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

Purpose of this paper

1. The purpose of this paper is to provide alternatives to the Board how to address the accounting for time value of options.
2. This paper 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.

Analysis of alternatives

Implications of derivative accounting

3. As mentioned in paper 4A, the time value of the option forms part of a derivative that is measured at fair value in the balance sheet. The fact that the option is measured at fair value creates a difference between the accounting effects arising from fair value changes of the option's time value and the accounting outcomes the Board could consider under an 'insurance premium view' (such as amortisation of the option's time value or including it in the cost of the hedged item or transaction).
4. This difference in accounting outcomes could be avoided by using accrual accounting for the option, like for insurance contracts from the holder's

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.

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perspective. This is the simplest solution. It would however represent a complete departure from financial instrument accounting in which almost all derivatives are measured at fair value. Given the differences between financial instrument options and insurance contracts (such as liquidity and readily obtainable fair values—especially for exchange traded options) the Board would unlikely consider this way of simplifying the accounting as a viable alternative.

5. So, unless the Board wanted to change the measurement of the option at fair value, the difference between the fair value changes of the option's time value and the accounting outcomes the Board could consider under an 'insurance premium view' would require using other comprehensive income (OCI).
6. An OCI approach would depend on the types of transactions and items (ie hedged items) and could work as follows:
 - (a) **transaction related:** the cumulative change in fair value of the option's time value would be accumulated in OCI (up to the amount of the time value paid to the option writer or seller as the time value decays to zero on expiry) and be recycled under the general requirements (eg like a basis adjustment if capitalised into a non-financial asset or into profit or loss when, for example, hedged sales affect profit or loss); or
 - (b) **time period related:** the cumulative change in fair value of the option's time value would be accumulated in OCI with that part of the original time value paid to the option writer or seller that relates to the current period being transferred from accumulated OCI to profit or loss. This means that the amount accumulating in OCI will converge to zero as the option's time value is zero on expiry, and it will have fully amortised to profit or loss by then. The balance in OCI at any given measurement date would be the difference between the cumulative fair value change of the option's time value and the cumulative amortisation up to that date.

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7. For the **time period related** hedged items the Board might consider specifying a particular amortisation profile or only mandate amortisation more generally. Amortisation profiles could include:
 - (a) linear amortisation (straight-line);
 - (b) a differentiating approach specifying different particular amortisation profiles; or
 - (c) a ‘rational basis’ for amortisation.
8. Specifying linear amortisation is the simplest approach, eg for a fair value hedge of existing inventory for commodity price risk.
9. However, it might not be the most appropriate in all cases. For example, an effective interest rate based amortisation profile might be more appropriate for hedges of financial debt type assets or liabilities for interest or currency risk—that would be consistent with how transaction costs for financial assets and liabilities at amortised cost are treated.
10. Referring to a ‘rational basis’ appears to be the approach that best reflects principle based standard setting and allows to find the best solution in the particular circumstances rather than providing a list for all possible scenarios.¹
11. In case of early discontinuation of the hedging relationship that involves the purchased option as the hedging instrument the amount accumulated in OCI would be treated as follows:
 - (a) **transaction related** hedged items: similarly to cash flow hedges, the amount accumulated in OCI until the time of discontinuation would remain in OCI until the hedged transaction occurs (and then be recycled under the general requirements);

¹ This is the approach that the FASB uses in the proposed accounting standards update *Accounting for Financial Instruments and Revisions to the Accounting for Derivative Instruments and Hedging Activities* (see paragraph 125).

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- (b) **time period related** hedged items: the amount accumulated in OCI until the time of discontinuation would be transferred to profit or loss when the hedge is discontinued (ie resulting in a gain/loss if the cumulative amortisation is higher/lower than the time value lost, which is the difference between the time value originally paid and the time value left on discontinuation).

Implications of a misalignment of option and exposure

12. As mentioned in paper 4A, there is a second issue to be resolved. This arises when the option used has critical terms (such as the nominal amount, life and underlying) that do not match the protected exposure. In those cases the following questions arise:
- (a) 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; and
- (b) how any part of the time value that does not relate to the hedged item should be accounted for.
13. This issue is a more difficult one. An example might help illustrate it.
14. Entity B wants to hedge a forecast commodity purchase in 11 months' time and wants to use an exchange traded commodity call option. The next best available maturities for these standardised options are 9 months and 12 months. Hence, Entity B decides to purchase a 12-month call option and to sell it after 11 months thereby realising any commodity price differences above the options strike price (the protected maximum purchase price) as the intrinsic value of the option² at that point in time and realising what is left of the time value of the option (both elements together equate to the option's fair value that can be realised via selling it on the exchange).

² Potential discounting for 1 month is ignored.

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15. From the example you can see that in this case the time value paid for the option is for more than just the protection of the hedged transaction and hence more than what could be viewed as the ‘insurance premium’ for the hedged item. If the *entire* time value of the option were capitalised into the cost of the purchase inventory as transaction costs Entity B would make a profit from the inventory acquisition because it realises part of the option’s time value by selling it with 1 month of its life remaining. This outcome violates the fundamental principle that acquisitions of items that are measured at cost should not give rise to a gain or loss.
16. So what possible alternatives to avoid treating the time value of an option like an insurance premium when the time value does not solely relate to the hedged item are there?

Prorating the time value

17. A simple solution would be to only capitalise 11/12 of the time value into the asset and recognised the remaining 1/12 as part of the gain (or loss³) on the sale of the option (regarding its remaining time value). But that ‘solution’ is not one that works:
- (a) because the decay of the time value of an option is not linear⁴ (time (theta) decay follows an exponential pattern and linear would not be a reasonable approximation—especially the closer to maturity the option is) the simply prorating of the time value is inconsistent with the nature of options;
 - (b) the difference between the time value paid for the option is not always attributable to a mismatch of the maturities but can relate to other differences in the underlying as well (eg a basis difference in the commodity between the commodity that will be actually purchased and

³ The remaining time value could be lower than 1/12 of the initial time value—depending on the movement of the underlying since inception of the option.

⁴ See agenda paper 4A, paragraph 38.

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the benchmark commodity under the exchange traded option). In that case a simple prorating is not possible at all.

18. Hence, prorating would only be appropriate when there is a difference in the notional amounts involved. For example, if the commodity purchase being hedged was exactly for a time and type of commodity that matches the respective terms of the option but the entity has a hedge volume of 9 tonnes while the standard exchange traded option is only available in a lot size of 10 tonnes then 1/10 of the option premium paid could be excluded from the hedging relationship and treated as a freestanding derivative. However, this is already possible by the requirements regarding the eligibility of hedging instruments today, ie they can be designated for a proportion of the notional amount.⁵ Hence, this issue does not have to be addressed in this series of papers.

Comparison with time value that would have only covered the hedged item

19. Another alternative is to isolate that part of the time value of the option that relates to the hedged item by comparison with a time value that would have been paid for an option that perfectly matches the hedged item (eg same underlying, maturity, notional amount).
20. Determining this ‘insurance premium’ for the particular hedged item is difficult. It essentially requires an option pricing exercise using the terms of the hedged item as well as other relevant information about the hedged item (in particular the volatility of its price or cash flow, which is a key driver of an option’s time value). This can be called a ‘hypothetical derivative’ calculation in that the option pricing exercise is a derivative valuation but not for the actual derivative used as the hedging instrument. Instead it is the valuation of one that, if it had been obtained, would have resulted in paying no option premium for the exposure that is not hedged (or that actually does not exist for the entity).

⁵ See IAS 39.75.

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21. So what are the challenges with this approach?
22. This approach requires differentiating between whether:
 - (a) the *initial* time value of the purchased option (**actual time value**) is higher or lower than
 - (b) the time value that would have been paid for an option that perfectly matches the hedged item (**aligned time value**).
23. **Scenario 1:** If the actual time value is *higher* than the aligned time value then the *differences* in the fair value movements between the two time values would be recognised in profit or loss. This reflects gains or losses on that part of the actual time value that do not relate to the protected exposure (ie the hedged item). Hence, that part of the actual time value—the excess—is treated like a financial instrument measured at fair value with changes in fair value through profit or loss.
24. **Scenario 2:** If the actual time value is *lower* than the aligned time value the situation is more difficult. This is because if all the changes in the aligned time value were treated like an insurance premium as a whole it would be tantamount to accounting for *more* time premium than was actually paid for in purchasing the actual option.
25. Hence in scenario 2, for transaction related hedged items, an entity would treat as transaction costs (ie transfer to profit or loss when the hedged item affects profit or loss or capitalise into an item initially measured at cost) an amount that *exceeds* the actual transaction costs incurred. Similarly, for time period related hedged items an entity would recognise as an amortisation expense (cumulatively) an amount that exceeds the actual transaction costs incurred.
26. In order to avoid accounting for more time value of an option than was actually paid, some form of ‘lower of’ test would have to be used—similar to the mechanism used for cash flow hedging.
27. Hence under scenario 2, the amount recognised in accumulated OCI would be determined by reference to the lower of the cumulative fair value change of:

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- (a) the actual time value; and
- (b) the aligned time value.

Impairment test

28. There is one other question that arises when accounting for the time value of an option as an insurance premium: would an impairment test be needed to the amounts accumulated in OCI?
29. For **transaction related** hedged items the situation is no different than for cash flow hedges. Hence, the requirements that are the equivalent of the impairment test for the cash flow hedge reserve⁶ could be applied in the same way to the accumulated OCI balances in relation to the time value of options.
30. For **time period related** hedged items the same type of impairment approach is less suitable as the part of the option's time value that is not yet amortised is not a future adjustment of the cost of another transaction but a deferred expense that relates to a time period. Hence, it would be more appropriate to link impairment to whether the hedging relationship still continues or had to be discontinued.
31. This can be best illustrated using an example.
32. If an entity hedges existing commodity inventory (eg perishable items like grain) against price risk changes and the inventory perishes, then hedge accounting would have to be discontinued. This would trigger the immediate recognition in profit or loss of the part of the option's time value that has not yet been amortised. This approach best reflects that the insurance premium can only be amortised as long as there is an exposure that is insured. At the same time it is a very straightforward and understandable way of addressing impairment in this scenario.

⁶ See IAS39.97 and 98(a).

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Disclosures

33. An ‘insurance premium view’ would require using OCI. IAS 1 *Financial Statement Presentation* requires that an entity prepares a reconciliation for each component of equity between the carrying amount at the beginning and at the end of the period.⁷
34. Hence, the general disclosure requirements of IFRSs already result in disclosure about the time value of options that would be accumulated in OCI and the movements in that balance. This is because the accumulated OCI in relation to the time value of options of hedging instruments accounted for under an ‘insurance premium view’ would be a separate component of equity because of the separate treatment of the time value of options under this approach (rather than as hedge ineffectiveness or an offset of changes in value of the hedged item). Therefore, the only questions remaining are:
- (a) Would the reconciliation of the accumulated OCI balance have to be accompanied by a disclosure that differentiates by *transaction related* hedged items and *time period related* hedged items? The staff believe that the types of reconciling items provide useful information for an analysis of this accumulated OCI balance (eg transfer of periodic amortisation expense, transfer of amounts capitalised into the cost of assets, etc.) However, a differentiation by the two types of hedged items (ie separate columns) would provide additional information about what *cumulative* amount in OCI would become an expense item over time versus those that would be transferred when a particular transaction occurs. Hence, the implications for the future income statement effect are sufficiently different to warrant disclosing a separate reconciliation by the two types of hedged items (ie disaggregation into two columns in the notes).

⁷ This was discussed at the IASB meeting in the week beginning 18 October 2010. An extract of paper 20B of that meeting is reproduced in Appendix A.

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- (b) Would any disclosure be necessary for gains and losses recognised in profit or loss in relation to parts of the time value of an option when the actual time value is different from the aligned time value⁸? The staff note that the general presentation and disclosure requirements of IAS 1 require separate disclosure or even line item presentation in the performance statement *if* income or expense items are material or relevant to an understanding of the entity's performance.⁹ Hence, the staff consider that if the gains and losses are of a magnitude for which disclosure would be relevant it would be covered by IAS 1 and otherwise requiring additional disclosure would be disproportionate.

Staff recommendation and question to the Board

35. The staff believe the Board has the following alternatives:
- (a) **Alternative 1:** Do nothing, ie retain the requirements (and outcomes) of IAS 39 *Financial Instruments: Recognition and Measurement*.
 - (b) **Alternative 2:** Use an accrual accounting approach.
 - (c) **Alternative 3:** Use an approach that changes the accounting but *only* for cash flow hedges (similar to US GAAP and the FASB proposed ASU—see paragraphs 24-28 paper 4A).
 - (d) **Alternative 4:** Use an 'insurance premium view' approach.
36. As set out in paper 4A, the accounting for the time value of options is one of the most important areas of hedge accounting. The outcomes under the current hedge accounting model are considered as being unsatisfactory by both users and preparers. Hence, the staff dismiss Alternative 1.
37. The staff dismiss Alternative 2 because it would be significant departure from financial instrument accounting that is inappropriate. This is because the issue

⁸ See paragraphs 19-27.

⁹ See IAS 1.85-86 and 97-98.

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of a misalignment of option and exposure (see paragraphs 12-27) could not be efficiently addressed under such an approach.

38. The staff dismiss Alternative 3 because the type of hedge is not a relevant differentiation (see paragraph 51 of paper 4A) but would result in non-comparable outcomes (particularly regarding firm commitments versus forecast transactions).
39. Alternative 4 is the ‘insurance premium view’ developed in paper 4A that treats the time value of options similar to insurance premiums. In the staff’s view this ‘insurance premium view’ approach would address the main concerns of users and preparers. Hence the staff recommend using this approach in the new hedge accounting model for the accounting for the time value of purchased (or net purchased) options that qualify as hedging instruments.
40. In summary the approach is:
 - (a) A distinction between two types of hedged items:
 - (i) **transaction related** (eg the forecast purchase of a commodity); and
 - (ii) **time period related** (eg hedging existing commodity inventory regarding commodity price changes).
 - (b) For **transaction related** hedged items the cumulative change in fair value of the option’s time value would be accumulated in OCI and be recycled under the general requirements (eg like a basis adjustment if capitalised into a non-financial asset or into profit or loss when eg hedged sales affect profit or loss).
 - (c) For **time period related** hedged items the cumulative change in fair value of the option’s time value would be accumulated in OCI with that part of the original time value paid to the option writer or seller that relates to the current period being transferred from accumulated OCI to profit or loss. This should be done on a rational basis (for the reasons set out in paragraph 10).

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- (d) In order to avoid accounting under the preceding approach for more time value of an option than was actually paid, if the actual time value is *lower* than the aligned time value the amount recognised in accumulated OCI would be determined by reference to the lower of the cumulative fair value change of:
- (i) the actual time value; and
 - (ii) the aligned time value.
- (e) The balances accumulated in OCI would be subject to the following impairment test:
- (i) for **transaction related** hedged items the impairment test for the cash flow hedge reserve would be applied; and
 - (ii) for **time period related** hedged items the part of the option's time value that has not been amortised would be immediately recognised in profit or loss when the hedging relationship is discontinued.
- (f) For the reconciliation of the accumulated OCI balance an entity would have to provide disclosures that differentiate by *transaction related* hedged items and *time period related* hedged items (for the reasons set out in paragraph 34(a) above).

Question – accounting for the time value of options that are hedging instruments

Does the Board agree with the staff recommendation in paragraphs 39-40 (ie to use an 'insurance premium view' approach)?

If the Board does not agree what does the Board prefer instead and why?

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Appendix A

- A1. Extract from agenda paper 20B of the IASB meeting in the week beginning 18 October 2010:
13. IAS 1 *Financial Statement Presentation* requires that an entity prepares a reconciliation for each component of equity between the carrying amount at the beginning and at the end of the period.
 14. As mentioned above, the objective of the disclosures is for users to understand the effects of hedge accounting on the income statement and OCI. This paper proposes disclosure requirements that help to identify the effects of hedge accounting on the income statement and OCI. However, for users to be able to relate the information presented as part of the proposed disclosures in this paper to the statement of changes in equity, the information should be provided using the same level of granularity.
 15. In other words, the reconciliation of the cash flow hedge reserve should be done in such a way that the items disclosed as part of the proposals in this paper can be linked to the statement of changes in equity. Such a reconciliation should also be done by type of risk. An entity could do the breakdown of this reconciliation by type of risk either on the face of the statement of changes in equity or in the notes. This flexibility is needed because of the number of risks that need to be disaggregated and the resulting level of detail.