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To: IASB

26<sup>th</sup> July 2009

**Project: Leases--Preliminary Views March 2009**  
**Reference Number: DP/2009/1**

I apologise for not meeting your 17<sup>th</sup> July Comment deadline.

The proposal that all lease reporting should start from recognition of the relevant assets and liabilities is sensible. However, the current 'finance lease' standard produces distortions in income reporting, and the Preliminary Views on subsequent measurement put forward for this extension will now do the same. In particular the discussion of the 'linked approach' in Chapter 5 is very muddled. An appropriate linked approach is correct for all leases, so no distinction would be needed between 'finance leases' and 'operating leases'. The two Appendices to this letter (in particular Appendix 2) illustrate this point. and are consistent with the 'deprival value' arguments set out in the relevant chapter of Baxter, W.T. (1971) *Depreciation*, London: Sweet & Maxwell.

The answer to Q8 is therefore 'yes', but the corresponding measurement of the asset and liability should thereby be linked in the manner illustrated in Appendix 2.

*{electronically signed}*

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**A note on accounting for leases by lessees – IAS 17**

A lease is an agreement whereby ownership of an asset remains with the lessor but the lessee is granted the right to use the asset for an agreed period of time in return for specified payments. A lease may be classified as either a **finance** lease or an **operating** lease, and the type of lease determines its accounting treatment.

**Operating Lease**

An operating lease is any lease other than a finance lease (see below!). These tend to be short-term commitments and do not normally cover the whole of the economic life of the assets concerned. Different users will often hire assets in succession under an operating lease. The simplest example is hiring a holiday car for a week from Avis/Hertz etc.

**Finance Lease**

A finance lease is one that transfers to the lessee substantially all the risks and rewards incidental to ownership of an asset. As such it is regarded as being in effect the equivalent of borrowing money and buying the asset. Whether a lease is a finance lease or not depends on the substance of the transaction. IAS 17 suggests a number of situations which might (individually or together) give rise to a finance lease, including:

- ownership of the asset is transferred to the lessee by the end of the lease term;
- the lessee has the option to purchase the asset at a price below fair value at the date the option is exercisable, such that it is likely the option will be exercised;
- the lease term covers the major part of the useful economic life of the asset, even if title is not transferred;
- at the inception of the lease the present value of the minimum lease payments amounts to substantially all of the fair value of the asset.
- the leased assets are highly specific to the lessee and could not be used by others without major modification.

An example might be an aircraft leased by an airline from a bank which legally owns it. Really the bank is lending the airline money to buy the aircraft.<sup>1</sup>

However, these examples are not always conclusive. The test is: does the lease transfer substantially all the risks and rewards incidental to ownership?

If a company borrowed money to buy an asset, the loan would appear as a liability and the asset as a fixed asset in the balance sheet. The gearing of the company would thereby be affected. As is shown below, IAS 17 requires a finance lease to be treated in a similar way, thus bringing on to the balance sheet what would otherwise be a form of “off balance sheet finance”. It aims to reflect the economic substance of the transaction rather than its legal form.

*RMv251108*

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<sup>1</sup> this is often done to transfer to the lessee the tax-benefits of ‘capital allowances’ that are available only to the legal owner, if the lessee does not have sufficient taxable profits to benefit directly from the capital allowances. The lessor can set the rentals lower to reflect the tax benefits it gets.

## Accounting treatment of leases

Rentals paid on an **operating lease** are charged to the profit and loss account. They should be charged on a straight-line basis over the lease term, even if the payments are not made on such a basis, “unless another systematic basis is more representative of the time pattern of the user’s benefit.”

In accounting for a **finance lease** it is necessary to record the lease in the balance sheet as both an asset and a liability (the obligation to pay future rentals). The amount at which the asset and liability are initially recorded should be the fair value of the leased property, or – if lower – the present value of the minimum lease payments discounted at the interest rate implicit in the lease.<sup>2</sup> Rentals paid under a finance lease are to be apportioned between a **finance charge** (in the profit and loss account/income statement) and a reduction in the outstanding liability (in the balance sheet). The finance charge should be allocated to time periods to give a constant periodic rate of interest on the remaining balance of liability. This is best achieved by use of the ‘actuarial method’ as illustrated below, which is identical to the ‘effective interest’ or ‘amortized cost’ method used for ordinary long-term fixed interest borrowings such as debentures.

**Depreciation** must also be charged on the leased asset under a finance lease. If it is not reasonably certain that the lessee will obtain ownership of the leased asset by the end of the lease term, the asset should be depreciated over the shorter of the lease term and its useful economic life; if it is likely that the lessee will obtain ownership it is depreciated over its useful life. Depreciation is charged to profit and loss account/income statement in the usual way.

In the balance sheet, the outstanding liability under finance leases should be apportioned between current liabilities and non-current liabilities (see example below).

In accounting for leases by lessees other definitions include (in summarised form: see IAS 17 for precise definitions):

*Lease term* The period for which the lessee has contracted to lease the asset together with any further term for which he has the option to continue the lease which option it is reasonably certain at the inception of the lease that the lessee will exercise.

*Minimum lease payments* The minimum payments over the lease term that the lessee can be required to make together with any residual amounts guaranteed by the lessee (or a party related to the lessee) to the lessor. (See note \* below.)

*Interest rate implicit in the lease* This is the discount rate which at the inception of the lease causes the present value of the minimum lease payments and unguaranteed residual value to be equal to the fair value of the leased asset plus any initial direct costs of the lessor. (See note\* below)

**\*Note:** For simplicity, it will always be assumed for the purposes of the Ac 330 course that there will be no guaranteed or unguaranteed residual values and no initial direct costs of the lessor; hence the interest rate implicit in the lease will be calculated purely by reference to the minimum payments over the lease term. It follows from this that the present value of the minimum lease payments discounted at the interest rate implicit in the lease will also be equal to the fair value.

### Example

An asset which could be purchased for £23,450 is leased by Lessee Co for 3 years (its useful economic life, at the end of which it will have no residual value). Lessee Co is responsible for all maintenance and insurance costs. The lease provides for six half-yearly payments in advance of £4,500, the first payment being made on 1 January 2007. Show the amounts that will appear in respect of this leased asset in the profit and loss account of Lessee Co for the year ended 31 December 2007 and in its balance sheet at that date.

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<sup>2</sup> (If this interest rate cannot be determined, the lessee’s incremental borrowing rate should be used, e.g., the rate of interest payable on a similar lease.)

Since the lease covers the whole of the economic life of the asset, and Lessee Co has to maintain and insure it, it may be deemed to transfer substantially all of the risks and rewards of ownership.

To allocate the finance charge using the actuarial method it is necessary to find the rate of interest which when applied to the outstanding liability during the period will result in a finance charge that represents a constant rate of interest on the outstanding liability over the whole term of the liability. This may be done as follows:

- i) Find the value of the annuity factor for five periods that sets the minimum lease payments equal to the amount of the opening obligation, i.e.,

$£23,450 = £4,500 + £4,500a_5$  (NB the annuity factor here is calculated for only five periods since the first payment under the lease is made in advance, i.e. on the first day of each six-month period).<sup>3</sup>

$$£23,450 - £4,500 = £4,500a_5 \rightarrow \frac{£18,950}{£4,500} = a_5$$

$\therefore a_5 = 4.21$  Reading from the 'five periods' column of annuity tables it can be seen that this annuity factor relates to an interest rate of 6% per half-year period (a little over 12% p.a. [12.36%]).

Because of the assumptions made here (that there is no guaranteed or unguaranteed residual value and no initial direct costs of the lessor) this is also equal to the interest rate implicit in the lease.

- ii) The analysis of rental payments under the lease may be made as follows:

Period starting	Obligation at start of period	Rental payment	Obligation during period	Finance charge for the period	Obligation at end of period
	£	£	£	£	£
1 Jan 07	23,450	4,500	18,950	1,137	20,087
1 July 07	20,087	4,500	15,587	935	16,522
1 Jan 08	16,522	4,500	12,022	721	12,743
1 July 08	12,743	4,500	8,243	495	8,738
1 Jan 09	8,738	4,500	4,238	254	4,492
1 July 09	4,492	4,500	-	-	-

(Small rounding difference of £8)

The amount shown as finance charge is calculated at 6% per half-year period on the amount of the obligation outstanding during each period. Since in this example lease payments are made in advance, the obligation during each period is less than the amount outstanding at the start of each period.

In the profit and loss account/income statement for the year ended 31 December 2007 there will be shown a finance charge of £2,072. This is made up of the amounts of £1,137 and £935 covering the periods 1 January to 30 June 2007 and 1 July to 31 December 2007. In the balance sheet at 31 December 2007 there will be shown obligations under the finance lease amounting to £16,522. This will be split between current liabilities and non-current liabilities.

There are different ways in which companies may make the split between current and non-current liabilities. It is suggested here that the proper way to calculate the current liability is to discount the payments to be made in the next twelve months using the rate of interest used to allocate the finance charge. In this case, since the first of those payments is made on 1 January 2008, that payment will not be discounted; the payment due on 1 July 2008 will be discounted for one period at 6% giving a value of £4,245 and a total current liability of £8,745. The balance of (£16,522 - £8,745) = £7,777 will be a non-current liability, representing the present value now (i.e. at 31 December 2007) of the final two payments of £4,500 to be made in 2009.

<sup>3</sup> i.e. here the effective loan is only £18,950 and Lessee Co is paying £4,500 of the initial cost of the asset itself.

The asset will be included amongst fixed assets/non-current assets at an amount equal to the initial obligation under the finance lease (£23,450) and will be depreciated over its useful economic life which coincides here with the lease term. It should be depreciated on a basis consistent with that used for assets which are owned. Assuming use of the straight-line basis, depreciation of £7,817 (rounded) per annum will be charged to profit and loss account/income statement and the net book value of the asset in the balance sheet at 31 December 2007 will be £15,633.

### **Sale and Leaseback Transactions**

A company will sometimes enter into a sale and leaseback transaction whereby it enters into an agreement to sell an asset it owns and immediately agrees to lease it back. The lease may take the form of an operating lease or of a finance lease. The accounting issues involved are complicated. Knowledge of how to account for sale and leaseback transactions is **not** required on the Ac330 course.

### **Possible developments**

This note sets out the main requirements of IAS 17 as at November 2008. The IASB, together with FASB, is currently working on a leasing project. The aim of the project is to develop a model for recognising and measuring assets and liabilities under lease contracts that is consistent with the IASB *Framework* definitions. It would treat both operating and finance leases in the same way, i.e. by requiring the amount of the lease commitment and a corresponding asset for the 'right' to use the leased item (e.g. your holiday rental car!). This proposal has been widely resisted. A discussion paper is still expected before the end of 2008! See:

<http://www.iasb.org/Current+Projects/IASB+Projects/Leases/Leases.htm>

A potentially more serious issue is the economic distortions introduced into the income statement by the IAS17 treatment of finance leases. More next time!

**Accounting for leases by lessees – does IAS 17 make economic sense?**

**Finance Lease**

We have seen that a *finance* lease is regarded as being in effect the equivalent of borrowing money and buying the asset.<sup>4</sup>

If a company borrowed money to buy an asset, the loan would appear as a liability and the asset as a fixed asset in the balance sheet. The gearing of the company would thereby be affected. IAS 17 (like the UK equivalent ASB standard) requires a finance lease to be treated in a similar way, thus bringing on to the balance sheet what would otherwise be a form of “off balance sheet finance”. It aims to reflect the economic substance of the transaction rather than its legal form, so that there is an improvement in the quality of the balance sheet..

However, while the ‘loan’ is accounted for by the ‘actuarial method’ (which is identical to the ‘effective interest’ or ‘amortized cost’ method used for ordinary long-term fixed interest borrowings such as debentures), depreciation of the asset is charged to profit and loss account/income statement in the usual way (e.g. normally ‘straight line’). But we have seen before that straight-line depreciation will not normally result in either ‘Hicksian income’ or in the deprival value of assets (even when prices do not change).

If the lease rental is constant<sup>5</sup> and set in a competitive market, it may be taken as a benchmark of the annual ‘economic rent’ of the asset, i.e. just sufficient to cover all costs associated with owning the asset, including cost of capital.

What income statement and balance sheet effects does IAS17 have relative to the benchmark of just charging the lease rentals?<sup>6</sup> After all, the effect on *net* assets would be expected to be zero if the asset is effectively wholly financed by the lessor. And if the lessee’s own net revenues just covered the lease rental (i.e. it was a 0 net present value project) the lessee would show a ROCE rate of 0%, as appropriate if it has not invested any capital of its own.

Consider again the asset leased in the previous handout [*A NOTE ON ACCOUNTING FOR LEASES BY LESSEES – IAS 17 RMV301107*] i.e. an asset which could be purchased for £23,450 is leased by Lessee Co on 1<sup>st</sup> January 2007 for 3 years (its useful economic life, at the end of which it will have no residual value). Lessee Co is responsible for all maintenance and insurance costs. But now assume (for ease of illustration) that the rentals are now paid in arrears (i.e. at the *end* of each six-month period, so the first payment is on 30 June 2007 and the last on 31 December 2009). The amount (R) that the lessor has now got to charge in order still to at least recover the cost of the asset together with interest at 6% per half year (or 12.36% pa) is now:

$$£23,450 = £Ra_6]^{.06}$$

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<sup>4</sup> Under the proposals currently being considered by IASB the same treatment would apply to *all* leases, so lessees would capitalise a portion of the asset’s value representing their right to use it during the hire period.

<sup>5</sup> There can be more complicated patterns, knowledge of which is not required for AC330.

<sup>6</sup> cf. IAS17 para. 29 which says this would be ‘inappropriate’.

$$\text{So } R = £23,450/4.9173 = £4,770$$

The lessee's accounting under IAS17 goes as follows:

The analysis of rental payments under the lease may be made as follows:

Period starting	Obligation at start of period	Rental payment [30 Jun/31 Dec]	Obligation during period	Finance charge for the period	Obligation at end of period
	£	£	£	£	£
1 Jan 07	23,450	4,770	23,450	1,407	20,087
1 July 07	20,087	4,770	20,087	1,205	16,522
1 Jan 08	16,522	4,770	16,522	991	12,743
1 July 08	12,743	4,770	12,743	765	8,738
1 Jan 09	8,738	4,770	8,738	524	4,492
1 July 09	4,492	<u>4,770</u>	4,492	<u>270</u>	-
				(Small rounding difference of £8)	
Total for life:		<u>28,620</u>		5,170	
Add total depreciation:				<u>23,450</u>	
Total life time costs				<u>28,620</u>	

The amount shown as finance charge is calculated at 6% per half-year period on the amount of the obligation outstanding during each period. Since in this example lease payments are made in *arrears*, the obligation during each period is the same as the amount outstanding at the start of each period.

The total costs over the whole life under IAS17 (finance charges plus depreciation) are correct: ***but the pattern from year to year will not be the same as charging the annual lease rental of £9,540.***

Thus in the profit and loss account/income statement for the year ended 31 December 2007 there will be shown a finance charge of £2,612. (This is made up of the amounts of £1,407 and £1,205 covering the periods 1 January to 30 June 2007 and 1 July to 31 December 2007.)

In the balance sheet at 31 December 2007 there will be shown obligations under the finance lease amounting to £16,522 (as before). This will be split between current liabilities and non-current liabilities. Now the current liability will still best be measured as the present value of the payments to be made in the next twelve months, discounted using the rate of interest used to allocate the finance charge. In this case, since the first of those payments is now to be made on 30 June 2008, that payment will be discounted for one period at 6% giving  $£4,770 * .9434 = £4,500$ ; the payment due on 31 December 2008 will be discounted for two periods at 6% giving a value of  $£4,770 * .8900 = £4,245$  and a total current liability of £8,745 (as before).

The balance of  $(£16,522 - £8,745) = £7,777$  will be a non-current liability (as before), representing the present value now (i.e. at 31 December 2007) of the final two payments of £4,500 to be made on 30 June 2009 and 31 December 2009.<sup>7</sup>

The asset will initially be included amongst fixed assets/non-current assets at an amount equal to the initial obligation under the finance lease (£23,450) and will be depreciated over its useful economic life which coincides here with the lease term. As before IAS17 requires that it should be depreciated on a basis consistent with that used for assets which are owned. Assuming use of the straight-line basis, depreciation of £7,817 (rounded) per annum will be charged at the end of each year to profit and loss account/income statement and the net book value of the asset in the balance sheet at 31 December 2007 will be £15,633, and at 31 December 2008: £7,817.

<sup>7</sup> You should of course not be surprised that these amounts are the same as in the original example where the rental payments of £4,500 were *in advance*. The lessor is now charging a higher rental that just compensates (at 6% per six months) for the six-month lag in the payments.

**In the annual accounts, the schedule of assets and liabilities will therefore go as follows:**

Period ending	Lease Obligation at <b>end</b> of period	Asset NBV at <b>end</b> of period	Net asset (liability) relating to lease		
	£	£	£		
31 Dec 07	16,522	15,633	(889)		
31 Dec 08	8,738	7,817	(921)		
31 Dec 09	-	-	-		
<b>Total costs each year go:</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>(rounding)</b>	<b>Lifetime total:</b>
(NB annual rentals are 2* £4,770 = £9,540 = £28,620 over three years)					
	£	£	£	£	£
Finance charge:	2,612	1,756	794	8	5,170
Depreciation	7,817	7,817	7,817	(1)	23,450
<b>Total:</b>	<b>10,429</b>	<b>9,573</b>	<b>8,611</b>	<b>7</b>	<b>28,620</b>
<i>Difference from rental (cumulative effect = net balance sheet difference from 0)</i>					
<i>This year:</i>	<u>(889)</u>	<u>(33)</u>	<u>929</u>	<u>(7)</u>	<u>0</u>
<i>Cumulative:</i>	<u>(889)</u>	<u>(922)</u>	<u>7</u>	<u>0</u>	<u>0</u>

(subject to minor rounding)

**This clearly distorts the income pattern and any ROCE calculations. If Lessee Co. is just earning enough to pay the lease rentals and its operating costs, then charging the annual lease rentals would give the break-even result of £0 each year, while IAS17 gives losses the first two years exactly compensated by profits in the final year.**

We could ‘fix’ this by using ‘discounted present value depreciation’ which here (as cash flows are constant) will be ‘annuity’ depreciation.

The asset schedule (using six-month periods) will then be:

1.1.07: Fair value	£23,450
30.6.07 Interest @6%	1,407
30.6.07 Annuity required for first six months:	
= £23,450/4.9173 =	<u>(4,770)</u>
Net book value at 30.6.07	20,087
31.12.07 Interest @6%	1,205
31.12.07 Annuity for second six months:	<u>(4,770)</u>
Net book value at 31.12.07	16,522

.....

Clearly this is going to continue identically to the liability schedule above for the lease, so the net assets relating to the lease will always be zero (as they should be if the ‘asset’ is effectively financed by the ‘loan’).<sup>8</sup>

<sup>8</sup> See Appendix2a for what happens when the rentals are paid in advance.



<b>Total costs each year now go:</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>(rounding)</b>	<b>Lifetime total:</b>
(NB annual rentals are 2* £4,770 = £9,540 = £28,620 over three years)					
	£	£	£	£	£
Finance charge:	2,612	1,756	794	8	5,170
Depreciation <sup>9</sup>	6,928	7,784	8,746	(8)	23,450
<b>Total:</b>	<u>9,540</u>	<u>9,540</u>	<u>9,540</u>	<u>0</u>	<u>28,620</u>

*Difference from rental (cumulative effect = balance sheet difference from 0)*

<i>This year:</i>	<u>(0)</u>	<u>(0)</u>	<u>0</u>	<u>0</u>	<u>0</u>
<i>Cumulative:</i>	<u>(0)</u>	<u>(0)</u>	<u>0</u>	<u>0</u>	<u>0</u>

So the depreciation charge increase each year under annuity depreciation, to keep the total annual cost constant. However, IAS 16 *Property, Plant and Equipment*, under ‘depreciation method’ mentions only three normal methods (‘straight-line’, ‘reducing balance’ and ‘units of production’) and notes [its fn.3] that IFRIC<sup>10</sup> had considered, in relation to leases, whether interest methods of depreciation were permissible under IFRS, but could not see any special case for this.

As we have seen before, if prices of these assets have not subsequently changed the written down values using annuity depreciation (or more generally ‘discounted present value depreciation’ ) will also represent the current ‘deprival value’ of the asset.

#### **Possible developments**

An IASB discussion paper on leases is still expected in 2008! See:

<http://www.iasb.org/Current+Projects/IASB+Projects/Leases/Leases.htm>

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<sup>9</sup> 2007: £9540-2612 =£6928; 2008: £9540-1756= £7784; 2009: £9540-794 = £8746.

<sup>10</sup> the International Financial Reporting Interpretations Committee

## APPENDIX 2a

With the original example where 6 rentals of £4,500 are paid *in advance*, total lease rental costs are £27,000.

As per the schedule on page 3 of the original handout [A NOTE ON ACCOUNTING FOR LEASES BY LESSEES – IAS 17 RMv301107] total finance charges are  $[1,137 + 935 + 721 + 495 + 254 = £3,542]$ . Added to the total depreciation of £23,450 this gives the total lifetime costs (subject to minor rounding of £8) of £27,000.

As we have already seen the lease balances at the year ends are the same in both situations. And so will be the asset balances.

Thus, using straight-line depreciation:

<b>Total costs each year go:</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>(rounding)</b>	<b>Lifetime total:</b>
(NB annual rentals are $2 * £4,500 = £9,000 = £27,000$ over three years)					
	£	£	£	£	£
Finance charge:	2,072	1,216	254	8	3,550
Depreciation	7,817	7,817	7,817	(1)	23,450
<b>Total:</b>	<u>9,889</u>	<u>9,033</u>	<u>8,071</u>	<u>7</u>	<u>27,000</u>

*Difference from rental (cumulative effect = net balance sheet difference from 0)*

<i>This year:</i>	<u>(889)</u>	<u>(33)</u>	<u>929</u>	<u>(7)</u>	<u>0</u>
<i>Cumulative:</i>	<u>(889)</u>	<u>(922)</u>	<u>7</u>	<u>0</u>	<u>0</u>

**Again, this clearly distorts the income pattern and any ROCE calculations.**

Again we could 'fix' this by using 'discounted present value depreciation' which here (as cash flows are constant) will be 'annuity' depreciation.

The year-end asset balances will then again be identical to the year-end liability balances for the lease, so in the year-end accounts the net assets relating to the lease will always be zero.

<b>Total costs each year now go:</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>(rounding)</b>	<b>Lifetime total:</b>
(NB annual rentals are $2 * £4,500 = £9,000 = £27,000$ over three years)					
	£	£	£	£	£
Finance charge:	2,072	1,216	254	8	3,550
Depreciation	<u>6,928</u>	<u>7,784</u>	<u>8,746</u>	<u>(8)</u>	<u>23,450</u>
<b>Total:</b>	<u>9,000</u>	<u>9,000</u>	<u>9,000</u>	<u>0</u>	<u>27,000</u>

*Difference from rental (cumulative effect = balance sheet difference from 0)*

<i>This year:</i>	<u>(0)</u>	<u>(0)</u>	<u>0</u>	<u>0</u>	<u>0</u>
<i>Cumulative:</i>	<u>(0)</u>	<u>(0)</u>	<u>0</u>	<u>0</u>	<u>0</u>