

Your reference OPP5
Our reference dss2231 ^{W. THRELO}
^{S 40(2) A51}

**GOVERNMENT
ACTUARY'S
DEPARTMENT**

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S 40(2) A51

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^{W. THRELO}
Dear S 40(2)

TAX CREDIT ON UK EQUITY DIVIDENDS

I refer to ^{W. THRELO} S 40(2) minute of 22 May 1997 to you on the above topic, which was copied to ^{W. THRELO} here. As you know, ^{W. THRELO} is on leave this week. In her absence, I am responding to ^{W. THRELO} request for illustrations of the possible impact on the funding levels of defined benefit pension schemes, as measured under the Minimum Funding Requirement (MFR), of a reduction in (or elimination of) the current tax credit on dividends paid by UK companies. I understand that ^{W. THRELO} S 40(2) is responding separately in respect of the request for a range of overall costs.

The enclosed schedules give an indication for a range of scenarios, as described further below. In each case, the schedule indicates the MFR funding level before and after such a change in the current tax credit. An overview of the general approach is set out below, followed by details of the specific liability and investment profiles under each scenario.

Overview of general approach

MFR result before change

The total liabilities in respect of accrued benefits before any change are set out, identifying separately non-pensioners younger than MFR Pension Age (MFR PA) less ten years, non-pensioners aged between MFR PA less ten years and MFR PA, and pensioners. These three tranches of liabilities use different Market Value Adjustments (MVAs): respectively an equity MVA, a blend of gilt and equity MVAs (on average 50:50) and, in effect, a gilt MVA. This separation is necessary since, for example, the 'MFR' value of the younger non-pensioner liabilities will be directly affected by any decrease in gross dividend yields, while the value of the pensioner liabilities will not be affected, assuming that the equity easement does not apply and that gilt yields do not change as a result of a change in the level of the tax credit on UK equity dividends.

The asset figures identify separately UK equity assets and other assets. Where there is a fall in the market, this fall is assumed to impact only on the UK equity component of the pension scheme's assets.

In each case illustrated the starting point is an MFR funding level of 100% (after the equity easement, where relevant).

For reference I have also set out the current equity and gilt MVA figures. The actual current levels of the MVAs affect the results of our calculations only in the scenarios where the equity easement applies, where an approximate adjustment has been made for the effect of this easement.

MFR result after change

The current rate of tax credit which may be reclaimed by pension schemes is 20%. Taking the scenario of the complete elimination of this tax credit, the possible effect on the UK equity market might be a fall in equity prices and/or a fall in gross dividend yields. The extreme scenarios which might be envisaged are:

- a 20% fall in equity prices, with the gross dividend yield remaining unchanged; and
- no change in equity prices, but a 20% reduction in the gross dividend yield.

Given the uncertainty as to the actual outcome, we have illustrated a range of possible outcomes. For ease of reference, the impact on the assets and the liabilities is shown separately, and then combined to indicate the MFR funding level after the change.

For the avoidance of doubt, the adjustments to the MFR liabilities reflect only any change in the equity MVA: no adjustment has been made to the long-term actuarial assumptions underlying the MFR.

Scenarios illustrated

Schemes 1 to 4 are assumed not to be large enough to take advantage of the equity easement

Scheme 1

A very mature scheme (all pensioners), wholly invested in UK equities: assets fall directly in line with the fall in the market, while falls in gross dividend yields have no effect on the liabilities, since they are all valued by reference to gilt yields.

Scheme 2

A very mature scheme (all pensioners), with no UK equity investments: the scheme's assets are not affected by falls in the prices of UK equities while, as in Scheme 1, falls in gross dividend yields have no effect on the liabilities. The funding level of such a scheme would therefore be unaffected (all other things being equal).

Scheme 3

An immature scheme (all young non-pensioners), wholly invested in UK equities: assets fall directly in line with the fall in the market, liabilities rise in line with falls in gross dividend yields. Such a scheme is therefore more exposed than Schemes 1 and 2.

Scheme 4

An immature scheme (all young non-pensioners), with no UK equity investments: the scheme's assets are not affected by falls in the prices of UK equities, liabilities rise in line with falls in gross dividend yields.

Schemes 5 and 6 are assumed to be large enough to take advantage of the equity easement

Scheme 5

A mature scheme (all pensioners), wholly invested in UK equities: assets fall directly in line with the fall in the market, the 'equity eased' portion of the liabilities rises in line with falls in gross dividend yields.

Scheme 6

A mature scheme (all pensioners), with no UK equity investments: the scheme's assets are not affected by falls in the prices of UK equities, the 'equity eased' portion of the liabilities rises in line with falls in gross dividend yields.

While the liability and investment profiles of Schemes 1 to 6 are atypical, they may be of use in indicating the range of possible effects. The final example, Scheme 7, is intended to be representative of a large, mature scheme with substantial UK equity holdings which is able to take advantage of the equity easement.

Please do not hesitate to contact me if you would like to discuss this issue further. We would be happy to prepare further illustrative scenarios if this would be helpful. You will appreciate that the enclosed schedules are intended only to give an indication of the range of possible outcomes, as a basis for further discussions on this issue.

Yours sincerely

W. CHHELO
S 40(2) FOIA.

Actuary
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**ILLUSTRATION OF IMPACT OF AGT CHANGES ON MFR FUNDING LEVEL
EQUITY EASEMENT DOES NOT APPLY**

SCHEME 1						
MFR result before change						
Non-pensioners younger than MFR PA - 10				0%	MVA	
Non-pensioners aged between MFR PA - 10 and MFR PA				0	Equity	
Pensioners (not eligible for equity easement)				100	Gilt	
Total MFR liabilities				100		
UK equity assets (market value)				100		
Non-UK equity assets (market value)				0		
Total assets (market value)				100		
MFR funding level before change				100%		
Gross dividend yield, All-Share Index, 27/5/97				3.48%		
Benchmark gross redemption yield, conventional gilts, 27/5/97				7.30%	7.43%	(annualised)
Benchmark gross redemption yield, index-linked gilts, 27/5/97				3.67%	3.70%	(annualised)
Equity MVA, 27/5/97	1.2213					
Conventional gilt MVA, 27/5/97	1.0505					
Index-linked MVA, 27/5/97	1.0166					
GIN MVA for MFR purposes	1.0505					
MFR result after change						
New level of assets						
	Fall in equity prices	0%	5%	10%	15%	20%
	Fall in gross dividend yields					
	0%	100	95	90	85	80
	5%	100	95	90	85	
	10%	100	95	90		
	15%	100	95			
	20%	100				
New level of MFR liabilities						
	Fall in equity prices	0%	5%	10%	15%	20%
	Fall in gross dividend yields					
	0%	100	100	100	100	100
	5%	100	100	100	100	
	10%	100	100	100		
	15%	100	100			
	20%	100				
MFR funding level after change						
	Fall in equity prices	0%	5%	10%	15%	20%
	Fall in gross dividend yields					
	0%	100%	95%	90%	85%	80%
	5%	100%	95%	90%	85%	
	10%	100%	95%	90%		
	15%	100%	95%			
	20%	100%				

**ILLUSTRATION OF IMPACT OF ACT CHANGES ON MFR FUNDING LEVEL
EQUITY EASEMENT DOES NOT APPLY**

SCHEME 2							
MFR result before change							
						%	MVA
Non-pensioners younger than MFR PA - 10						0	Equity
Non-pensioners aged between MFR PA - 10 and MFR PA						0	50% equity
Pensioners (not eligible for equity easement)						100	Gilt
Total MFR liabilities						100	
UK equity assets (market value)						0	
Non-UK equity assets (market value)						100	
Total assets (market value)						100	
MFR funding level before change						100%	
Gross dividend yield, All-Share Index, 27/5/97						3.48%	
Benchmark gross redemption yield, conventional gilts, 27/5/97						7.30%	7.43% (assumed)
Benchmark gross redemption yield, index-linked gilts, 27/5/97						3.87%	3.70% (assumed)
Equity MVA, 27/5/97				1.2213			
Conventional gilt MVA, 27/5/97				1.0505			
Index-linked MVA, 27/5/97				1.0168			
Gilt MVA for MFR purposes				1.0505			
MFR result after change							
New level of assets							
	Fall in equity prices	0%	5%	10%	15%	20%	
Fall in gross dividend yields							
	0%	100	100	100	100	100	
	5%	100	100	100	100		
	10%	100	100	100			
	15%	100	100				
	20%	100					
New level of MFR liabilities							
	Fall in equity prices	0%	5%	10%	15%	20%	
Fall in gross dividend yields							
	0%	100	100	100	100	100	
	5%	100	100	100	100		
	10%	100	100	100			
	15%	100	100				
	20%	100					
MFR funding level after change							
	Fall in equity prices	0%	5%	10%	15%	20%	
Fall in gross dividend yields							
	0%	100%	100%	100%	100%	100%	
	5%	100%	100%	100%	100%		
	10%	100%	100%	100%			
	15%	100%	100%				
	20%	100%					

**ILLUSTRATION OF IMPACT OF AGI CHANGES ON MFR FUNDING LEVEL
EQUITY EASEMENT DOES NOT APPLY**

SCHEME 3						
MFR result before change						
					%	MVA
Non-pensioners younger than MFR PA - 10				100		Equity
Non-pensioners aged between MFR PA - 10 and MFR PA				0		50% equity, 50% gilt
Pensioners (not eligible for equity easement)				0		Gilt
Total MFR liabilities				100		
UK equity assets (market value)				100		
Non-UK equity assets (market value)				0		
Total assets (market value)				100		
MFR funding level before change				100%		
Gross dividend yield, All-Share Index, 27/5/97				3.48%		
Benchmark gross redemption yield, conventional gilts, 27/5/97				7.30%	7.43%	(annualised)
Benchmark gross redemption yield, index-linked gilts, 27/5/97				3.67%	3.70%	(annualised)
Equity MVA, 27/5/97		1.2213				
Conventional gilt MVA, 27/5/97		1.0505				
Index-linked MVA, 27/5/97		1.0166				
Gilt MVA for MFR purposes		1.0505				
MFR result after change						
New level of assets						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	85	90	85	80
	5%	100	85	90	85	
	10%	100	85	90		
	15%	100	85			
	20%	100				
New level of MFR liabilities						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	100	100	100	100
	5%	105	105	105	105	
	10%	111	111	111		
	15%	118	118			
	20%	125				
MFR funding level after change						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100%	95%	90%	85%	80%
	5%	95%	90%	86%	81%	
	10%	90%	86%	81%		
	15%	85%	81%			
	20%	80%				

**ILLUSTRATION OF IMPACT OF ACT CHANGES ON MFR FUNDING LEVEL
EQUITY EASEMENT DOES NOT APPLY**

SCHEME A						
MFR result before change						
				%	MVA	
Non-pensioners younger than MFR PA - 10				100	Equity	
Non-pensioners aged between MFR PA - 10 and MFR PA				0	50% equity, 50% gilt	
Pensioners (not eligible for equity easement)				0	Gilt	
Total MFR liabilities				100		
UK equity assets (market value)				0		
Non-UK equity assets (market value)				100		
Total assets (market value)				100		
MFR funding level before change				100%		
Gross dividend yield, All-Share Index, 27/5/97				3.48%		
Benchmark gross redemption yield, conventional gilts, 27/5/97				7.30%	7.43%	(annualised)
Benchmark gross redemption yield, index-linked gilts, 27/5/97				3.67%	3.70%	(annualised)
Equity MVA, 27/5/97	1.2213					
Conventional gilt MVA, 27/5/97	1.0505					
Index-linked MVA, 27/5/97	1.0100					
Gilt MVA for MFR purposes	1.0505					
MFR result after change						
New level of assets						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	100	100	100	100
	5%	100	100	100	100	
	10%	100	100	100		
	15%	100	100			
	20%	100				
New level of MFR liabilities						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	100	100	100	100
	5%	105	105	105	105	
	10%	111	111	111		
	15%	118	118			
	20%	125				
MFR funding level after change						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100%	100%	100%	100%	100%
	5%	95%	95%	95%	95%	
	10%	90%	90%	90%		
	15%	85%	85%			
	20%	80%				

EQUITY EASEMENT APPLIES

SCHEME 5						
MFR result before change						
Age					%	MVA
Non-pensioners younger than MFR PA - 10					0	Equity
Non-pensioners aged between MFR PA - 10 and MFR PA					0	50% equity: 50% gilt
Pensioners (before application of equity easement)					105	
Pensioners (not eligible for equity easement)					79	Gilt
Pensioners (eligible for equity easement)					27	Equity
Total MFR liabilities					105	
UK equity assets (market value)					100	
Non-UK equity assets (market value)					0	
Total assets (market value)					100	
MFR funding level before change						
					100%	
Gross dividend yield, All-Share Index, 27/5/97					3.45%	
Benchmark gross redemption yield, conventional gilts, 27/5/97					7.30%	7.43% (annualised)
Benchmark gross redemption yield, index-linked gilts, 27/5/97					3.67%	3.70% (annualised)
Equity MVA, 27/5/97						
Equity MVA, 27/5/97		1.2213				
Conventional gilt MVA, 27/5/97		1.0605				
Index-linked MVA, 27/5/97		1.0166				
Gilt MVA for MFR purposes		1.0605				
MFR result after change						
New level of assets						
	Fall in equity prices	- 0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	95	90	85	80
	5%	100	95	90	85	
	10%	100	95	80		
	15%	100	95			
	20%	100				
New level of MFR liabilities						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	100	100	100	100
	5%	101	101	101	101	
	10%	102	102	102		
	15%	104	104			
	20%	105				
MFR funding level after change						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100%	95%	90%	85%	80%
	5%	99%	94%	89%	84%	
	10%	98%	93%	88%		
	15%	98%	92%			
	20%	95%				

**ILLUSTRATION OF IMPACT OF ACT CHANGES ON MFR FUNDING LEVEL
EQUITY EASEMENT APPLIES**

SCHEME 9						
MFR result before change						
					%	MVA
Non-pensioners younger than MFR PA - 10					0	Equity
Non-pensioners aged between MFR PA - 10 and MFR PA					0	50% equity, 50%
Pensioners (before application of equity easement)					105	
Pensioners (not eligible for equity easement)					79	GI
Pensioners (eligible for equity easement)					21	Equity
Total MFR liabilities					100	
UK equity assets (market value)					0	
Non-UK equity assets (market value)					100	
Total assets (market value)					100	
MFR funding level before change					100%	
Gross dividend yield, All-Share Index, 27/5/97					3.48%	
Benchmark gross redemption yield, conventional gilts, 27/5/97					7.30%	(assumed)
Benchmark gross redemption yield, index-linked gilts, 27/5/97					3.67%	(assumed)
Equity MVA, 27/5/97		1.2213				
Conventional gilts MVA, 27/5/97		1.0505				
Index-linked MVA, 27/5/97		1.0166				
Gilt MVA for MFR purposes		1.0505				
MFR result after change						
New level of assets						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	100	100	100	100
	5%	100	100	100	100	
	10%	100	100	100		
	15%	100	100			
	20%	100				
New level of MFR liabilities						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	100	100	100	100
	5%	101	101	101	101	
	10%	102	102	102		
	15%	104	104			
	20%	105				
MFR funding level after change						
	Fall in equity prices	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100%	100%	100%	100%	100%
	5%	99%	99%	98%	99%	
	10%	98%	98%	98%		
	15%	95%	96%			
	20%	95%				

**ILLUSTRATION OF ACT CHANGES ON MFR FUNDING LEVEL
EQUITY EASEMENT APPLIES**

SCHEME 7						
MFR result before change						
					%	MVA
Non-pensioners younger than MFR PA - 10				19		Equity
Non-pensioners aged between MFR PA - 10 and MFR PA				19		50% equity; 50% gilt
Pensioners (before application of equity easement)				85		
Pensioners (not eligible for equity easement)				49		GM
Pensioners (eligible for equity easement)				13		Equity
Total MFR liabilities				100		
UK equity assets (market value)				55		
Non-UK equity assets (market value)				45		
Total assets (market value)				100		
MFR funding level before change				100%		
Gross dividend yield, All-Share Index, 27/5/97				3.48%		
Benchmark gross redemption yield, conventional gilts, 27/5/97				7.30%	7.43%	(annualised)
Benchmark gross redemption yield, index-linked gilts, 27/5/97				3.67%	3.70%	(annualised)
Equity MVA, 27/5/97		1,2213				
Conventional gilt MVA, 27/5/97		1,0505				
Index-linked MVA, 27/5/97		1,0188				
Gilt MVA for MFR purposes		1,0505				
MFR result after change						
New level of assets						
	<i>Fall in equity prices</i>	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	97	95	92	89
	5%	100	97	95	92	
	10%	100	97	95		
	15%	100	97			
	20%	100				
New level of MFR liabilities						
	<i>Fall in equity prices</i>	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100	100	100	100	100
	5%	102	102	102	102	
	10%	105	105	105		
	15%	107	107			
	20%	111				
MFR funding level after change						
	<i>Fall in equity prices</i>	0%	5%	10%	15%	20%
Fall in gross dividend yields						
	0%	100%	97%	95%	92%	88%
	5%	98%	95%	92%	90%	
	10%	95%	93%	90%		
	15%	93%	90%			
	20%	90%				