedded derivative is a part of a combined (hybrid) contract, which also contains non-derivative components
- The combined contract includes an identifiable condition to modify the cash flows otherwise payable; and
- The modification of cash flows is in response to a market factor.

Those are discussed below.

4.3.1 Scope considerations

4.3.1.1 Scope of IFRS 7

Components of insurance contracts can be within the scope of IFRS 7. According to IFRS 7.3 (d): IFRS 7 "applies to derivatives that are embedded in insurance contracts if IAS 39 requires the entity to account for them separately."

- Separation under IAS 39.11. The pre-condition for applying IFRS 7 is the separation requirement under IAS 39.11. In all other cases in which components are not separated as a result of IAS 39.11, the disclosure guidance for the entire contract applies. That does not apply to DEPOSIT COMPONENTS unbundled based on IFRS 4.10 which are also within the scope of IFRS 7.
- No separation under IAS 39.11. If a component of an insurance contract otherwise separated under IAS 39.11 meets the stand-alone requirement within the scope criteria of IFRS 4, it is not separated under IAS 39.11 according to IAS 39.2 (e) and therefore is not within the scope of IFRS 7.
- An investment contract with or without a DISCRETIONARY PARTICIPATION FEATURE. Such a contract is within the scope of IFRS 7 and all of its components as well, except if an insurance component is unbundled as indicated in IFRS 4.IG 1.3.
- Exemption rule of IFRS 4.8. The choice not to separate an embedded derivative according to IFRS 4.8, does not exempt a practitioner from applying IFRS 7, since IAS 39.11 still requires separation. However, since the embedded derivative is subject to the disclosure requirements of IFRS 4.39 (e) it may not be considered necessary to apply the disclosure requirements of IFRS 7 in addition.

4.3.1.2 Scope of IAS 39

According to IAS 39.2 (e), IAS 39 "applies to a derivative that is embedded in a contract within the scope of IFRS 4 if the derivative is not itself a contract within the scope of IFRS 4". IFRS 4.7 confirms that "IAS 39 applies to derivatives embedded in an insurance contract unless the embedded derivative is itself an insurance contract." The following cases could be considered:

- Embedded derivatives that do not meet the stand-alone part of the definition of a derivative. Embedded derivatives in contracts subject to IFRS 4 are not in general subject to IAS 39 but only those embedded derivatives, which fulfil the condition of IAS 39.11 (b) are, i.e., "a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative". It is important to consider the difference in definition between embedded derivatives as defined in IAS 39.10 and derivatives as defined in IAS 39.9 (even if embedded in another instrument, but

considered stand-alone). As a consequence, only those embedded derivatives in contracts subject to IFRS 4 are subject to IAS 39 if they fulfil the condition of IAS 39.11 (b). The focus on one of the three criteria in IAS 39.11 makes the scope decision easier, since all three conditions of IAS 39.11 have to be met to have accounting consequences under IAS 39.

- Embedded derivatives which are on a stand-alone basis within the scope of IFRS 4: Any embedded derivative in a contract subject to IFRS 4 which would be as a stand-alone instrument also subject to IFRS 4, is not subject to IAS 39. Hence, the provisions of IAS 39.11 do not apply.
- Insurance components in investment contracts within the scope of IAS 39. A component of a contract within the scope of IAS 39 that contains significant insurance risk or a significant discretionary participation feature in relation to the component rather than to the entire contract (which is therefore not subject to IFRS 4) can be an embedded derivative under IAS 39.10. If IAS 39.11 would require separation and application of IAS 39 to that separated embedded derivative, unbundling as described in IFRS 4.IG 1, example 1.3, could be considered, with the result, that the embedded derivative which is an insurance component is subject to IFRS 4.
- Foreign currency derivatives. If a component of any contract contains a foreign currency derivative to be separated, that embedded derivative is also subject to IAS 39 (see IAS 39, AG33 (d)). This applies to insurance contracts, investment contracts with discretionary participation feature and service contracts.

4.3.2 Modifying conditions in a hybrid (combined) instrument

A hybrid (combined) instrument consists of a combination of separable economic features. Each such component would be considered to be able to stand-alone as an independent contract, i.e., it is a combination of components. These separable features may be, for example, a separately identifiable contract addendum or supplement that modifies the contractual payments otherwise due, if the contract did not contain the addendum or supplement.

For example, a unit-linked contract that does not provide options or a set of benefits does not include separable economic features. The linkage of the contract to the units is integral to the nature of the contract rather than an artificially added feature. In contrast, a unit-linked contract that includes an additional clause providing a minimum benefit, e.g., based on the sum of premiums accumulated at a fixed interest rate, contains a separable economic feature. A contract providing benefits based on premiums accumulated at a fixed interest rate and, in addition, a separate addendum or supplement providing additional benefits based on more favourable results of the current value of units of a fund, is also a hybrid contract.

The definition of an embedded derivative in IAS 39.10 does not specifically exclude components with significant insurance risk or a discretionary participation feature. In other words, a component of a contract that could, itself, be a stand-alone insurance contract can satisfy the definition of an embedded derivative in IAS 39.10 (also see IFRS 4.7), which is relevant in applying IFRS 4.39 (e) (see 4.6) if the hybrid contract is within the scope of IFRS 4. This also applies to cases in which the host contract is within the scope of IAS 39. For example, a very small unit-linked death coverage in an ordinary investment contract can be an embedded derivative because the cash flows under that feature depend on a market factor (the fair value of the units).

Surrender options as described in IFRS 4.8 and 4.9 can be embedded derivatives and comply with the conditions of IAS 39.11. According to IFRS 4.8, "as an exception to the requirement in IAS 39, an insurer need not separate, and measure at fair value" such surrender rights.

If premium refunds (performance-linked participation features and other forms or retroactive pricing) are an integral part of a contract and cannot be separated on the basis of their economic features, they would not constitute a component. The economic function of such features is a retroactive part of the pricing process. Such features are considered to be an inseparable part of the economics of the entire contract and are closely related to any part of the contract for which a premium refund is provided.

To qualify as an embedded derivative, the effect of the component on the contractual cash flows in response to a market factor needs to be measurable.

Only those components that are actually written in the contract or which are clearly in the mind of parties in entering into the contract are considered. For example:

- Artificial split. Any unit-linked contract could be understood as consisting of a fixed interest savings contract in which the outcome is indexed by the unit value, even though the contract wording does not include any reference to a fixed interest amount. That understanding is artificial and not explicit in the terms of the contract. Such a split is only relevant for identifying embedded derivatives if the split is actually embodied in the explicit terms of the contract. To split cash flows in such a manner without a reference in the contract would not be appropriate. If the contract wording includes two elements that offset each other with both separately being embedded derivatives, then they might be closely related, i.e., not requiring separation according to IAS 39.11, since they are negatively correlated.

- Policyholder option. Policyholder options to modify cash flows otherwise due under the contract are normally explicitly granted in the contract. Market factors, which might trigger a policyholder's decision, are often not referred to in a contractual clause. However, typically they will be in the minds of parties in entering into the contract.

- Use of foreign currencies. A cash flow denominated in a foreign currency is a specific application of this rule. Examples are premiums for insurance contracts or prices charged for service contracts that are contractually determined in a foreign currency not related to the economics of the contract. A separation of the foreign currency components of the contract is needed, even though the contract does not refer to the amounts expressed in a currency that would be related to the economics of the contract. If a foreign currency is involved, it is assumed that the cash flow is determined by the contract in a currency related to the economics of the contract, modified by an implicit (i.e., unwritten, in the mind of the parties) contract clause transferring the amount to the foreign currency. That implicit contract clause would be an embedded derivative.

IAS 39, AG33 (d), recognises the following as closely related, i.e., not requiring separation According to IAS 39.11:

(i) The functional currency of any substantial party to that contract;

(ii) The currency in which the price of the related good or service that is acquired or delivered is routinely denominated in commercial transactions around the world (such as the U.S. dollar for crude oil transactions); or

(iii) A currency that is commonly used in contracts to purchase or sell non-financial items in the economic environment in which the transaction takes place (e.g., a relatively stable and liquid currency that is commonly used in local business transactions or external trade).

If the cash flow is denominated in the functional currency (as defined in IAS 21), the contract does not contain an embedded foreign currency derivative.

4.3.3 Identification of embedded derivative cash flows

The basis of any embedded derivative, and consequently of any separation according to IAS 39.11, is a contractual cash flow that is modified by a change in a market factor. A first step in identifying an embedded derivative is, therefore, to identify contractual cash flows sensitive to changes in market factors (derivatives on the other hand do not require a change in cash flows but rather a change in value) This makes it easier to identify embedded derivatives. This PG refers to those cash flows as "embedded derivative cash flows".

Not all embedded derivative cash flows are based on embedded derivatives. The identifiable modifying condition within a combined contract is also needed, with the result that this modifying condition is the embedded derivative. For example, the benefits under a unit-linked (variable) contract are usually determined in response to the fair value of the units (a market factor) and are, therefore by definition, embedded derivative cash flows. This benefit is not a consequence of a modifying condition, since that variation of cash flows is the nature of the contract itself. There is no embedded derivative as a basis of the embedded derivative cash flow.

Affected cash flows subject to a correlated financial risk are considered together on a combined basis. If the impact of the market factor on that net cash flow is significant, then the net cash flow is an embedded derivative cash flow.

Relevant effects on cash flows include those (1) that can be directly triggered by market factors (e.g., contractual terms linking cash flows directly to market factors); (2) that can be affected by compound market factors; (3) where other factors not related to an underlying combine with a market factor to affect cash flows (double-triggers); and (4) where market factors indirectly influence counter-parties in executing options.

Typical conditions in insurance contracts that can modify cash flows otherwise required by the contracts include participation or premium adjustment clauses, retentions, layers, and additional investment returns affected by market factors. In some cases, the modification is not subject to a market factor, while in other cases the condition is not actually separable but is an integral part of the economics of the contract.

4.3.4 Impact of certain non-financial variables

The following are two examples of non-financial variables that can affect the cash flows of an embedded derivative:

1. Behaviour of parties

The behaviour of parties to a contract, e.g., policyholders, can be considered to be a non financial variable specific to one of the parties, and hence not a market factor. Nevertheless, the behaviour of counterparties can be influenced by market factors so that the contractual terms and conditions by themselves do not reflect all the relevant economic conditions. In those cases, the effect of this behaviour (e.g., in executing options) on cash flows complies with the definition of an embedded derivative cash flow.

In other cases, non-financial factors specific to one party can influence a counterparty's behaviour to an extent that market factors do not have a significant influence on the cash flows. If this influence can be demonstrated by observable market data and by the relevance of those factors, then the cash flows do not meet the definition of an embedded derivative cash flow. Such factors might include GUARANTEED INSURABILITY options and changes in tax law and social insurance rules.

In such cases, options contain only limited discretion in executing them, e.g., factors that are not market factors can "force" holders of those rights to execute them only in a limited manner. The applicability of market factors can be limited by uncertain events that reflect insurance risk such as unemployment or disability. For example, in some cases policyholders are obliged or encouraged to purchase insurance (e.g., private health insurance that can substitute for a state-organised plan, fire insurance for houses with mortgages, and car insurance for leased cars). Although the contract provides the option to surrender the contract at the policyholder's discretion, the policyholder's incentive to surrender the policy bears little, if any, relationship with changes in any market factor; rather, its continuation can be based on the specific individual legal situation or continued need for insurance.

In some cases, counterparty behaviour can offset the effect of an underlying by directly affecting cash flows. One example is a contract that requires increases in premiums through a market factor, while the counterparty has a right to refuse or negotiate such increases. In that case, both effects would be considered together.

Whenever an option exists that provides a right to choose between alternatives of similar fair value, it may be seen as a rebuttable presumption that the behaviour of the holder of the right relates to a financial variable specific to the party. This includes cash values whose amounts are close to the fair value of the future net benefits under the contract and to any similar features (e.g., certain forms of persistency bonuses and some participation clauses). A performance-linkage feature of certain long-term contracts in which it is uncertain which investments will generate relevant future cash flows can be assumed to provide surrender values sufficiently close to fair values if these are based on the current dividend allocation basis (i.e., a notional amount for future dividend allocations).

2. Insurance risk and guaranteed insurability

Options can be influenced by insurance risk. If the effects of financial risks are insignificant, the affected cash flows are not the basis of an embedded derivative. However, if the insurance risk is significant, although the component can be a derivative, for combined contracts within the scope of IFRS 4, it is outside the scope of IAS 32, IAS 39 and IFRS 7. The significance of insurance risk is assessed in relation to the component containing the cash flow affected by a market factor (IFRS 4, B28).

The feature of insurance contracts that extends the period of coverage after a fixed duration can include a guaranteed insurability option. In some cases, such guaranteed insurability rights can

create significant insurance risk. Significance is judged here as well in comparison with the component in consideration. This can also occur if the overall contract is not otherwise an insurance contract.

Guaranteed insurability can be significant if it is expected that the holder of this right considers it to be significant and the GUARANTEE potentially creates significant insurance risk. Especially in the case of term life insurance contracts, health insurance contracts, and other forms of insurance contracts with little or no surrender value and without maturity value (i.e., without an explicit saving feature), the guaranteed insurability option that can be chosen by one of the parties can be an important consideration in the execution of options under a contract, resulting in the relatively insignificant size of financial risk in these contracts.

In some cases, an insured event can generate a benefit, e.g., a disability benefit that provides a non-life contingent benefit that can continue even though insurance coverage is no longer provided. In this case, the contract continues to be an insurance contract for its entire duration. Policyholder rights that can affect future cash flows after the end of the insurance or investment coverage period can give rise to embedded derivative cash flows if they are affected by market factors. Such rights might therefore result in an embedded derivative.

4.3.5 Identification of the component

The existence of an embedded derivative is indicated by the existence of embedded derivative cash flows amongst the contractual cash flows (IAS 39.10). After identifying such embedded derivative cash flows, the component (as defined in IASP 3) containing those embedded derivative cash flows needs to be identified. IAS 39 requires that an embedded derivative be represented by an explicit contract clause, except in the case of some implicit modifying conditions derivable from the intentions of the parties, modifying the contract's cash flows resulting from other contract clauses that are not part of the embedded derivative.

For identification it is necessary to ensure that this component does not include cash flows of the host contract (i.e., cash flows that are modified by the embedded derivative). If that is unavoidable, it is then determined whether the overall contract qualifies as a derivative, since no separable embedded derivative is identifiable.

In addition, if a component of a contract within the scope of IFRS 4 on a stand-alone basis satisfies the requirements of a derivative (the value is affected, but the cash flows are not), then the component is subject to IAS 39, since a derivative is embedded in the contract. Although the component is not an embedded derivative, IAS 39.11 might apply anyway. IASB restricted IAS 39.11 to embedded derivatives, since at that time there was no situation in which derivatives embedded in contracts did not cause the entire instrument to be a derivative subject to IAS 39. Such constraints were introduced in IFRS 4 for contracts with significant insurance risk or discretionary participation features. The identification of a derivative is discussed in 4.2 above.

4.4 Separation requirement of IAS 39.11

An embedded derivative is measured separately at its fair value with changes through profit or loss if and only if (except in cases described in IFRS 4.7, while IFRS 4.8 and 9 establish an accounting choice to separate or not) all three criteria of IAS 39.11 are satisfied:

An embedded derivative shall be separated from the host contract and accounted for as a derivative under this Standard if, and only if:

(a) The economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host contract (see Appendix A, paragraphs AG30 and AG33);

(b) A separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and

(c) The hybrid (combined) instrument is not measured at fair value with changes in fair value recognised in profit or loss (i.e., a derivative that is embedded in a FINANCIAL ASSET or FINANCIAL LIABILITY at fair value through profit or loss is not separated).

Before a conclusion can be drawn from the definition of derivatives or embedded derivatives, the principle of "substance over form" is relevant. Even if a contract or a part of a contract satisfies the definition of a derivative according to its contractual terms, it is not one if it does not reflect the economic reality or the intentions of the reporting entity (IAS 39, IG A.1, discusses the established intentions of the entity overriding the contract terms). In some cases the contract terms do not appropriately reflect the actual intentions of the parties as demonstrated by past activities (i.e., they never make use of the derivative characteristics of the contract but execute the contract solely for achievement of insurance coverage). Care is needed in applying such judgment that reflects a good record of past behaviour under similar contracts.

The considerations in the case of an option in which it is observable that the policyholders' behaviour is not influenced by market factors is equivalent to the considerations in 4.2.2.1, although the terms of the contract could be executed in response to market factors. In such cases, the option is not assumed to vary in response to a market factor.

The following section discusses criteria (a) and (c). Criterion (b) has already been discussed, since without it the component of a contract within the scope of IFRS 4, it would not be subject to IAS 39.11 according to IAS 39.2 (e).

Section 4.4.3 addresses IFRS 4.8 and 9.

4.4.1 Interpretation of criterion (a): close relationship

The identification of a close relationship requires judgment. The following discusses several special cases often present in insurance contracts.

4.4.1.1 The principle

An embedded derivative is not separated if the risks and economic characteristics of the embedded derivative are closely related to those of the host contract. In those cases, separation of the embedded derivative would represent an artificial focus on the risks in the embedded derivative while the host contract contains similar risks.

The main focus of this requirement is on those risks and characteristics that qualify the component of the contract as an embedded derivative.

The economic characteristics and risks of an embedded derivative can be seen as being closely related to the host contract if (1) the financial risk inherent in the embedded derivative or an economically similar financial risk is present in the host contract; and (2) it is not possible to split the contract in a manner such that the financial risk is entirely in a part that can satisfy the criteria of an embedded derivative and another part that is not a derivative.

To identify closely related risks, it can be useful to review the variables influencing the pricing (the effective relationship of prices and benefits) of the host contract and the embedded derivative. The embedded derivative is also closely related to the host contract if it can be demonstrated that the embedded derivative is closely related to another component of the contract.

IAS 39 and IFRS 4, IG, Example 2, provide examples of cases in which embedded derivatives are assessed as either closely related or not. Some of the examples given provide simplified and easy-to-follow guidance to the practical application of the applicable rules.

4.4.1.2 Consideration of time value of money in pricing

In many cases, insurance pricing, as well as the inherent time value of money, is fixed at the outset of a contract. If the pricing of an embedded derivative is determined on the same basis as the pricing of the host contract, the risk inherent in the embedded derivative resulting from that fixed time value of money can be viewed as being closely related to that of the host contract.

A typical example is a traditional life insurance product whose price is based on a fixed discount rate for both future death and maturity benefits. The risk inherent in the fixed discount rate affects the pricing of the insurance coverage, as well as that of the savings element. However, if at the contract's outset those fixed conditions are significantly more advantageous to the policyholder than the current market conditions, the risks are not closely related (see splitting of deficiencies between host contracts and embedded components in IASP 3). As a consequence, interest guarantees in many traditional, conservatively priced life insurance contracts are not embedded derivatives to be separated. However, an option affecting cash flows under the contract, such as a surrender option in connection with interest guarantees, results in a different risk exposure, requiring a special review.

If the effective pricing of an embedded derivative is not fixed at outset (e.g., because it depends on the future condition of non-specific variables for which the pricing of the host contract is fixed) the resulting risk from the embedded derivative is not closely related to that of the host contract. For example, unit-linked life insurance contracts are sometimes priced using a fixed discount rate, while the maturity benefit is determined based on the development of the units. In contrast, if the pricing of the host contract also reflects that variable, the resulting embedded derivative can be viewed as being closely related (e.g., if the pricing of the death coverage is also based on the current fair value of units).

4.4.1.3 Relevance of periods where variables are causing effects

The existence of a close relationship depends not only on the type of variable itself, but also on whether both components are subject to the same variations in that variable (i.e., are subject to the same variable at the same time). For example, a right to continue a contract in an unlimited manner with respect to an investment component that extends beyond the expiry of a related insurance coverage is normally not seen as being closely related to the insurance coverage. This occurs even if the guarantees associated with the investment component are closely related to the insurance coverage during the insurance coverage period (IAS 39, AG30 (c)). The decision of a policyholder to make use of that right is triggered by changes in the variable after termination of the insurance coverage.

4.4.1.4 Prepayment rights

Prepayment rights, if they can be executed in an amount that is close to the fair value of the net rights arising from continuation of a contract, do not normally represent an embedded derivative, since it can be assumed that they are not triggered by a market factor but rather by a personal

situation. Further, they are not a stand-alone derivative, since any option to be executed at fair value always has a value of zero, i.e., it does not change with a market factor.

IAS 39, AG30 (g), provides guidance regarding when prepayment rights embedded in insurance contracts are not seen to be closely related. A prepayment right can be closely related if the amount at which the right can be executed is similar to the carrying amount of the entire contract, regardless of which basis is chosen as the entity's accounting policy under IFRS 4. In that case, the utilisation of the prepayment right does not give rise to a profit or loss for the reporting entity and for simplicity can therefore be ignored.

IAS 39, AG33 (g), indicates that a prepayment right involving the receipt of the fair value of the units in a unit-linked contract is closely related to the host contract, assuming that the benefits of the host contract are also based on the fair value of those units. If the units were acquired at their fair value at the contribution payment date, such a prepayment right is not an embedded derivative. Another prepayment right that can be exercised for an amount based on an equity or commodity price or index would not be closely related to a host contract providing fixed benefits (IAS 39, AG30 (a)).

Limited continuance rights are reasonably equivalent to premature surrender rights, given a maximum possible contract duration. The host contract and embedded derivative would in this case be subject to the same continuance conditions.

The prepayment right described in IFRS 4.8–9 does not necessarily result in the contract feature being closely related. This rule thus constitutes an exception from IAS 39.11 (see 4.4.3).

4.4.1.5 Index-linked benefits

If the contract provides benefits based on a principal amount plus fixed or market-dependent interest, and includes an additional clause requiring the investment return to be adjusted based on an equity or commodity index, that contract component is not closely related to the host contract (IAS 39, AG30 (d)).

On the other hand, if a unit-linked contract directly provides benefits based on the fair value of units of an internal or external fund, the split of those benefits into a fixed interest amount and an adjustment to the fair value of units might prove to be artificial, and therefore such a split would not normally be required.

If the right to receive such adjusted benefits on a stand-alone basis would be a derivative, but it refers to the fair value of the fund of invested premiums of the host contract, it is closely related to the host contract (IAS 39, AG33 (g)). In such cases, the overall contract is considered in determining whether the contract is already a derivative, such as if the premiums required are significantly lower than those required for a direct investment in an internal or external fund, or if the fund includes a significant amount of derivatives.

4.4.1.6 Leverage, cap, floors, and interest adjustments

“An embedded derivative in which the underlying is an interest rate or interest rate index that can change the amount of interest that would otherwise be paid or received on an interest-bearing host debt contract or insurance contract is closely related to the host contract unless the combined instrument can be settled in such a way that the holder would not recover substantially all of its recognised investment or the embedded derivative could at least double the holder's initial rate of

return on the host contract and could result in a rate of return that is at least twice what the market return would be for a contract with the same terms as the host contract." (IAS 39, AG33 (a)).

This rule provides quantitative guidance for the proper interpretation of "closely related" by clarifying that a modification of the interest credited by the embedded derivative within the range of zero interest and double the lower of initial interest rate and market interest rate is still sufficiently closely related.

As a consequence of this rule, an embedded derivative can also be viewed as closely related in cases in which the initial net investment deviates significantly from that required for an alternative investment, but is similar to that described by a zero return on net investment and twice the return of the alternative investment, or a maximum of double the market interest rate at contract outset. Note that in long duration contracts, as offered by the insurance industry, the difference between a zero discount rate and a discount rate of double the market interest rate can give rise to a very substantial difference in initial net investment.

Nonetheless, IAS 39 refers to this effect on interest rates. Considering the purpose of the rule, it might be appropriate to recognise that in cases of durations which are much longer than that of usual investments considered in IAS 39, the risks may not be closely related.

An embedded minimum amount of interest rate payable (e.g., a minimum guarantee or floor) where interest is otherwise determined based (without leverage in relation to the host contract) on market interest rates is closely related to the host contract if that minimum amount is below market interests at the outset of the contract (IAS 39, AG33 (b)). Similarly, the right to limit a floating interest rate to a maximum amount (cap) is closely related if the cap is above market interest rate at the outset of the contract and not leveraged in relation to the host contract (IAS 39, AG33 (b)). The rule refers to a linkage of the host contract to market interest rates, not to returns on specified investments or funds as in unit-linked contracts with a minimum guarantee. Also in the case of contracts with durations exceeding durations of interest-bearing instruments found in the market, that rule might not be applicable, since no reference to market interest rates is actually possible.

In the case of a leveraged financial risk, a primary financial instrument whose cash flows are artificially affected by variations in interest rates can change the character of the financial instrument. In this case, leveraging is not closely related to the financial risk inherent in the host contract. If the host contract is not a derivative because the required initial net investment is close to that required for an alternative investment, the embedded derivative adds the same or similar uncertainty associated with cash flows. If the required net investment is not sufficient, the additional change in cash flows is also not closely related.

4.4.1.7 Interdependence to a degree that the component is not separately measurable

If an embedded derivative and a host insurance contract are interdependent to an extent that the embedded derivative cannot be measured separately, the risks inherent in both are assumed to be closely related (IAS 39, AG33 (h)), especially when the remaining part of the contract is used as a basis for measurement of the embedded derivative. That applies especially in cases of double triggers of insurance benefits or to performance-linkage clauses in participating contracts, linking the participation benefits to the performance of the portfolio relevant to the contract to be measured.

4.4.2 Interpretation of criterion (c): fair value measurement of the hybrid contract

The separation of an embedded derivative in a contract that is measured at fair value with changes through profit or loss is not allowed by IAS 39. As long as the contract is subject to IAS 39, the

requirement is straightforward. In the case of insurance contracts or other contracts subject to the provisions in IFRS 4, an entity's accounting policy that is not based on the IAS 39 definition of fair value might apply. Judgment may be required to determine whether this measurement complies with the definition of fair value in IAS 39. If the entity's accounting policy does not comply fully with the requirements of IAS 39, resulting in a significant difference in the measurement of the embedded derivative in question, the contract is not assumed to be measured at fair value in applying IAS 39.11 (c).

For example, if the embedded derivative is contained in the unit-linked part of a unit-linked insurance contract, and the measurement of that part is entirely in compliance with the guidance of IAS 39 for fair value measurement, if that part could be stand-alone, the embedded derivative would not be separated. If the entity's accounting policy claims to measure a deposit component containing the embedded derivative "market-consistent" without entirely following the guidance of IAS 39, that is insufficient to exclude the embedded derivative from separation. The label "market-consistent" for measuring insurance risk does not necessarily imply that it is a fair value as defined by IAS 39, since IAS 39 does not provide any guidance on how to determine the fair value for insurance risk.

In other cases of testing comparability with the IAS 39 definition of fair value, suitable examples of contracts in question may need to be split into a deposit component containing the embedded derivative and an insurance component according to IFRS 4.10, so that the measurement of the deposit component under the entity's existing accounting policy and its fair value under IAS 39 can be compared. If the difference is not expected to be significant in any case, the measurement is assumed to be at fair value according to IAS 39. For this conclusion to hold, the measurement of the remaining part of the contract cannot offset the changes in the value of the deposit component under the entity's existing accounting policy.

According to IAS 39, fair value is at least the amount payable on demand discounted from the first date that this amount could be required to be paid. Some accounting methods require that the liability for an insurance contract be at least equal to the contract's guaranteed surrender value. It cannot be assumed that such amounts are the fair value of the contract unless it can be demonstrated that the fair value of the contract, including any embedded derivative, cannot be greater than the guaranteed surrender value reported as a liability under the entity's existing accounting policy. That might be the case in some countries where contractual surrender values are set at a relatively generous level.

IAS 39 also requires that the fair value be based on a discount rate reflecting current risk-free market interest rates of (risk-adjusted) expected cash flows of the same timing as those being discounted. A measurement under an entity's existing accounting policy that uses different discount rates or reports the deposit component of the contract at a level less than the guaranteed surrender value may not provide a fair value in accordance with IAS 39.

In all cases in which the fair value measurement guidance of IAS 39 is not directly applicable for comparison purposes, care is needed. IAS 39.11 (c) does not directly refer to the fair value measurement in IAS 39, but to fair value in general. However, it will currently be difficult to ensure that an approach used for insurance contracts complies with the definition of fair value in IFRSs. But that difficulty is shared with the requirement of IFRS 3 to measure insurance contracts at fair value in the case of business combinations.

4.4.3 Fixed surrender values

Prepayment rights that can be executed at a predetermined amount or at a predetermined amount plus interest are not, according to IFRS 4.8–9, required to be separated in contracts within the scope of IFRS 4. IFRS 4 provides for an option in an entity's accounting policy regarding whether or not to separate an embedded derivative, while in all other cases regarding separation of an embedded derivative there is no choice. IAS 39.2 (e) prohibits separation of an embedded derivative if it would be stand-alone, although a derivative, within the scope of IFRS 4. IAS 39.11 prohibits separation if any of the three conditions is not met. However, choices might be available through application of rules indicated in IFRS 4.10, IFRS 4.22 or the entity's existing accounting policy (IFRS 4.IG3).

The reference of IFRS 4.8 or IFRS 4.9 to "surrender" a contract may not be limited to those cases, which are named under local jurisdiction as "surrender". Any particular benefit payable on demand in lieu of ordinary other benefits payable otherwise later may be a "surrender" benefit in the sense of IFRS. However, it is necessary in any case to check the other conditions of IFRS 4.8. Considering that the amount of the maturity benefit depends on past premium payments, the amount payable in case of surrender (or partial surrender) also depends indirectly on past premium payments.

The right included in contracts within the scope of IFRS 4 to pay additional premiums in a predetermined limited amount that will generate an additional maturity value based on fixed terms agreed at contract outset, similar to the fixed surrender option, is also not an embedded derivative that needs to be separated, but is also subject to the accounting choice not to apply separation (IFRS 4.8 or 9). That right is equivalent to a contract with fixed (i.e., in amount) subsequent premium payments, a predetermined maturity benefit and a partial surrender right, with surrender values and a reduction of maturity value at terms fixed at outset. A contract requiring fixed subsequent premium payments and a predetermined maturity benefit does not include an embedded derivative, since no variable influences the cash flows of the contract. The surrender right by itself does not represent an additional embedded derivative that is required to be separated.

Although IFRS 4.34 (d) requires full application of IAS 39 for both insurance and investment contracts with discretionary participation features, IFRS 4.8 and 9 applies.

4.5 Measurement issues

4.5.1 Measurement of embedded derivatives

An embedded derivative separated as a consequence of IAS 39.11 is reported at its fair value determined according to IAS 39 with changes through profit or loss. IASP 4, *Measurement of Investment Contracts and Service Contracts under International Financial Reporting Standards*, describes the determination of the fair value of a financial instrument.

Regarding embedded derivatives that are not required to be separated, according to IFRS 4, IG3, "separation and fair value measurement of such an embedded derivative are not prohibited if the insurer's existing accounting policies require such separation, or if an insurer changes its accounting policies and that change meets the criteria in paragraph 22 of the IFRS."

4.5.2 Measurement of the host contract

The measurement of the host contract is determined in accordance with its contract classification. For a discussion of host contracts not subject to IFRS 4, see IASP 4.

The measurement of host contracts subject to IFRS 4 is determined according to the entity's accounting policy. If the entity's accounting policy's measurement approach explicitly separates the cash flows of the embedded derivative, those cash flows are not considered in the measurement used in the application of the entity's accounting policy to the host contract.

If the entity's existing accounting policy does not explicitly consider these cash flows to be separated and is based on assumptions determined at contract outset without further change, the initial fair value of the embedded derivative would usually be deducted from the initial value for initial measurement of the host contract (including the embedded derivative).

Subsequent measurement of the host contract (excluding the value of the embedded derivative) can be determined by applying the entity's existing accounting policy to the embedded derivative by using the initial fair value assumptions and deducting this result from the amount determined for the entire contract. Another approach could be, if possible, to apply the entity's existing accounting policy to the host contract alone.

4.6 Disclosure issues

Requirements relating to the disclosure of embedded derivatives are included in IFRS 7 and in IFRS 4.39 (d)–(e).

There are no specific requirements for disclosure of embedded derivatives in hybrid contracts subject to IAS 39 or investment contracts with discretionary participation feature subject to IFRS 4, except for those provided in IFRS 7 that generally provide for the disclosure of financial risks inherent in embedded derivatives.

Embedded derivatives in hybrid insurance contracts are subject to disclosure requirements according to IFRS 4.39 (e) if they are not measured (either separately or together with the host contract) at fair value. IFRS 4.39 (e) requires the disclosure of "information about exposures to market risk arising from embedded derivatives contained in a host insurance contract if the insurer is not required to, and does not, measure the embedded derivatives at fair value". The following applies to embedded derivatives:

1. that are not within the scope of IAS 39 since they do not stand-alone comply with the definition of a derivative or would be stand-alone within the scope of IFRS 4;
2. that do not fulfil the conditions in IAS 39.11; or
3. where the entity's accounting policy made use of the option granted in IFRS 4.8 or IFRS 4.9 not to separate the embedded derivative,

   except in those cases in which the entity's accounting policy already separates those embedded derivatives and applying IAS 39 fair value measurement through profit or loss to those in which the entire contract is already measured at fair value through profit or loss.

Embedded derivatives in hybrid insurance contracts that are separated according to IAS 39.11 are subject to the same disclosure requirements of IFRS 7 as if they were stand-alone financial instruments within the scope of IFRS 7.

IFRS 4.39 (d) requires disclosure of information about credit risk, liquidity risk and market risk inherent in insurance contracts in a manner consistent with the requirements of IFRS 7. That includes risks inherent in embedded derivatives, regardless of whether they are measured at fair

value and in components that do not qualify as embedded derivatives, since they are outside the scope of IAS 39 or are not separated for other reasons.

Embedded derivatives in hybrid insurance contracts with discretionary participation features are subject to the same disclosure requirements as other insurance contracts regarding embedded derivatives, even though IFRS 4.34 (e) does not specifically refer to IFRS 4.36–39A.

Embedded derivatives in hybrid investment contracts with discretionary participation features are subject to the disclosure requirements of IFRS 7.

Appendix A – Relevant IFRSs

The most relevant International Financial Reporting Standards and International Accounting Standards for this International Actuarial Standard of Practice are listed below.

- IAS 1 (2001 April) Presentation of Financial Statements
- IAS 8 (2004 March) Accounting Policies, Changes in Accounting Estimates and Errors
- IAS 18 (2004 March) Revenue
- IAS 21 (2003 December) The Effects of Changes in Foreign Exchange Rates
- IAS 32 (2005 December) Financial Instruments: Presentation
- IAS 36 (2004 March) Impairment of Assets
- IAS 37 (1999 July) Provisions, Contingent Liabilities and Contingent Assets
- IAS 38 (2004 March) Intangible Assets
- IAS 39 (2005 August) Financial Instruments: Recognition and Measurement
- IFRS 1 (2005 June) First-Time Adoption of International Financial Reporting Standards
- IFRS 3 (2004 March) Business Combinations
- IFRS 4 (2005 December) Insurance Contracts
- IFRS 7 (2005 December) Financial Instruments: Disclosure

In addition, the IASB *Framework* is relevant.

Appendix B – List of terms defined in the Glossary

The first time that these terms are used in this IASP, they are shown in small capital letters. The definitions of these terms are included in the IAA Glossary.

Accounting policy
Actuary
Alternative investment
Amortised cost
Benefit
Component
Contract
Cost
Deposit component
Derivative
Discretionary participation feature (DPF)
Embedded derivative
Embedded derivative cash flow
Fair value
Financial asset
Financial instrument
Financial liability
Financial reporting
Financial risk
Guaranteed insurability
Guarantee
Host contract
Insurability
Insurance component
Insurance contract
Insurance risk
Insured event
Insurer
International Accounting Standard (IAS)
International Accounting Standards Board (IASB)
International Actuarial Association (IAA)
International Actuarial Standard of Practice (IASP)
International Financial Reporting Standard (IFRS)
International Financial Reporting Standards (IFRSs)
Investment contract
Issuer
Market factor
Option
Policyholder
Practice Guideline (PG)
Practitioner
Professional services
Reporting entity
Service component
Service contract
Underlying