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Project	<b>Leases</b>
Topic	<b>Subsequent measurement of leases with options and contingent rentals under amortised cost</b>

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## Introduction

### *Purpose*

1. At the November 2009 joint meeting, the boards tentatively decided that the subsequent measurement of the *lessee's obligation* and the *lessor's receivable* should be at amortised cost using the effective interest method.
  2. The purpose of this paper is to address how to apply the mechanics of amortised cost using the effective interest method to the subsequent measurement of the *lessee's obligation* and the *lessor's receivable* where there are reassessments of the expected lease term and contingent rentals.
  3. This paper addresses the following issues:
    - (a) whether the *incremental borrowing rate* used to calculate the *lessee's obligation* to pay rentals should be revised under the amortised cost-based approach where there are subsequent reassessments of:
      - (i) the expected lease term; and
      - (ii) contingent rentals; and
    - (b) whether the *interest rate implicit in the lease* used to calculate the *lessor's receivable* should be revised under the amortised cost-based approach where there are subsequent reassessments of:
      - (i) the expected lease term; and
      - (ii) contingent rentals.
  4. This paper is structured as follows:
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- (a) discussion on the definition and mechanics of amortised cost using the effective interest method under IFRS and US GAAP;
  - (b) discussions on *lessee accounting* as follows:
    - (i) the implication of the boards' tentative decision to subsequently measure the obligation to pay rentals at amortised cost; and
    - (ii) for the issues outlined in paragraph 3(a) above:
      - discussion of possible approaches; and
      - staff recommendations and questions; and
  - (c) discussions on *lessor accounting* as follows:
    - (i) the implication of the boards' tentative decision to subsequently measure the lessor's receivable at amortised cost; and
    - (ii) for the issues outlined in paragraph 3(b) above:
      - discussion of possible approaches; and
      - staff recommendations and questions.
5. The staff recommend the following:
- (a) for the *lessee's obligation* to make rental payments, the *incremental borrowing rate* should not be revised under the amortised cost-based approach where there are subsequent reassessments of:
    - (i) the expected lease term (some staff disagree with this recommendation as explained in paragraph 30); and
    - (ii) contingent rentals (unless the rentals are contingent upon variable reference interest rates); and
  - (b) for the *lessor's right* to receive rentals, the *interest rate implicit in the lease* should not be revised under the amortised cost-based approach where there are subsequent reassessments of:
    - (i) the expected lease term; and
    - (ii) contingent rentals (unless the rentals are contingent upon variable reference interest rates).

**Background**

6. At their November 2009 joint meeting, the boards made the following tentative decisions on *lessee* accounting:
  - (a) the required accounting for the obligation to pay rentals would be specified within the leases standard rather than by cross-referring to existing requirements for similar obligations;
  - (b) the initial measurement of the lessee's obligation to pay rentals would be at the present value of the lease payments, discounted using the lessee's incremental borrowing rate;
  - (c) the subsequent measurement of the lessee's obligation to pay rentals would be at amortised cost using the effective interest method; and
  - (d) in a simple lease, the obligation to pay rentals would not be revised for any changes in the lessee's incremental borrowing rate.
7. The boards asked the staff to consider whether the lessee's incremental borrowing rate should be revised when the lessee's expectations about the lease term change.
8. The boards also made the following tentative decisions on *lessor* accounting:
  - (a) the required accounting for the right to receive rental payments would be specified within the leases standard rather than by cross-referring to existing requirements for similar assets;
  - (b) the initial measurement of the lessor's receivable would be at the present value of the lease payments discounted using the interest rate implicit in the lease plus any initial direct costs incurred by the lessor; and
  - (c) the subsequent measurement of the lessor's receivable would be at amortised cost using the effective interest method.

### **Amortised cost and the effective interest method under IFRS and US GAAP**

9. Under IAS 39 *Financial Instruments: Recognition and Measurement* amortised cost is defined as:

.. the amount at which the financial asset or financial liability is measured at initial recognition minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, ...

10. The effective interest method is defined in paragraph 9 of IAS 39 as follows:

...a method of calculating the amortised cost of a financial asset or financial liability ...and of allocating the interest income or interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or , when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability...

11. The principles of amortised cost under the IASB's exposure draft on *Financial Instruments: Amortised Cost and Impairment* (ED) are the same as those under IAS 39. Amortised cost is the present value of a series of cash flows calculated using the following inputs:

- (i) the expected cash flows over the remaining life of the financial instrument; and
- (a) the effective interest rate as the discount rate<sup>1</sup>.

12. Under US GAAP, the Master Glossary in the Accounting Standards Codification (ASC) defines amortised cost as:

The sum of the initial investment less cash collected less write-downs plus yield accreted to date.

13. The FASB is reconsidering the definition of amortised cost in its financial instruments project. The FASB has tentatively decided that:

Amortized cost of a financial asset or a financial liability is a cost-based subsequent measurement that adjusts the historical cost for amortization or other allocations.

14. The FASB has not yet, but will be addressing in the financial instruments project how the effective interest rate interacts with the amortised cost definition.

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<sup>1</sup> Paragraph 6 of IASB's exposure draft on *Financial Instruments: Amortised Cost and Impairment*

15. Appendix A and B respectively set out the requirements under IFRS and US GAAP on the principles of amortised cost using the effective interest method.
16. In summary, amortised cost under IFRS is a cost-based measurement. The discount rate is not updated for subsequent revisions to the expected cash flows (unless part or all of the interest rate is contractually reset to current conditions eg floating rate instruments with a LIBOR reset).
17. On the other hand, it is debatable whether amortised cost could be considered a cost-based subsequent measurement under US GAAP in all circumstances. That is because in some instances US GAAP requires the discount rate to be recalculated for subsequent revisions to expected cash flows or expected terms of the financial instruments and in other cases the discount rate is not recalculated.

### **Lessee accounting**

18. At their November 2009 joint meeting the boards tentatively decided to measure the lessee's obligations to pay rentals at amortised cost using the lessee's incremental borrowing rate.
19. If the boards had decided to require lessees to account for the obligation to pay rentals in accordance with existing requirements for financial liabilities, some obligations to pay rentals under more complex lease contracts might not have qualified for amortised cost measurement in their entirety. This would have reduced comparability between different types of lease transactions.

### ***Leases with options - subsequent changes in the lease term***

20. At their November 2009 joint meeting, the boards tentatively decided that for lease contracts that grant the lessee the right to extend or terminate the lease:
  - (a) the recognised lease term would be the longest possible lease term that is more likely than not to occur; and
  - (b) the lease term would be reassessed at each reporting date.

21. This section of the paper discusses whether the lessee should revise its incremental borrowing rate where there are subsequent changes in the expected lease term. It presents three possible approaches and the advantages and disadvantages of each. The three approaches considered are:
- (a) *approach 1*: no reassessment of the incremental borrowing rate;
  - (b) *approach 2*: reassess by updating for the current incremental borrowing rate for the remaining of the expected lease term; and
  - (c) *approach 3*: reassess the incremental borrowing rate with the corresponding rate at initial recognition for the revised expected lease term.
22. The following example illustrates the three approaches:

Example 1

In 20X0 a machine is leased for a period of 10 years. The lease contract includes an option for the lessee to lease the machine for an additional five years.

Initial assessment of the longest possible lease term that is more likely than not to occur will be 15 years.

In 20X1 the lessee reassesses and determines that the longest possible lease term that is more likely than not to occur will now be 10 years instead of 15 years.

Under *approach 1*, the lessee will use the incremental borrowing rate determined at inception of the lease.

Under *approach 2*, the lessee will use its 9-year incremental borrowing rate at the date of the reassessment (20X1).

Under *approach 3*, the lessee will use its 10-year incremental borrowing rate at inception of the lease (20X0).

*Approach 1: no reassessment to the incremental borrowing rate*

23. Under the principles and measurement objectives of the requirements of IAS 39 and the proposals in the IASB's Exposure Draft (ED) *Amortised Cost and*

*Impairment*<sup>2</sup>, amortised cost, which is a cost based measurement, reflects at each measurement date:

- (a) current inputs regarding the cash flow estimates; and
  - (b) an input relating to initial measurement (which is the effective interest rate to the extent that it is not contractually reset to variable reference interest rates).
24. Approach 1 is the most consistent with the principles of amortised cost under IFRS because the discount rate will not be reset because of reassessment of the lease term.
25. Lease term options are in a way similar to additional draw downs of a multi-draw loan commitment facility, where options to extend constitute additional installments of the facility. For these multi-draw facilities, the interest rate to be charged is set at inception. The rate set at inception should already reflect the possibility of further draw-downs or of not using part of the facility. Similarly, for a lease with an option to extend, the incremental borrowing rate used at the inception should already reflect that the lease contains an option to extend.
26. The staff note that in practice it may be difficult to determine a discount rate that exactly matches the terms of the lease including the option to extend. However, the staff also note that if the interest rate implicit in the lease is used as the discount rate, the interest rate implicit in the lease would reflect the option to extend.
27. Also note that under approach 1, credit risk will not be remeasured. In June 2009, the IASB issued a discussion paper *Credit Risk in Liability Measurement* that requested constituents' view on how (and whether) credit risk should be incorporated into liability measurement. Respondents to that paper generally think that credit risk should not be subsequently remeasured for financial liabilities at other than fair value. Comment letter analysis on the IASB's discussion paper was presented to the IASB (October 2009, Agenda paper 6). Copies of that analysis are available to board members on request.
28. Approach 1 is also the least complex and costly for preparers to apply.

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<sup>2</sup> Refer to paragraph 16 of this paper.

29. The following table summarises the advantages and disadvantages of approach 1:

<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>• Consistent with the application of the principles of amortised cost in IAS 39 and the IASB's <i>ED Amortised Cost and Impairment</i></li> <li>• Least complex and costly for preparers to apply</li> </ul>	<ul style="list-style-type: none"> <li>• Does not reflect current market conditions</li> </ul>

*Approach 2: reassessment by updating for the current incremental borrowing rate for the remaining expected lease term*

30. Some staff argue that by exercising the option to extend the lease, the lessee has effectively entered into a new lease agreement and hence the incremental borrowing rate should be updated to reflect this. However, other staff believe that the option to extend is an integral part of the lease agreement at inception. That is, the lessee has not signed up to a new lease when it exercises the option to extend, because the terms of the lease at inception already contain the option to extend, so the pricing of the lease should already reflect the various terms of the lease including the extension option. Furthermore, it is inconsistent with the boards' decision not to adopt a components approach.
31. The staff note that under this approach the credit risk of the lessee will be remeasured.



32. The following table summarises the advantages and disadvantages of approach 2:

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Reflects current market conditions</li> <li>• The discount rate used will reflect the expected term of the liability</li> </ul>	<ul style="list-style-type: none"> <li>• Inconsistent with the mechanics of amortised cost in IAS 39 and the IASB’s ED <i>Amortised Cost and Impairment</i></li> <li>• More complex and costly for preparers to apply than approach 1.</li> </ul>

*Approach 3: reassess the incremental borrowing rate with the corresponding rate at initial recognition for the revised expected leased term.*

33. Under approach 3, the entity retrospectively revises its discount rate from lease inception when it reassesses the longest possible lease term that it is more likely than not to occur.
34. The disadvantages of approach 3 are as follows:

Disadvantages
<ul style="list-style-type: none"> <li>• Inconsistent with the mechanics of amortised cost in IAS 39 and the IASB’s ED <i>Amortised Cost and Impairment</i></li> <li>• Most complex and costly for preparers to apply</li> <li>• Does not reflect current market conditions</li> <li>• It may be difficult for the lessees to determine the appropriate discount rate (they may not have the information available to compute what the incremental borrowing rate would have been at inception for the revised term)</li> </ul>

*Staff recommendation*

35. For the reasons stated in paragraphs 23 to 29 above, some staff recommend approach 1. They do not recommend approach 2 because it is inconsistent with the principles and measurement objectives of amortised cost under IAS 39 and the IASB ED. However, some staff support approach 2 for the reasons set out in paragraph 30. The staff do not recommend approach 3.

**Question 1– Lessee accounting: subsequent changes in lease term for leases with options**

Should the lessee's incremental borrowing rate be revised when there are subsequent changes in the expected lease term?

If yes, should approach 2 or approach 3 be required?

***Subsequent reassessments of contingent rentals***

36. This section of the paper discusses whether the lessee should be required to revise the incremental borrowing rate where there are changes in amounts payable under contingent rental arrangements.
37. There are five possible approaches to deal with this issue:
- (a) *approach 1*: no reassessment of the incremental borrowing rate;
  - (b) *approach 2*: no reassessment of the incremental borrowing rate unless the rentals are contingent upon variable reference interest rates;
  - (c) *approach 3*: reassess the incremental borrowing rate based on market interest rates;
  - (d) *approach 4*: recalculate the effective interest rate based on revised future contingent rentals ; and
  - (e) *approach 5*: recalculate the effective interest rate based on actual contingent rentals to date and revised future contingent rentals.
38. Appendix C sets out examples to illustrate these five possible approaches.

*Approach 1: no reassessment of the incremental borrowing rate*

39. Approach 1 is consistent with amortised cost measurement under IFRS to the extent that contingent rentals are not linked to variable reference interest rates. Under approach 1, the lessee's incremental borrowing rate is not reassessed irrespective of whether contingent rentals are linked to variable reference interest rates.

40. Paragraph B2 of the IASB ED states:

If an entity revises its estimates of payments or receipts, the entity shall adjust the carrying amount of the financial asset or financial liability...to reflect actual cash flows and the revised estimated of expected cash flows... The entity recalculates the carrying amount by computing the present value of expected cash flows (on the basis of the revised estimate) using the financial instrument's effective interest rate...

41. The following table summarises the advantages and disadvantages of approach 1:

<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"><li>• Consistent with the mechanics of amortised cost in IAS 39 and the IASB's ED <i>Amortised Cost and Impairment</i> for contingent rentals that are <u>not</u> linked to variable reference interest rates</li><li>• Less complex and costly for preparers to apply</li></ul>	<ul style="list-style-type: none"><li>• Does not reflect current market conditions</li><li>• Inconsistent with the mechanics of amortised cost in IAS 39 and the IASB's ED <i>Amortised Cost and Impairment</i> for contingent rentals that are linked to variable reference interest rates</li></ul>

*Approach 2: no reassessment of the incremental borrowing rate unless the rentals are contingent on variable reference interest rates*

42. Under the principles and measurement objectives of the IASB’s ED *Amortised Cost and Impairment*<sup>3</sup>, the effective interest rate is not adjusted unless all or part of the rate is contractually reset to current conditions eg the LIBOR component of a variable rate financial instrument. (Refer to example C2 of Appendix C).
43. This approach is the most consistent with strict application of the measurement principles of amortised cost under IFRS<sup>4</sup>. For example, for contingent rentals linked to variable reference interest rates such as LIBOR, the reassessment of contingent rentals would require revising the incremental borrowing rate to take into account market changes in variable interest rates.
44. By not reassessing the discount rate, (unless the rentals are contingent on variable reference interest rates) it reflects conditions at lease inception, which is consistent with the notion of cost-based measurement. This approach is less complex and costly for preparers to apply and the staff think that it provides more relevant information than approaches 4 and 5.
45. The following table summarises the advantages and disadvantages of approach 2:

<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>• Consistent with the mechanics of amortised cost in IAS 39 and IASB’s ED <i>Amortised Cost and Impairment</i></li> <li>• Less costly than approaches 4 and 5</li> </ul>	<ul style="list-style-type: none"> <li>• Does not reflect current market conditions</li> <li>• More complex and costly for preparers than approach 1 (no reassessment)</li> </ul>

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<sup>3</sup> Refer to paragraph 16 of this paper.

<sup>4</sup> Paragraph AG 7 of IAS 39 and paragraph 7 of IASB’s ED *Financial Instruments: Amortised Cost and Impairment*

*Approach 3: reassess the incremental borrowing rate based on market interest rates*

46. The following table summarises the advantages and disadvantages of approach 3:

<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"><li>• Reflects current market conditions</li></ul>	<ul style="list-style-type: none"><li>• Inconsistent with the mechanics of amortised cost in IAS 39 and the IASB’s ED <i>Amortised Cost and Impairment</i></li><li>• More complex and costly for preparers to apply than approach 1 and approach 2.</li></ul>

*Approach 4: recalculate the effective interest rate based on revised contingent rentals*

47. Approach 4 is the approach adopted in ASC 310-30 (SOP 03-3) *Receivables: Loans and Debt Securities Acquired with Deteriorated Credit Quality* where there is a significant increase in cash flows previously expected to be collected or if cash flows are significantly greater than cash flows previously expected<sup>5</sup>.
48. The staff note that under this approach, where contingent rentals are lower than what was initially expected, recalculating of the effective interest rate would lead to a negative effective interest rate (refer to Example C1 in Appendix C). Consequently, the staff do not think that this approach provides relevant information.

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<sup>5</sup> ASC 310-30-35-10

49. The following table summarises the main disadvantages of approach 4:

<b>Disadvantages</b>
<ul style="list-style-type: none"><li>• Inconsistent with the mechanics of amortised cost in IAS 39 and the IASB's ED <i>Amortised Cost and Impairment</i></li><li>• More complex and costly for preparers to apply than approaches 1 and 2</li><li>• Can result in negative effective interest rates</li></ul>

*Approach 5: recalculate the effective interest rate based on actual contingent rentals to date and future revised contingent rentals*

50. Approach 5 is the approach adopted in ASC 310-20 (FAS 91) *Receivables: Non-refundable fees and Other Costs* where anticipated prepayments and actual prepayments differ<sup>6</sup>.

51. Similarly to approach 4, if contingent rentals are revised downwards under approach 5, it would lead to a negative effective interest rate. The disadvantages under approach 5 are the same as those outlined in paragraph 49 for approach 4.

*Staff recommendation*

52. The staff recommend approach 2 for the reasons set out in paragraphs 42-45 above.

53. The staff do not recommend approach 1 because it is not entirely consistent with the principles and measurement objectives of amortised cost under either IFRS or US GAAP. In particular, discounting a variable interest rate instrument using the original effective interest rate as if it were a fixed rate does not reflect the underlying economics of that instrument. The staff do not recommend approach 3 because it is more reflective of fair value and not consistent with the principles and measurement objectives of amortised cost. The staff do not recommend approaches 4 or 5 because of the disadvantages outlined above.

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<sup>6</sup> When anticipated and actual prepayments differ, the entity shall recalculate the effective yield to reflect actual payments to date and anticipated future payments (ASC 310-20-35-26).

### Question 2– Lessee accounting: contingent rentals

The staff recommend approach 2 ie the lessee's incremental borrowing rate should not be reassessed when reassessing amounts payable under contingent rental arrangements unless the rentals are contingent on variable reference interest rates.

Do the boards agree?

If not, what other approaches would the boards like to use and why?

### Lessor accounting

54. At their November 2009 joint meeting the boards tentatively decided that all rights to receive rental payments are to be measured at amortised cost using the effective interest rate method.
55. The boards also tentatively decided that the discount rate should be the interest rate implicit in the lease for the lessor's right to receive rental payments.
56. In theory, the interest rate implicit in the lease should equal the lessee's incremental borrowing rate. However, the implicit rate is affected by differences between the lessee's and lessor's estimates of the residual value, transactions costs and initial direct costs, and it may also be affected by other factors only known to the lessor. Over the life of the lease the interest rate implicit in the lease will be affected by many different factors including the lessee's credit rate, the fair value of the underlying asset at any point in time and the expected residual value of the underlying asset at the end of the lease.
57. Furthermore, under the expected cash flow approach of the amortised cost model, the interest rate implicit in the lease would also take into account the lessor's initial estimate of expected credit losses.
58. The staff also notes that if the boards had adopted the alternative approach to require the lessor to account for its right to receive rental payments in accordance with existing requirement for financial assets, some rights to receive rental payments would not have met the criteria for measurement at amortised cost. For example, a lease with contingent rentals based on the lessee's sales would not qualify for amortised cost under IFRS 9 *Financial Instruments*.

***Leases with options - subsequent changes in the lease term***

59. This section of the paper discusses whether the interest rate implicit in the lease under lessor accounting should be reassessed where there are subsequent changes in the expected lease term.
60. The staff thinks that symmetrical accounting should be applied to both lessee and lessor accounting. Under IFRS, amortised cost is a cost-based measurement which applies equally to a financial asset as well as to a financial liability.
61. Symmetrical accounting is also consistent with the boards' decisions to subsequently account for both the lessee's obligation to pay rentals and the lessor's right to receive rentals at amortised cost using the effective interest rate.
62. Consequently, the three approaches considered for lessees are considered for lessors as well. They are:
- (a) *approach 1*: no reassessment of the interest rate implicit in the lease;
  - (b) *approach 2*: reassessment by recalculating the interest rate implicit in the lease for the remainder of the revised expected lease term; and
  - (c) *approach 3*: recalculate the interest rate implicit in the lease with the corresponding rate at initial recognition for the revised expected lease term.
63. The advantages and disadvantages of these approaches are the same as for those presented in paragraphs 23 to 35.

*Staff recommendation*

64. The staff recommend approach 1 for the same reasons as outlined in paragraphs 23-29.
65. In addition, the staff note that the interest rate implicit in the lease may be difficult and complex for a lessor to calculate other than at inception of the lease because it is dependent on many different factors including the lessee's credit rating, the fair value of the underlying asset at any point in time and the expected residual value of the underlying asset at the end of the lease.



**Question 3– Lessor accounting: subsequent changes in lease term for leases with options**

The staff recommend approach 1; ie the interest rate implicit in the lease should not be reassessed under amortised cost where there are subsequent changes in the lease term.

Do the boards agree? If not, what other approaches would the boards like to use and why?

***Subsequent reassessments of contingent rentals***

66. This section of the paper discusses whether the interest rate implicit in the lease under lessor accounting should be reassessed where there are subsequent reassessments of contingent rentals.
67. The five approaches considered are the same as those considered under lessee accounting. They are:
- (a) *approach 1*: no reassessment of the interest rate implicit in the lease;
  - (b) *approach 2*: no reassessment of the interest rate implicit in the lease unless the rentals are contingent upon variable reference interest rates;
  - (c) *approach 3*: reassess the interest rate implicit in the lease based on market interest rates;
  - (d) *approach 4*: recalculate the effective interest rate based on the fair value of the lessor's right to receive rental payments ; and
  - (e) *approach 5*: recalculate the effective interest rate based on actual contingent rental payments to date and revised expected future contingent rental payments.
68. The advantages and disadvantages of these approaches are the same as those presented in paragraphs 39-53.

*Staff recommendation*

69. As noted above, the interest rate implicit in the lease may be difficult and complex for a lessor to calculate other than at inception of the lease. Consequently, and for the reasons set out in paragraph 52 to 53 we recommend approach 2.

**Question 4– Lessor accounting: contingent rentals**

The staff recommend approach 2; ie the lessor should not reassess the interest rate implicit in the lease unless the rental payments are contingent upon variable reference interest rates.

Do the boards agree? If not, what other approaches would the boards like to use and why?

## Appendix A

### **Amortised cost and the effective interest method under IFRS**

A1. This Appendix sets out the requirements under IFRS of the principles of amortised cost under the effective interest method in dealing with revising the estimated cash flows and expected terms of the financial asset/liability.

#### **IFRS**

A2. The IASB's ED *Amortised Cost and Impairment* (ED) and IAS 39 *Financial Instruments: Recognition and Measurement* set out principles and measurement guidance for amortised cost.

A3. Paragraph 4 of the ED states:

For the purposes of this cost-based measurement the effective return is determined on the basis of initial expectations about cash flows over the expected life of the financial asset or financial liability and its initial carrying amount.

A4. Paragraph 6 of the ED states:

...amortised cost is the present value calculated using the following inputs:

- (ii) the expected cash flows over the remaining life of the financial instrument; and
- (a) the effective interest rate as the discount rate.

A5. Paragraph 7 of the ED states:

Amortised cost reflects at each measurement date current inputs regarding the cash flow estimates. ...amortised cost also reflects an input relating to initial measurement, which is the effective interest rate to the extent that it is not contractually reset to current conditions (eg the effective interest rate of a fixed rate financial instrument or a constant spread of a variable rate financial instrument).

A6. Paragraph 9 of IAS 39 states:

...When calculating the effective interest rate, an entity shall estimate cash flows considering all contractual terms of the financial instrument (for example, prepayment, call and similar options)...

A7. Paragraph B2 of the ED (which is also consistent with AG 8 of IAS 39) states:

If an entity revises its estimates of payments or receipts, the entity shall adjust the carrying amount of the financial asset or financial liability...to reflect actual cash flows and the revised estimated of expected cash flows... The entity recalculates the carrying amount by computing the present value of expected cash flows (on the basis of the revised estimate) using the financial instrument's effective interest rate....

A8. AG 7 of IAS 39 states

For floating rate financial assets and floating rate financial liabilities, periodic re-estimation of cash flows to reflect movements in market rates of interest alters the effective interest rate.

A9. In summary, under IFRS, amortised cost is a cost-based measurement where the discount rate is used to reflect this cost-based measurement attribute and therefore is not updated for subsequent revisions to expected cash flows or to the expected terms of the financial instrument (unless part or all of the interest rate is contractually reset to current conditions eg floating rate instruments with a LIBOR reset).

## Appendix B

### Amortised cost and the effective interest method under US GAAP

- B1. This Appendix sets out selected requirements in the US GAAP literature on the effective interest method.
- B2. Within US GAAP, the effective interest under amortised cost accounting is determined differently in different circumstances requiring the discount rate to be recalculated under certain cases, while in other cases the discount rate is not recalculated for subsequent revisions to the expected cash flows or to the expected terms of the financial instrument.

<i>FASB Accounting Standards Codification</i>	<b>Topic Name</b>	<b>Application of effective interest rate</b>
ASC 310-10 (FAS 114)	Receivables: Overall	A creditor's recorded investment in a loan at origination and during the life of the loan, ... is the sum of the present values of the future cash flows that are designated as interest and the future cash flows that are designated as principal discounted at the effective interest rate implicit in the loan. A loan that becomes impaired (because it is probable that the creditor will be unable to collect all the contractual interest payments and contractual principal payments as scheduled in the loan agreement) shall continue to be carried at an amount that considers the discounted value of all expected future cash flows in a manner <u>consistent with the loan's measurement</u> before it became impaired. (ASC 310-10-35-25)

<i>FASB Accounting Standards Codification</i>	<b>Topic Name</b>	<b>Application of effective interest rate</b>
ASC 310-30 (SOP 03-3)	Receivables: Loans and Debt Securities Acquired with Deteriorated Credit Quality	<p>Based on current information and events, it is probable that there is a significant increase in cash flows previously expected to be collected or if actual cash flows are significantly greater than cash flows previously expected, the investor shall:</p> <p>... <u>Recalculate</u> the amount of accretable yield for the loan as the excess of the revised cash flows expected to be collected over the sum of the initial investment less cash collected less write-downs plus amount of yield accreted to date.</p> <p>(ASC 310-30-35-10)</p>
ASC 310-40 (FAS 114)	Receivables: Troubled Debt Restructuring by Creditors: Subsequent Measurement	<p>It has been indicated that a troubled debt restructuring does not result in a new loan but rather represents part of a creditor's ongoing effort to recover its investment in the original loan. Therefore, the interest rate used to discount expected future cash flows on a restructured loan shall be the <u>same interest rate</u> used to discount expected future cash flows on an impaired loan. (ASC 310-40-35-12)</p>
ASC 470- 50-40	Debt: Modification and Extinguishments: Derecognition	<p>If it is determined that the original and new debt instruments are not substantially different, then a <u>new effective interest rate shall be determined</u> based on the carrying amount of the original debt instrument ... (ASC 470-50-40-14)</p>

## Appendix C

### Illustrative examples of five possible approaches to the discount rate when contingent rentals are reassessed

- C1. The following example illustrates the application of the five approaches to the discount rate when contingent rentals are reassessed.

*Example C1*

- C2. On 1 January 20X0, machine A is leased for a period of 3 years. The lease payments are linked to the usage of the machine.
- C3. At lease inception, the corresponding 3-year incremental borrowing rate is 10%.
- C4. Lease payments are made annually in arrears. At inception of the lease contingent rentals based on expected usage are estimated as follows:

Table C1

20X0	\$10,000
20X1	\$15,000
20X2	\$12,500

- C5. Based upon these estimates the carrying amount of the obligation to pay rentals is expected to be:

Table C2

1 January 20X0	\$30,879.04
1 January 20X1	\$23,966.94
1 January 20X2	\$11,363.64

- C6. Actual contingent rentals payable in 20X0 were \$10,000 (in line with estimates). At the end of 20X0, the revised contingent rentals based on estimated usage are as follows:

Table C3

20X1	\$10,000
20X2	\$7,500

- C7. The corresponding 2-year incremental borrowing rate at end of year 20X0 is 11%.
- C8. The discount rate and revised carrying value of the obligation to pay rentals under the five approaches are summarised as follows:

Table C4

	Discount rate	Revised carrying value of the obligation to pay rentals
Approach 1: no reassessment of the incremental borrowing rate	10%	\$15,289 $(10,000/1.1 + 7,500/1.1^2)$ An adjustment of \$8,678 is recognised in profit or loss (\$23,966 - \$15,289)
Approach 2: no reassessment of the incremental borrowing rate unless the rentals are contingent on variable reference interest rates	10%	\$15,289 $(10,000/1.1 + 7,500/1.1^2)$ An adjustment of \$8,678 is recognised in profit or loss (\$23,966 - \$15,289)
Approach 3: reassess the incremental borrowing rate based on market interest rates	11%	\$15,096 $(10,000/1.11 + 7,500/1.11^2)$ An adjustment of \$8,870 is recognised (\$23,966 - \$15,096)
Approach 4: recalculate effective interest rate based on revised contingent rentals	-19% <sup>7</sup>	\$23,967 No adjustment is made to profit or loss
Approach 5: recalculate the effective interest rate based on actual contingent rentals to date and future revised contingent rentals	-6% <sup>8</sup>	\$16,109 An adjustment of \$7,858 is recognised in profit or loss (\$23,966 - \$16,109)

*Example C2*

- C9. The following example illustrates the differences between approaches 1, 2 and 3 for contingent rentals that are linked to variable referenced interest rates.

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<sup>7</sup> Calculated by reiteration, by setting the net present value as \$23,967 with cash flows of 10,000 (20X1) and 7,500 (20X2).

<sup>8</sup> Calculated by reiteration, by setting the net present value as \$30,880 with cash flows of 10,000 (20X0), 10,000 (20X1) and 7,500 (20X2)



C10. On 20X0, machine B is leased for a period of 3 years. The lease payments are linked to LIBOR +3%.

C11. At 20X0 the LIBOR forward rates are as follows:

Table C5

	LIBOR
1 year	6.74%
2 year	6.80%
3 year	6.86%

C12. At 20X1, owing to changes in market conditions, the 2-year incremental borrowing rate for the entity is LIBOR + 4% and the LIBOR forward rates have shifted and are now as follows:

Table C6

	LIBOR
1 year	6.50%
2 year	6.65%

C13. The discount rate and revised carrying value of the obligation to pay rentals under approaches 1, 2 and 3 are summarised as follows:

Table C7

	Discount rate
Approach 1: no reassessment of the incremental borrowing rate	Use the rates from table C5 plus 3%
Approach 2: no reassessment of the incremental borrowing rate unless the rentals are contingent on variable reference rates	Use the rates from table C6 plus 3%
Approach 3: reassess the incremental borrowing rate based on market interest rates	Use the rates from table C6 plus 4%