

STAFF PAPER

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Project	Leases		
Paper topic	Lessor accounting—variable lease payments and measurement of residual asset		
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Objective and staff recommendations

1. This paper discusses the application of the lessor accounting model to leases that include variable lease payments that are not included in the lease receivable at lease commencement (ie payments that depend on the usage or performance).
2. This paper considers how to account for these variable lease payments when they are recognised, in particular whether and how the residual asset should be adjusted. In doing so, the paper also revisits initial measurement of the lease receivable and residual asset when there are variable lease payments in the scenario in which profit is reasonably assured. Finally, it also considers the accounting when actual variable lease payments are not as expected when the lease was priced.
3. This paper assumes the boards retain their current tentative decisions reached in July 2011 on lessor accounting, which is the subject of a separate paper presented to the Boards this month. However, the analysis in this paper could also be used to decide how to account for variable lease payments even if the boards decide to make amendments to the receivable and residual model.

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4. When the lessor is not reasonably assured of profit, the staff recommend that the lessor would not make any adjustments to the residual asset with respect to variable lease payments.
5. When the lessor is reasonably assured of profit, the staff recommend that:
 - (a) when the rate the lessor charges the lessee reflects an expectation of variable lease payments, the lessor should adjust the residual asset based on its expectation of variable lease payments by recognising a portion of the cost of the residual asset as an expense as variable lease payments are received and recognised as revenue in profit or loss. Any difference between actual and expected variable lease payments would not result in any further adjustment to the residual asset with respect to variable lease payments.
 - (b) when the rate the lessor charges the lessee does not reflect an expectation of variable lease payments, the lessor would not make any adjustments to the residual asset with respect to variable lease payments.
6. Effectively, the staff recommends that no adjustments are made to the residual asset with respect to variable lease payments unless the lessor, in a reasonably assured scenario, has priced the contract with an expectation of variable lease payments.

Background

7. At the July 2011 joint board meeting, the boards tentatively decided that a lessor should apply a ‘receivable and residual’ accounting approach. Using this model, a lessor would recognise a right to receive lease payments (referred to as the lease receivable in this paper), initially measured at the present value of future lease payments, and a residual asset, initially measured as an allocated amount of the previous carrying amount of the underlying asset. The residual asset is subsequently measured by accreting it over the lease term using the rate that the lessor charges the lessee.
8. The boards also decided the following regarding profit recognition:

If profit on the right-of-use asset transferred to the lessee is reasonably assured, the lessor would recognise that profit at the date of the commencement of the lease. The profit would be measured as the difference between (a) the carrying amount of the underlying asset and (b) the transaction price and the residual asset.

If profit on the right-of-use asset transferred to the lessee is not reasonably assured, the lessor would recognise that profit over the lease term. In that case, the lessor would initially measure the residual asset as the difference between the carrying amount of the underlying asset and the right to receive lease payments. The lessor would subsequently accrete the residual asset, using a constant rate of return, to an amount equivalent to the underlying asset's carrying amount at the end of the lease term as if the underlying asset had been subject to depreciation.

9. At the February 2011 and April 2011 joint board meetings, the boards made tentative decisions on initial measurement of the lessor's receivable. They decided that the lessor's receivable (and lessee's liability) should include: lease payments that depend on an index or rate and lease payments that are in-substance fixed lease payments but whose form is structured as variable lease payments. All other lease payments are excluded from the initial measurement of the lease receivable.

Comment letters and other feedback

10. The 2010 exposure draft (the ED) proposed to reflect all variable lease payments in the initial measurement of the lease receivable. The feedback received is therefore not relevant when considering accounting for variable lease payments that are not recognised at lease commencement.
11. However, during the boards' deliberations following the ED, a question was raised during some of the outreach meetings about whether the recognition of variable lease payments should lead to an adjustment of the residual asset and to recognition of additional expense.
12. Some thought that the residual asset should be adjusted because, in some cases, it not only reflects the value of the underlying asset at the end of the lease but also the expectation of variable lease payments. Others thought that variable lease payments do not affect the residual asset. Some expressed the view that only fair value measurement of the residual asset would provide the most useful

information, and that the fair value would also consider rights to variable lease payments not included in the lease receivable.

Understanding current practice

13. The staff have analysed responses to the lessor survey that was conducted as a part of fieldwork on the leases project during the second half of 2010, as well as the results of outreach performed with a number of lessors in order to better understand the type of transactions in which variable lease payments occur. The survey was completed by around 300 lessors, about half of which are property lessors and the other half non-property (equipment) lessors.
14. The findings are summarised in the following paragraphs, and are split into two major categories of leases: equipment and property.

Equipment leases

15. Over three-quarters of equipment lessors stated that either they have no lease payments that are contingent on a variable, or less than 10 per cent of their lease payments are contingent on a variable factor.
16. Equipment lessors who report having variable lease payments cite two main categories:
 - (a) Payments linked to an index or a rate. A common example for large equipment items such as aircraft is an interest rate index, linked to the borrowing for the underlying asset, which is included to protect the lessee from interest rate variations and as a hedge against interest rate risk on the underlying debt for the lessor.
 - (b) Payments linked to usage. A common example here is an excess mileage clause in a vehicle lease, which is included to protect the value of the lessor's residual asset. The staff understand that this is often an end-of-lease assessment, and not something that is monitored regularly throughout the lease. However, regular assessments of usage are common in other examples of equipment leases, such as rentals of photocopiers.

Property leases

17. Similar to equipment lessors, over three-quarters of property lessors stated that either they have no lease payments that are contingent on a variable, or less than 10 per cent of their lease payments are contingent on a variable factor.
18. The property lessors who report having significant variable lease payments cite two main categories:
 - (a) Payments that are linked to an index or a rate. A common example is a retail price index used as a rent escalator, which is included to protect the lessor's return from inflation.
 - (b) Payments that are linked to performance of the lessee using the leased property. A common example is payment for a retail property that is linked to sales made by the lessee from that property. This pricing is common in locations in which the lessor influences and invests in increasing foot traffic, such as in shopping centres, and therefore wants a share in performance and not merely a fixed payment. The staff understands that in most cases, the performance-linked payment is a top-up to the minimum fixed payments, often accounting for 20 per cent or less of total payments. 100 per cent performance-based payments are rare.
19. To conclude the staff's findings, variable lease payments feature in only a quarter of leasing transactions, with many of those payments being linked to an index or a rate, which the boards have tentatively decided to recognise in the initial measurement of the lease receivable, using the spot rate. This leaves usage-based payments in the equipment leasing industry and performance-based payments in property leases, both of which are not included as part of the initial measurement of the lease receivable.
20. Finally, some think that, as a result of the boards' decisions, more contracts will be priced to include variable lease payments.

Staff analysis

21. Because initial and subsequent measurement of the residual asset differs depending on whether a lessor is reasonably assured of profit, the staff have analysed the two scenarios separately. The ‘not reasonably assured’ scenario is analysed first, simply because the staff think that it is an easier issue to resolve.

When the lessor is not reasonably assured of profit

22. According to the boards’ tentative decisions, when the lessor is not reasonably assured of profit from the lease, the residual asset is accreted (or depreciated) to the amount to which it would have been depreciated to had it not been subject to a lease.
23. In this scenario, the amount at which the residual asset is measured at the end of the lease is based on guidance on accounting for property, plant and equipment. Although the residual is *not* property, plant and equipment during the lease term, at the end of the lease term, the residual becomes property, plant and equipment (or possibly inventory) when the lease asset is returned to the lessor. Consequently, the staff think that it is appropriate to follow the guidance on property, plant and equipment when determining how to account for the residual at the end of the lease term.
24. The vast majority of assets are depreciated using straight-line depreciation over their estimated useful lives. When applied to operating leases under current requirements this means that the lessor is likely to depreciate the underlying assets in a similar manner, arriving at a similar depreciated cost amount at the end of the lease term, regardless of whether the lease payments are fixed or variable (and regardless of the actual amount of variable lease payments that are received).
25. The same would apply in the not reasonably assured scenario, where we are accreting (or depreciating) to a residual amount, that amount being independent of initial measurement of the residual asset (unlike the reasonably assured scenario where we are accreting based on the initial measurement). Consequently, any variable lease payments received would be recognised through profit or loss,

without the need for a specific adjustment to the residual asset, just as is the case with operating leases today.

Question 1 for the boards

The staff recommend that, when the lessor is not reasonably assured of profit, the lessor would not make any adjustments to the residual asset with respect to variable lease payments.

Do the boards agree with the staff recommendation?

When the lessor is reasonably assured of profit

26. According to the tentative decisions on determining when the lessor is reasonably assured of profit, three conditions must be satisfied:
- (a) The lessor can reliably determine the payments that relate to the lease component of the contract.
 - (b) The lessor can reliably measure the fair value of the underlying asset at lease commencement.
 - (c) The lessor can reliably estimate the residual value of the underlying asset at the end of the lease term.
27. Lessors who satisfy all three conditions would measure the residual asset on an allocated cost basis and then accrete the initial allocated measure over the lease term. The allocation methodology gives rise to the possibility of variable lease payments being effectively included as a part of the initial measurement of the residual asset. Furthermore, absent any other requirement, any amount for variable lease payments implicitly included in the initial measurement would effectively be 'locked in' for the term of the lease, even as variable lease payments are received.
28. This is different to the not reasonably assured scenario where, even though the initial measurement of residual asset may include variable lease payments, these would be automatically released through subsequent measurement (providing the depreciated cost of the residual at the end of the lease is set correctly).

29. The staff think that it would be helpful to first discuss the discount rate that will be used by lessors who are reasonably assured of profit and who receive, or may receive, variable payments. The discussion about any adjustments to the residual asset then follows.
30. Consider two examples of lease contracts:
- (a) Example 1: a lease of a vehicle with fixed payments, which permits a particular level of mileage over the lease term. If the specified mileage is exceeded, an additional rental based on excess mileage is due at the end of the contract. At lease commencement, the lessor has no expectation that the lessee will use the vehicle beyond the specified mileage, so the excess mileage charge is included simply to protect the lessor's return on the underlying asset.
 - (b) Example 2: a property lease with a minimum fixed payment plus payments that depend on the lessee's sales at that property. At lease commencement, the lessor has an expectation of a particular level of sales by the lessee and therefore an expectation of variable lease payments to be received. The lessor has typically included variable payments in the contract for the following reasons:
 - (i) to provide the lessee with some relief in the initial period of operation or when times are tough; and
 - (ii) to get a share in the lessee's upside in performance, which can be due to the lessor's investment in the underlying asset.
31. In example 1, the lessor is likely to have priced the contract based on the fixed payments and expected residual value, assuming that the number of miles driven by the lessee will not exceed the mileage allowed under the terms of the fixed payments. Pricing for the variable component is separate, usually reflecting a much higher discount rate. For example, the following fact pattern might apply (CU stands for currency unit):

Example 1—lease of a vehicle

Lease term	3 years
Useful life	6 years
Annual payment—variable amount (expected)	-
Annual payment—fixed amount	CU25
Fair value of underlying asset	CU120
Expected residual value (after usage per fixed payments)	CU65

The rate that the lessor charges the lessee is 6.5%, which is the rate implicit in the lease (present value of CU25 over three years, plus a present value of CU65 at the end of three years, using a rate of 6.5%, adds up to CU120, ie the fair value of the underlying asset).

32. In example 2, the lessor is likely to have priced the contract so that the total fixed and variable payments expected provide the desired yield on the underlying asset. For example, the following fact pattern might apply:

Example 2 – Lease of a property

Lease term	3 years
Useful life	40 years
Annual payment—variable amount (expected)	CU10
Annual payment—fixed amount	CU20
Fair value of underlying asset	CU250
Cost basis of underlying asset	CU120
Annual operating costs	CU5

The rate that the lessor charges the lessee is 10%, which is the property yield (income of CU30 (fixed 20 and variable 10) less the operating costs of CU5 divided by fair value of the underlying asset, which is CU250).

33. Consequently in example 2, the rate that the lessor is charging the lessee would reflect the lessor's expectation of variable lease payments that is built into the pricing. However, the expected cash flows from variable lease payments would not be included in the present value of the lease receivable, because the boards

have decided not to measure them at lease commencement. Instead, these cash flows would be included in the residual asset by default.

34. This means that, when expected variable lease payments are received, the cost of the residual asset may need to be adjusted. Otherwise the lessor would overstate profit during the lease term or the residual asset might become impaired. In effect, as the variable lease payments are received, the lessor is receiving a part of its residual asset investment.
35. Because the discount rate in the lease already reflects the expected variable lease payments, the adjustment to the residual asset would be calculated in the same way as the initial allocation between the receivable and the residual asset.
36. This is illustrated as follows by using Example 2 above (a property lease with variable payments built into the pricing of the lease), where variable payments are received as expected:

Example 2 - Lease of a property continued								
Year	Cash for fixed payment	Cash for variable payment - expected	Lease Receivable	Interest Income	Residual Interest	Residual adjustment - COGS	Residual Accretion	Net Income
0			49.7		96.1			25.9
1	20.0	10.0	34.7	5.0	100.9	(4.8)	9.6	19.8
2	20.0	10.0	18.2	3.5	106.2	(4.8)	10.1	18.8
3	20.0	10.0	-	1.8	112.1	(4.8)	10.6	17.6
TOTAL	60.0	30.0		10.3		(14.4)	30.3	82.1

The residual adjustment in each period is calculated as the variable lease payment for the period as a proportion of the asset's FV divided by the carrying amount. The fair value and the carrying amounts from lease commencement are used for consistency. Using the numbers in the example, CU10 divided by CU250 multiplied by CU120 is equal to CU4.8.

37. In calculating the adjustment to the residual asset, we use fair value and the carrying amounts of the residual asset at lease commencement. This is because the residual adjustment reflects the pricing at lease commencement (ie the discount rate) and therefore using the numbers at lease commencement would achieve consistency. If the lessor reassessed the relationship between fair value and the cost of the residual asset, an updated discount rate would also be required. In

addition to adding cost and complexity, this would be inconsistent with the boards' tentative decision not to reassess discount rates unless there is a change in lease payments.

38. The amount of profit recognised in this transaction (and the carrying amount of the residual asset at the end of the lease term) is the same as if the total of CU30 of annual lease payments was fixed and thus recognised as a receivable at lease commencement, which is shown below:

Example 2 - Lease of a property – all payments are fixed								
Year	Cash for fixed payment	Cash for variable payment - actual	Lease Receivable	Interest Income	Residual Interest	Residual adjustment - COGS	Residual Accretion	Net Income
0			74.6		84.2			38.8
1	30.0	-	52.1	7.5	92.6	-	8.4	15.9
2	30.0	-	27.3	5.2	101.9	-	9.3	14.5
3	30.0	-	(0.0)	2.7	112.1	-	10.2	12.9
TOTAL	90.0	-		15.4		-	27.9	82.1

This example uses the same discount rate of 10%, ie property yield, but the initial allocation between receivable and residual is different because all lease payments are recognised as a receivable at lease commencement

39. It should however be noted that whilst the total amount of profit recognised is the same, the amounts and types of income recognised throughout the lease term differ. This includes differences in day one gain (because different receivables are recognized) and differences in subsequent interest plus additional sales and expenses recognised during the lease term when there are variable lease payments.

What happens if the residual asset is not adjusted

40. Using the same example of the property lease (Example 2 with variable lease payments), consider what happens if there are no adjustments made to the residual asset when variable lease payments are recognised. There are two approaches that can be considered:
- (a) The same discount rate of 10 per cent (ie the rate that considers the total return on the underlying asset, including both fixed and variable lease payments) is used

- (b) A new discount rate which only considers fixed payments is used. In example 2, this rate would be 6 per cent (is fixed payments of CU20 less operating costs of CU5 divided by fair value of the underlying asset which is CU250).

41. The accounting for two scenarios would look as follows:

Example 2 – discount rate of 10% (considering all payments), no adjustment to the residual asset								
Year	Cash for fixed payment	Cash for variable payment - actual	Lease Receivable	Interest Income	Residual Interest	Residual adjustment - COGS	Residual Accretion	Net Income
0			49.7		96.1			25.9
1	20.0	10.0	34.7	5.0	105.7		9.6	24.6
2	20.0	10.0	18.2	3.5	116.3		10.6	24.0
3	20.0	10.0	-	1.8	127.9		11.6	23.4
TOTAL	60.0	30.0		10.3		-	31.8	97.9

Example 2 – discount rate of 6% (considering fixed payments only), no adjustment to the residual asset								
Year	Cash for fixed payment	Cash for variable payment - actual	Lease Receivable	Interest Income	Residual Interest	Residual adjustment - COGS	Residual Accretion	Net Income
0			53.5		94.3			27.8
1	20.0	10.0	36.7	3.2	100.0	-	5.7	18.9
2	20.0	10.0	18.9	2.2	106.0	-	6.0	18.2
3	20.0	10.0	-	1.1	112.4	-	6.4	17.5
TOTAL	60.0	30.0		6.5		-	18.0	82.4

42. Whilst not adjusting the residual asset for expected variable lease payments is simpler than making adjustments to the residual asset, there are drawbacks to both of its variants.
43. Using the same discount rate of 10 per cent (ie the rate reflecting both fixed and variable payments) would lead to the lessor recognising much more profit from the lease than if the same payments were fixed at contract inception (CU98 vs CU82). One could argue that this would lead to structuring lease contracts to include more variable lease payments and recognise more profit from lease. It would also lead to lack of comparability between leases with fixed and variable lease payments. It could also lead to impairment of the residual asset (not likely in this example though).

44. If the discount rate was adjusted to reflect fixed payments only, the accounting would be similar to accounting when all payments were fixed and total profit recognised almost the same (it is not identical because of the impact of using the same amount of operating costs in two different rate calculations). However, this rate could not be characterised as the rate the lessor charges the lessee as it does not consider all payments expected under the contract in relating to the lessor's investment. Also, this approach could lead to counterintuitive results when there is a high proportion of variable lease payments (arguably such contracts would not be reasonably assured of profit so should not be considered in this context).

What happens when actual variable lease payments are not as expected

45. It can be argued that an adjustment to the residual asset is not needed for the difference between actual and expected variable lease payments or when variable lease payments are received when none were expected. There are several arguments for this:
- (a) Lessors who would apply this guidance are reasonably assured of profit and are therefore able to make a reliable estimate of the value of the underlying asset at the end of the lease. That residual value is built into the rate the lessor charges the lessee and is therefore used when allocating the cost of the underlying asset to the residual asset. Any difference between estimated and actual residual value is not likely to be material.
 - (b) In contrast, in transactions where there is a high degree of uncertainty about variable lease payments, the lessor is not likely to be reasonably assured of profit and thus would not apply this guidance. Instead, the lessor would accrete the residual to the amount to which it would have been depreciated if the underlying asset had not been the subject of a lease.
 - (c) The rate implicit in any unexpected variable lease payments (ie those payments not included in the pricing) is likely to be much higher and would have to be taken into account when adjusting the residual asset. If this, higher, rate is not used, the residual asset and lease profit would both be understated. However, calculating this rate would be onerous, and the

adjustment to the residual asset, taking into account the higher discount rate is not likely to be significant.

- (d) The impairment guidance will continue to apply, which should ensure that no significant overstatement of the residual asset occurs (We also note that this would work better for IFRS preparers than for US GAAP preparers, who would rarely impair the residual asset, because they would use the undiscounted cash flow test).
46. The key argument in favour of adjustment of the residual asset for actual variable lease payments received is that the lessor should carry the residual asset at the same amount at the end of the lease regardless of whether lease payments were fixed or variable, included in the pricing or not, ie total amount of profit recognised should be the same.
47. The staff notes that cost-benefit considerations are also important so not to create an excess burden for little benefit.

Staff recommendation

48. The staff think that the rate the lessor charges the lessee reflects all expected payments arising from the lease contract. Because expected variable payments that depend on usage or performance of the underlying asset are not recognised as part of the lease receivable at lease commencement, they are included in the initial measurement of the residual asset.
49. Consequently, the staff think that the carrying amount of the residual asset should be reallocated between the receivable for variable lease payments and remaining residual asset each time variable lease payments are recognised during the lease term, in accordance with expectations included in the pricing of the lease. This allocation would be done in the same way as at lease commencement, ie the amount deducted from the residual asset would be calculated as the amount of expected variable lease payments as a proportion of the fair value of the underlying asset in relation to the underlying asset's carrying amount as of lease commencement.

50. The staff do not think that the residual asset should be adjusted for any variable lease payments that are not included as a part of the lessor's pricing assumptions of the lease contract or for a difference between expected and actual variable lease payments. The staff think that such variable lease payments should be recognised through profit or loss only. This is because, in order to appropriately adjust the residual asset, the new discount rate would have to be calculated, reflecting the rate charged for those variable lease payments. . This would be onerous and would not provide much benefit, because such an adjustment is not likely to be significant for lessors who are reasonably assured of profit.

Question 2 for the boards

The staff recommend that:

- (a) when the rate the lessor charges the lessee reflects an expectation of variable lease payments, the lessor should adjust the residual asset based on its expectation of variable lease payments by recognising a portion of the cost of the residual asset as an expense during the lease term as variable lease payments are recognised in profit or loss. Any difference between actual and expected variable lease payments would not result in any further adjustment to the residual asset with respect to variable lease payments
- (b) when the rate the lessor charges the lessee does not reflect an expectation of variable lease payments, the lessor would not make any adjustments to the residual asset with respect to variable lease payments .

Do the boards agree with the staff recommendations?