
Project	Financial Instruments: Replacement of IAS 39
Topic	Hedge accounting: accounting for the time value of options—the issue

Introduction

Background

1. The accounting for the time value of an option is one of the most important areas of hedge accounting.

Treatment of the time value of options under IAS 39

2. For hedges involving *option-type* derivatives the crucial aspect of the hedge accounting model in IAS 39 *Financial Instruments: Recognition and Measurement* is the designation of the hedging instrument. IAS 39¹ gives entities the choice to:
 - (a) designate the option-type derivative as a hedging instrument *in its entirety*; or
 - (b) separate the time value of the option and designate as the hedging instrument *only* (the change in) its *intrinsic* value.
3. However, what is presented in IAS 39 as a choice is *de facto* a requirement to separate the time value of an option. The reason is that without separation the hedge effectiveness would be determined by comparing the fair value change of the entire option (ie including the change in its time value) with the change of

¹ See IAS 39.74(a).

This paper has been prepared by the technical staff of the IFRS Foundation for discussion at a public meeting of the IASB.

The views expressed in this paper are those of the staff preparing the paper. They do not purport to represent the views of any individual members of the IASB.

Comments made in relation to the application of an IFRS do not purport to be acceptable or unacceptable application of that IFRS—only the IFRS Interpretations Committee or the IASB can make such a determination.

The tentative decisions made by the IASB at its public meetings are reported in *IASB Update*. Official pronouncements of the IASB, including Discussion Papers, Exposure Drafts, IFRSs and Interpretations are published only after it has completed its full due process, including appropriate public consultation and formal voting procedures.

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the value of the hedged item. However, the hedged item does not include any notion of a time value unless the hedged item was itself an option. Hence, for the typical hedged transactions (such as firm commitments or forecast transactions) that do not involve a time value of an option, hedge ineffectiveness would arise. That is, such hedged items do not have a change in their value that offsets the one related to the time value in the option hedging instrument.

4. The consequence is that the volatility of the time value of the option-type hedging instrument would create a high risk of failing the 80-125 per cent effectiveness assessment range. Actually, in many cases a hedging relationship designated on the basis of the entire option-type derivative as the hedging instrument would fail the initial prospective effectiveness test and hence never qualify for hedge accounting.
5. There is typically also no advantage in designating the entire option-type derivative as the hedging instrument under the IAS 39 hedge accounting model. Even if the effectiveness assessment test was passed and the hedging relationship qualified for hedge accounting, because the change in the time value of the option creates hedge ineffectiveness it would be immediately recognised in profit or loss. Only in conjunction with the 'lower of' test for cash flow hedges would the hedge ineffectiveness in some circumstances not be recognised (or only recognised in a later period).
6. Following a discussion at the IFRIC², in July 2008 the IASB amended IAS 39 to clarify that by designating a purchased option in its entirety as the hedging instrument an entity *cannot* achieve that all changes in the fair value of the purchased option (ie including changes in the time value) could be regarded as effective and hence be recognised in other comprehensive income (OCI). This was clarified using the example of a cash flow hedge of a highly probable forecast transaction.³

² Now the IFRS Interpretations Committee.

³ See IAS 39.AG99BA and paragraphs BC172D-F of the basis for conclusions.

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7. Hence, overwhelming IFRS practice is that entities designating option-type derivatives as hedging instruments do so on the basis of the intrinsic value. Hence the undesignated time value of the option is treated as held-for-trading and accounted for as at fair value through profit or loss.

Outreach feedback

8. During our outreach the treatment of the time value of options in the IAS 39 hedge accounting model has been one of the most frequently mentioned topics by investors and preparers—and it has also consistently been rated as one of the most important. In particular, this topic is not simply an ‘accounting nuisance’—like other hedge accounting aspects that are onerous—but it is an area where accounting today has a severe impact on business decisions rather than simply reporting on them and their outcomes. In many cases it has skewed risk management practice towards the use of non-option derivatives (such as forward contracts or swaps) over the use of option-type derivatives.
9. The reason is that the treatment of the option’s time value like a trading derivative gives rise to volatility in profit or loss that constitutes a ‘prohibitive’ accounting consequence. This particular accounting treatment is disconnected from risk management, which considers the time value of an option (at inception, ie included in the premium paid) as a cost of hedging or—more accurately—as the cost of obtaining protection against unfavourable changes of prices etc. while obtaining the upside (ie participation in favourable changes).
10. During the outreach discussions some also pointed out that US generally accepted accounting principles (GAAP) have a different accounting treatment for the time value of options that in some circumstances allows measuring the hedged item in way that results in a deferral of the fair value changes of the

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option's time value in OCI.⁴ They advocated that IFRSs also allow deferring the fair value changes of an option's time value.

Purpose of this paper

11. The purpose of this paper is to develop an accounting treatment for the time value of options that:
 - (a) is more closely aligned with the risk management activity;
 - (b) is consistent with other aspects of IFRSs; and
 - (c) provides useful information.
12. This paper is structured as follows:
 - (a) the issue; and
 - (b) staff analysis.
13. Paper 4B includes:
 - (a) a proposal for a new accounting treatment for the time value an option has at inception (ie that is included in the option premium paid); and
 - (b) a staff recommendation and question to the Board.

The issue

Hedging strategy and economic substance

14. In order to develop an appropriate accounting treatment for the time value of options we need to get clarity about what we seek to portray, ie the nature of what is the subject of financial reporting. This raises the question of how best to portray the time value of options is *in the context of* hedging exposures against changes only to one side of a specified level.

⁴ See ASC 815-30-35-33, 34 and 36 (originally issued as Statement 133 Implementation Issue No. G20—'DIG G20').

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15. For example, in many cases this means that an entity only hedges the ‘downside’ in relation to an exposure, eg:
- (a) a price decline regarding an asset it holds or an item (including services) it wants to sell or a decline in a variable future cash inflow (eg interest on a variable rate financial asset); or
 - (b) a price increase regarding a liability it owes or an item (including services) it wants to purchase or an increase in a variable future cash outflow (eg interest on a variable rate financial liability).
16. However, if an entity uses an option that at inception is in the money it protects itself against the downside but also gives away some upside (ie it assumes risk that the intrinsic value will reduce to zero—and hence will lose the intrinsic value component in the initial premium paid).
17. This can be illustrated with a simple example: assume Entity A wants to hedge a purchase of crude oil in 3m time. The forward price at the time of entering into the hedge is 80 USD/barrel (bbl). Instead of entering into a forward purchase contract the entity buys a call option on crude oil with a strike price of 75 USD/bbl (ie the intrinsic value of the option is 5 USD/bbl⁵). Hence, if the market price on maturity is:
- (a) above 75 USD/bbl the effective purchase price is fixed at 80 USD/bbl, just like for an at-the-money forward contract (the option is exercised and the intrinsic value of 5 USD/bbl included in the premium paid is added, which is the same as the market price plus the gain (or loss if the market price is between 75 and 80 USD/bbl) on the option’s intrinsic value); and
 - (b) at or below 75 USD/bbl Entity A participates in price declines below that level, which means Entity A pays the market price and the intrinsic

⁵ This example excludes the effect of discounting for the sake of simplicity.

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value of 5 USD/bbl included in the premium paid is added (ie the option expires unexercised—it lapses).

18. Buying an option that is in the money allows Entity A to reduce the time value included in the premium. The time value of the option is the highest when the strike price is at the money and decreases as the strike price moves into the money. Hence, Entity A reduces the cost of hedging by giving away some of the ‘upside’ on the hedged transaction, which is tantamount to (and achieved by) accepting some ‘downside’ on the intrinsic value of the option (when viewed in isolation)—in this example the first 5 USD/bbl of a price decrease.⁶ To what extent an entity does this depends on the cost of buying protection that the entity is willing to incur, and the price level from which the entity wants to be protected (which creates a trade-off).

Terminology

19. Hedging exposures only against changes to one side of a specified level can be called hedging ‘**one-sided risk**’⁷. (References in this paper to hedges of ‘one-sided risk’ include those that give away upside on the hedged transaction and hence accept downside on the intrinsic value of the option, as illustrated in the previous section).

⁶ NB: if Entity A had used a forward contract it would have given away *all* the upside—ie up to 80 USD/bbl rather than only 5 USD/bbl. A forward purchase contract could alternatively be described as a call ‘option’ with a strike price of zero (with the option premium equal to the forward price if it is paid in arrears, ie on settlement rather than upfront).

⁷ See IAS 39.AG99BA and AG110A-B.

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Staff analysis***Economic substance of the option's time value***

20. As set out in the description of the issue,⁸ the accounting for the time value of an option depends on the answer to the question what the economic substance of the time value of options is *in the context of* hedging exposures only against changes to one side of a specified level.
21. The implications of the time value of an option and how it relates to the hedged item has been the subject of some more recent standard setting activity.

IAS 39 amendment regarding eligible hedged items

22. As mentioned in the Background section,⁹ in July 2008 the IASB amended IAS 39 to clarify that designating a purchased option in its entirety as the hedging instrument (ie including changes in the time value) would create *hedge ineffectiveness* when hedging a one-sided risk.
23. The Board's rationale for that clarification was that the *hedged item* does not contain a separately identifiable risk that affects profit or loss that is equivalent to the time value of the option. This was explained using the example of a cash flow hedge of a highly probable forecast commodity purchase.¹⁰

US GAAP and FASB proposed ASU

24. For particular cash flow hedges that involve a purchased option as the hedging instrument US GAAP allows considering the hedging relationship to be perfectly effective, if certain conditions that essentially relate to the alignment of critical terms are met.¹¹ If considered perfectly effective all fair value changes of the option—including its time value—are simply recognised in OCI and

⁸ See paragraph 14.

⁹ See paragraph 6.

¹⁰ See IAS 39.BC172F (reproduced in Appendix A).

¹¹ See ASC 815-20-25-126 to 129.

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hence no hedge ineffectiveness is recognised in profit or loss.¹² This results in the deferral of the time value of the option in accumulated OCI, which is reclassified into profit or loss in the period(s) in which the hedged forecast transaction affects profit or loss.

25. If the conditions that essentially relate to the alignment of the critical terms of the purchased option and the hedged forecast transaction are not met the hedge cannot be considered perfectly effective. In that case hedge ineffectiveness is determined by comparing the fair value changes of:
- (a) the actual purchased option in its entirety (hedging instrument); and
 - (b) a perfectly effective hypothetical hedging instrument, which is an option that would have critical terms that are fully aligned with the hedged forecast transaction; the fair value changes on this hypothetical derivative can be regarded as a proxy for the changes in the value of the expected cash flows of the hedged item.¹³
26. However, this accounting treatment for the time value of an option does not apply to fair value hedging relationships.¹⁴
27. Under the proposed accounting standards update *Accounting for Financial Instruments and Revisions to the Accounting for Derivative Instruments and Hedging Activities* (the ASU) the treatment of the time value of options would change. The proposals would require reclassifying from OCI to profit or loss ‘each period on a rational basis an amount that adjusts net income for the amortization of the cost of the option’¹⁵ instead of accumulating the time value in OCI over the term of the hedging relationship.
28. The basis for conclusions of the ASU says that the FASB believes the time value of an option represents *hedge ineffectiveness*. However, the FASB decided to

¹² See ASC 815-30-35-33 and 815-20-25-129.

¹³ See ASC 815-30-35-33 to 34.

¹⁴ See ASC 815-30-35-37 and 815-20-25-127.

¹⁵ See ASU.125.

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allow deferral of the recognition of the option's time value using an amortisation approach in order to simplify the cash flow hedging model and align it with how an option's time value is treated under the foreign currency cash flow hedging model.¹⁶

Time value of an option: hedge ineffectiveness versus insurance premium

29. As the above mentioned IASB and FASB standard setting activity demonstrates, the debate about the accounting for the time value of options in the standard setting context has been one about *hedge (in)effectiveness*. The result of *that debate* is quite clear: there is no equivalent to the time value of the option in the hedged item that would affect profit or loss.
30. For example, for a forecast transaction an entity can decide to enter into the transaction as expected or—if the conditions change unfavourably—not go ahead with it.¹⁷ Obviously, economically an entity might have little choice to avoid entering into many forecast transaction (eg sales of electricity by a wind farm or purchases of iron ore by a steel mill—the furnaces cannot simply be switched off). However, that does not change the possible outcomes:
- (a) the entity transacts, in which case that transaction will be reflected in the financial statements as applicable; or
 - (b) the entity decides not to transact, in which case there is no transaction to be accounted for.
31. Either way, there is no payment that the entity receives for bearing the risk of unfavourable changes in conditions between the date of forecasting the transaction and the date of the decision whether to actually transact. This is because there is no other party involved during that time period. The entity has not written an option to another party that would give that other party the right

¹⁶ ASU.BC231.

¹⁷ Sometimes people confuse the *option-characteristics* of the hedging instrument with 'optionality', which might apply to the hedged item in that the transaction is 'optional'.

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to choose whether to transact with the entity at a given price or rate. Hence, there is no option premium received that would include time value.

32. For that reason, the premium paid for the purchased option's time value has no equivalent that would potentially affect profit or loss. (Note: this would only be different if the entity had actually written an option.)¹⁸
33. So while the answer is clear (ie there is no equivalent to the time value of the option in the hedged item that would affect profit or loss) the accounting outcome (accounting for the option's time value as a derivative held for trading¹⁹) has raised significant concerns. The most serious concern is the accounting-driven bias of risk management practice towards the use of non-option derivatives over the use of option-type derivatives.
34. US GAAP mitigated this concern for *some* cash flow hedges by allowing the deferral of the time value of the option in accumulated OCI and reclassify it into profit or loss in the period(s) in which the hedged forecast transaction affects profit or loss. This is based on a view of the time value of option as an ineffectiveness issue and offering a way to measure the hedged item such that ineffectiveness does not arise.
35. But is the accounting for the time value of options really one about hedge ineffectiveness—or has the standard setting debate given the right answer to the wrong question?
36. An alternative is to look at the time value of options from a different perspective—that of an insurance premium. This is explored in the following section.

¹⁸ In that case the entity either would not need hedge accounting (if the written option is accounted for at fair value through profit or loss) or it might qualify for hedge accounting for a hedging relationship in which a written option is used to hedge a purchased option (see IAS 39.AG94).

¹⁹ See paragraph 7.

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Accounting for the time value of an option as an insurance premium*The preparer perspective*

37. Entities that use purchased options to hedge one-sided risks typically consider the time value they pay as a premium to the option writer or seller as an insurance premium. In order to protect themselves against the downside of an exposure (an adverse outcome) but retain the upside they have to compensate someone else for assuming the inverse asymmetrical position, which only has the downside but not the upside. Hence, paying the option premium is the cost of using this hedging strategy.
38. The fair value of an option includes its time value element. This often has a volatile fair value. However, the time value of an option is subject to ‘time decay’. This means it loses its value over time as the option approaches expiry, which occurs at an increasingly rapid level.²⁰ At expiry the option’s time value reaches zero.
39. Therefore, entities that use purchased options to hedge one-sided risks know that they will lose the time value they pay as the premium (if they hedge a given period with an option that has an aligned expiry date). This means entities in these circumstances do not expect to recover the time value paid for obtaining the option. Hence, they view the premium paid similar to an insurance premium.
40. The main differences between an option premium and an insurance premium are:
- (a) Options typically have a higher probability of getting into the money compared to an insured event happening. Options can also be entered into as in-the-money contracts. Moreover, the underlying of an option is often standardised (eg a benchmark reference commodity).

²⁰ Once the option moves close to expiry this decay shows an exponential pattern (ie the closer the option gets to expiry, the more value it loses unless the market moves in the direction that would move the option get into the money).

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- (b) Hence, options are often more liquid as these factors facilitate transfers of the instrument (eg exchange traded options).
 - (c) This also means that fair values for options are more readily available for options than for insurance contracts—particularly for the holders.
41. From the perspective of the hedging entity the main difference between an option premium of a hedging instrument and an insurance premium is often one of perception rather than substance. While until their expiry both give rise to assets:
- (a) one is accounted for as a financial derivative at fair value through profit or loss;
 - (b) while for the other there is often no specific accounting standard that applies (to the insurance holder) unless it is a type of insurance that is treated as transaction costs that are capitalised into the costs of the insured asset (eg freight insurance paid by the buyer under IAS 2 *Inventories* or IAS 16 *Property, Plant and Equipment*).
42. This typically means that the protection obtained in the form of an item that is more liquid and has a more readily obtainable fair value for the holder results in an entirely different accounting compared to items that are less liquid and do not have a readily obtainable fair value.

The user perspective

43. During the outreach we learnt that users are typically interested in the ‘cash cost’ or ‘cash price’ of hedged items. For example, for entities with significant exposure to fuel costs users are interested in the ‘all in costs’ of the fuel, ie the price paid including transaction costs and the effects of hedging on volumes that were hedged. Similarly, for entities that hedge the sale price users are interested in the ‘actually realised/achieved prices’, including (a reduction) for the cost of hedging. Some users would ideally like information that allows them to see the impact that hedging has had.

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44. We specifically asked analysts who provide coverage for entities using option-based hedging instruments about the most useful timing of the recognition of the time value of options. There was significant frustration at the outcome under the current hedge accounting model. The feedback was:
- (a) The fair value through profit or loss accounting for the time value creates ‘accounting noise’ that is not considered useful for their analyses but is backed out (this has the very dissatisfying result that the option premiums paid get backed out but it is hard to find a meaningful way to back them in again—which means the ‘least worst’ alternative is to ignore these costs altogether but would still be a better result than not backing the fair value changes out).
 - (b) The vast majority of analysts covering entities that hedge sales or purchases said the option premiums paid should be included in the period when the hedged sales or purchases affect profit or loss. That would provide the most meaningful information on gross profit or operating margin (one analyst called this the ‘revenue less cost of sales perspective’).
 - (c) Some analysts contemplated an approach that allocates the time value of the option over the life of the option (amortisation). These analysts considered the time value somewhat like finance costs or simply as a means to avoid the outcome under (a). These views were more tentative and not as strongly held views as those under (b).

What are the implications of considering the time value as an insurance premium?

45. When considering the time value of an option as an insurance premium the type of insured transaction or item becomes relevant. Broadly, in case of insurance premiums the purchased protection can relate to:
- (a) a transaction (eg freight insurance for the purchase of an item of equipment); or
 - (b) a time period (eg fire insurance for a building).

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46. This broad distinction is also helpful when looking at the time value of an option, as it can also relate to different types of transactions and items (ie hedged items):
- (a) **transaction related:** eg the forecast purchase of a commodity regarding commodity price changes (cash flow risk); or
 - (b) **time period related:** eg hedging existing commodity inventory regarding commodity price changes (fair value risk).
47. Following the logic for freight insurance,²¹ the time value of an option used to hedge **transactions** would be treated like transaction costs and hence included in the cost of the item or transaction. In the case of a commodity purchase it would form part of the cost of the initial measurement of the inventory. Similarly, for a forecast sale of a commodity it would be part of the cost related to that sale and hence recognised in the same period as the revenue.
48. This treatment would also align the treatment of the costs of hedging using options with that when using forward contracts. For example, the transaction costs embedded in a forward contract are typically capitalised into the hedged item if an entity designates the forward contract in its entirety as the hedging instrument and uses the forward rate method for effectiveness measurement.²² This is because the profit margin embedded in the forward is not as visible, which has led to the practice of assuming an at-the-money forward has a fair value of zero at inception²³ (which is incorrect on the basis of an exit price notion).
49. Conversely, following the logic for fire insurance, the time value of an option used to hedge a **time period related** risk would be recognised as an expense over the period for which the premium paid gives protection. For example, if commodity inventory is hedged for 6 months using a commodity option with a

²¹ See IAS 2.11.

²² See IAS 39.AG108 and IG F.5.6.

²³ See IAS 39.AG28, 35(c) and 108(b).

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corresponding life the time value of the option paid as the premium would be allocated over that 6-month period.

50. If the time value of the option was capitalised into the inventory instead of being amortised as an expense each hedge would increase the carrying amount of the hedged inventory. For example after hedging for four 6-month periods the time value of four options would have been added to the cost of the asset. This would be inconsistent with how costs related to such items that arise after initial recognition²⁴ (subsequent costs), eg storage costs²⁵ or in relation to day-to-day servicing²⁶ of an item, are treated and also create an impairment risk.
51. The distinction between **transaction related** and **time period related** often coincides with that between cash flow hedges and fair value hedges—but not always. For example, if the purchase of the commodity was not a forecast transaction but instead a firm commitment the type of hedge would be a fair value hedge. However, the time value of the option would still have the character of transaction costs, just like the treatment of the freight insurance that gets capitalised into the inventory would not change depending on whether the inventory purchase results from a forecast transaction or a firm commitment. This example demonstrates that drawing a distinction by type of hedge would *not* result in comparable outcomes.
52. So generally, by taking an ‘insurance premium view’, the accounting for the time value of options could be aligned with other areas of accounting and provide more comparable results that would also be more aligned with how preparers and users think about the issue. But there are two issues that would need to be resolved:
- (a) **Derivative accounting:** The time value of the option is part of a derivative that is measured at fair value in the balance sheet. Hence, there is a difference between the fair value changes of the option’s time

²⁴ This is when the cost of the item is determined.

²⁵ See IAS 2.16(a).

²⁶ See IAS 16.12.

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value and the outcomes described above (ie amortisation or including it in the cost of the hedged item or transaction).

- (b) **Misalignment of option and exposure:** As long as the option used has critical terms (such as the nominal amount, life and underlying) that match the protected exposure the time value of the option can be treated as the ‘insurance premium’ in relation to that hedged item. However, in many cases the terms are not exactly aligned, which raises the question of how much of the time value included in the premium paid relates to the hedged item (and hence should be treated like an insurance premium) and which part does not. This raises the further question of how to account for any part that does not relate to the hedged item.

53. These issues are addressed in paper 4B.

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Appendix A

A1. This appendix includes extracts of documents referred to in the agenda paper.

A2. IAS 39.BC172F [emphasis added]:

The Board reached that decision by considering the variability of future cash flow outcomes resulting from a price increase of a forecast commodity purchase (a one-sided risk). The Board noted that the forecast transaction contained no separately identifiable risk that affects profit or loss that is equivalent to the time value of a purchased option hedging instrument (with the same principal terms as the designated risk). The Board concluded that the intrinsic value of a purchased option, but not its time value, reflects a one-sided risk in a hedged item. The Board then considered a purchased option designated in its entirety as the hedging instrument. The Board noted that hedge accounting is based on a principle of offsetting changes in fair value or cash flows between the hedging instrument and the hedged item. Because a designated one-sided risk does not contain the time value of a purchased option hedging instrument, the Board noted that there will be no offset between the cash flows relating to the time value of the option premium paid and the designated hedged risk. Therefore, the Board concluded that a purchased option designated in its entirety as the hedging instrument of a one-sided risk will not be perfectly effective.

A3. FASB ASU, paragraph BC231 [emphasis added]:

The Board believes that the time value component of a purchased option represents ineffectiveness that should be recognized in net income. However, to simplify the cash flow hedge accounting model and to provide consistency with the way the time value component of a purchased option is accounted for under the foreign currency cash flow hedging model, the Board decided to allow deferral of the time value component. If an entity defers the time value component in other comprehensive income, it would need to reclassify from other comprehensive income to net income each period on a rational basis an amount that adjusts net income for the amortization of the cost of the option.